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Impact of Instagram Posts' Characteristics on User Engagement: With Reference to Global Sports Instagram Influencers

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Abstract

Social media has brought about a significant change in the way businesses' products advertise, with the rise of influencer marketing being one of the most notable developments. Instagram has become a popular platform for influencer marketing, where influencers are paid to promote products or services in their posts. The Instagram post's characteristics may have different effects on user engagement. For instance, sports influencers may use different strategies to engage their followers than other sectors. There are fewer studies on paid partnership posts and even fewer studies on sports influencers on Instagram. Combining those two, this study examines the impact of post-characteristics of global sports, and Instagram influencers on user engagement, referring to paid partnership posts. The study considered variables such as vividness, verbal interactivity, post-caption length, and publication schedule as indicators of post characteristics. Ordered Probit regression was used to analyze 753 paid partnership posts and the sampling technique was Quantitative content analysis. More broadly, the findings of this research contribute to the existing literature on social media marketing, providing companies with valuable guidance to optimize their influencer strategy and connect more effectively with their target audience with the use of paid partnerships. Implementing these recommendations can increase brand awareness and growth on Instagram. The study's originality lies in its exploration of specific characteristics within the context of influencer marketing, expanding the understanding of effective strategies in social media advertising.

Keywords: Influencer marketing, Instagram, Post characteristics, Sports influencers, User Engagement

01. Introduction

Social media has become an integral aspect of the lives of billions of people. Initially intended as a way for peers to communicate, it has since evolved into a marketing platform. The social media platform is dominated by companies like Instagram, which permits third parties to

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post advertisements targeting users who meet specific criteria. Instagram is one of the most popular influencers in marketing platforms, especially for sports influencers, who are experts or celebrities in the sports field. This new capability has created a multibillion-dollar industry in social media (Zarei et al., 2020).

Influencer marketing is a form of marketing that involves partnerships with influencers, and individuals with a large audience on social media platforms, to promote branded products or services. Sports influencers share content related to sports activities, events, or products on their Instagram accounts and engage their followers through likes, comments, and shares. User engagement is one of the important factors in the effectiveness and quality of influencer marketing because it reflects the engagement and interaction between users and content. Thus, the content of an Instagram post contains many characteristics, such as the quality of the picture, vividness, verbal interactivity, post caption length, and publication schedule. These characteristics can have different effects on user engagement depending on the type of influencer and type of content. The objectives of this research paper are to examine the impact of vividness, verbal interactivity, post-caption length, and publication schedule on user engagement. Specifically, the study aims to investigate the influence of these post characteristics on user engagement in the context of Instagram influencer marketing.

When looking at the literature on user engagement on Instagram, a limited number of research was conducted on the visual and structural aspects of Instagram posts, such as post content, verbal interactivity, caption length, and publication schedule (Cuevas-Molano et al., 2021). Moreover, the number of studies that analyze paid partnership posts is also limited in the literature (Zarei et al., 2020). Therefore, a significant empirical gap has been identified in past literature regarding user engagement of paid partnership posts on Instagram. This study aims to fill that gap by examining what post attributes effectively engaged users on Instagram sports sector influencers' paid partnership posts. Therefore the main objective of this study is to examine the impact of Instagram paid partnership posts' characteristics on user engagement.

The sports-related influencers' product post has been paid special attention to this study since, Instagram has grown in popularity as a platform for sport organizations to distribute visual material in 2018 (Anagnostopoulos et al., 2018). The study aims to cover paid partnership posts of 16 sports influencers in the top 100 Instagram influencers globally over 3 years. The independent variables considered in this study are vividness, verbal interactivity, post caption length, and publication schedule, following the study of Molano and the team (Cuevas-Molano et al., 2021). The results of the study help businesses and influencers to identify the factors that influence the effectiveness of paid partnership posts thereby developing more effective strategies to enhance user engagement in social media (Instagram) marketing.

1.1. Research Problem

The present study aims to address the novel and significant aspects of influencer marketing within the context of Instagram, with a specific focus on sports influencers. While influencer marketing has gained considerable attention in social media marketing, limited research exists that delves into the specific characteristics of influencer posts that impact user engagement, particularly in the sports sector. To bridge this gap, the study investigates the

influence of various post characteristics, namely vividness, verbal interactivity, post caption length, and publication schedule, on user engagement in the context of Instagram sports influencer marketing.

Understanding the impact of these post characteristics on user engagement is crucial for enhancing the efficacy and quality of influencer marketing campaigns (Cuevas-Molano et al., 2021). The study draws upon existing literature to emphasize the importance of user engagement in influencer marketing and its positive effects on various engagement metrics, such as likes, comments, followers, and shares. Additionally, it highlights that the quality and content of Instagram posts, including factors like vividness, verbal interactivity, post caption length, and publication schedule, play pivotal roles in driving user engagement (Cuevas-Molano et al., 2021). Influencer marketing has been shown to have positive effects on user engagement, such as likes, comments, followers, and (Cuevas-Molano et al., 2021; Gross & Wangenheim, 2022). When looking at the engagement between users and content, user engagement is one of the crucial components of influencer marketing efficacy and quality. As a result, a number of factors, including the picture's quality, vividness, verbal interaction, post caption length, and publication schedule, can be found as important characteristics in an Instagram post's content (Cuevas-Molano et al., 2021).

The novelty of this research lies in its specific focus on sports influencer marketing and the examination of post characteristics that influence user engagement. By exploring the distinct strategies employed by sports influencers to engage their followers, this study contributes to the understanding of effective marketing approaches in the sports sector within the realm of Instagram. Furthermore, by analyzing the impact of post characteristics on user engagement, this study aims to provide practical insights for businesses seeking to optimize their influencer marketing efforts.

However, it is important to acknowledge the limitations inherent in this study. The research is based on an analysis of global sports Instagram influencers and may not fully capture the nuances of localized marketing practices or specific industry dynamics. Moreover, the study's findings are limited to the examined post characteristics and may not encompass all potential factors influencing user engagement. By recognizing these limitations, future research endeavors can delve deeper into the complexities of influencer marketing and offer a more comprehensive understanding of its dynamics and impact on user engagement.

02. Literature review

2.1. User Engagement

User engagement is a crucial metric for evaluating individuals' responses to digital offerings, such as services, products, or websites (Lalmas et al., 2014). In the context of social media, user engagement takes on the specific context of social media user engagement, which is particularly relevant on platforms like Instagram. Shahbaznezhad et al. (2021) have also highlighted the importance of generating positive, active engagement in the form of comments to enhance the ongoing virality of the post in the form of likes.

A study conducted by Machado et al. (2020) aimed to understand the motivations behind fan engagement with their favorite football brands on Facebook and Instagram. The research

identified three key motivations influencing consumer interactions on Instagram: entertainment, rewards, and social influence. Users are drawn to entertaining posts that captivate their attention and provide enjoyable experiences. Additionally, brands often incentivize engagement by offering rewards such as discounts or exclusive content. Moreover, social influence plays a significant role, as users are influenced by the engagement they observe from others.

Instagram user engagement refers to the actions taken by users on the platform, such as liking, commenting, sharing, or following a brand's account (Setyawati & Anindita, 2022). It has become a vital metric for brands to measure their success and evaluate their marketing efforts.

Understanding the motivations and factors that influence user engagement on Instagram allows brands to tailor their strategies and create engaging content that resonates with their audience. By leveraging vividness through captivating visuals and utilizing rewards and social influence, brands can effectively connect with their target audience and drive desirable consumer behaviors.

2.2. Vividness

The term vividness has been defined in different ways by scholars around the world. Accordingly, the ability to create a clear and memorable mental image in the minds of consumers (Cuevas-Molano et al. (2021) and the richness of a brand post's formal features Kruizinga - de Vries et al. (2012) are a few of them. And, the level of vividness can be achieved by including dynamic animations, contrasting colors, or pictures and the degree of vividness can differ in the way that it stimulates multiple senses i.e a video is more vivid than a picture (Kruizinga - de Vries et al., 2012). Images that are more vivid tend to generate more engagement from social media users in the form of likes and comments (Kostyk & Huhmann, 2021).

The literature on the vividness of a social media post has made different analyses and constructed different conclusions. Pletikosa Cvijikj & Michahelles (2013) coded post-media types into different categories based on their level of vividness, i.e., low vividness for photos, medium vividness for videos without sound, and high vividness for videos with sound. Zhao et al. (2021) suggest that brand managers should pay attention to the vividness of their posts and use it to increase the audience and influence of their posts. The higher levels of vividness in a post would result in more likes and comments because higher levels of vividness provide more sensory stimulation, which may increase user engagement (Cuevas-Molano et al., 2021). Therefore, the following hypothesis is proposed.

Therefore, the literature proves that the vividness of a social media post impacts user engagement. Consequently, the following hypothesis can be developed in relation to the Instagram paid partnership post.

H_1 - There is a significant impact of vividness on user engagement.

2.3. Verbal Interactivity

Verbal interactivity plays a crucial role in enhancing user engagement on social media platforms. The utilization of interactive features, such as hashtags, mentions, and tags, is specifically designed to elicit more responses from users and foster increased interaction (Kruizinga - de Vries et al., 2012). It has been observed that the level of engagement varies across different post features, with posts incorporating links exhibiting the least interactivity, while posts incorporating hashtags, mentions, and tags prove to be the most interactive (Kruizinga - de Vries et al., 2012).

Hashtags, denoted by the addition of the (#) symbol before a word or phrase (e.g., #sports), serve the purpose of boosting user engagement and visibility (Pancer & Poole, 2016). They facilitate the indexing of phrases into searchable links, enabling the content organization and tracking of discussions based on keywords (Pancer & Poole, 2016). Mentions, indicated by the inclusion of other users in the content through the use of the (@) symbol (e.g., @Adidas), ensure immediate involvement of the mentioned users in the ongoing conversation, thereby gaining recognition from the audience. Users who are tagged in a post-receive a notification upon logging into the platform (Pancer & Poole, 2016). Furthermore, users have the ability to incorporate links (URLs) to external websites within their posts (e.g., www.adidas.com). These hashtags, mentions, tags, and links are all strategically employed to facilitate the dissemination of content, extending its reach to a wider audience on social media platforms (Pancer & Poole, 2016).

Cuevas-Molano et al. (2021) conducted a classification of verbal features used in social media posts, categorizing them into degrees of interactivity, namely low, medium, and high. They found that utilizing links in Instagram posts is considered low verbal interactivity, while hashtags fall under the category of medium verbal interactivity. On the other hand, mentions and tags are regarded as high verbal interactivity (Cuevas-Molano et al., 2021). Gkikas et al. (2022) further support these findings by revealing that posts incorporating hashtags, mentions, and tags tend to be more interactive, eliciting a greater number of responses from users compared to posts containing links. Based on the aforementioned literature, the following hypothesis is put forward:

H_2 - There is a significant impact of verbal interactivity on user engagement.

2.4. Post Caption Length

Influencer marketing serves as a potent tool for companies to establish connections with their target audience and enhance user engagement (Pandey & Yadav, 2019). Within the realm of Instagram posts by influencers, one crucial aspect that can influence the level of consumer interaction is the length of the post caption (Zarei et al., 2020).

The length of the post caption can impact engagement by reaching and engaging a larger audience. In a study conducted by Zarei et al. (2020), it was found that longer post captions tend to be more effective in increasing engagement compared to shorter ones.

While Instagram allows up to 2,200 characters for post captions, social media marketers recommend a maximum of 138-150 characters to optimize participation and place greater

emphasis on the accompanying image. To investigate the impact of caption length on engagement, this study examines the effect of message length on user engagement (Cuevas-Molano et al., 2021). Based on the aforementioned literature, the following hypothesis is proposed:

H_3 - There is a significant impact of post caption length on user engagement.

2.5. Publication Schedule

According to Cuevas-Molano et al. (2021), the choice of weekdays for posting on social media platforms has been found to negatively affect user engagement, particularly in terms of receiving likes and comments on brand posts. This implies that companies may experience reduced interaction from their followers when they post on weekdays, as compared to posting on weekends. The research indicates a significant impact of different content factors on user engagement for Instagram fan pages but no influence of temporal factors, such as time and day (Cuevas-Molano et al., 2021).
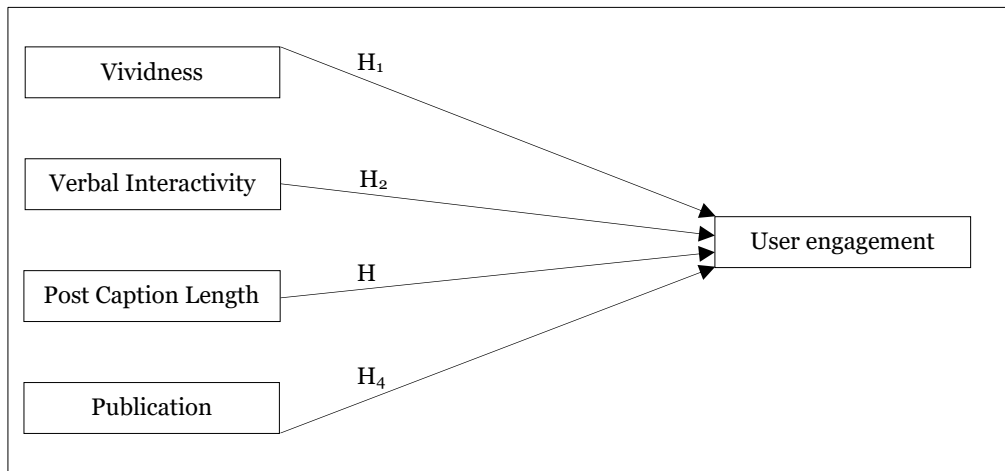
2.6. Conceptual Framework

Figure 1: Conceptual Framework

However, a study conducted by Gross & Wangenheim (2022) revealed contrasting findings. They found no significant variation in customer involvement based on the publishing schedule. The authors argue that other aspects of consumer involvement, such as post content and influencer reputation, might carry more significance (Gross & Wangenheim, 2022). Despite some contradictory findings in the literature, most studies indicate that publishing schedules can indeed influence user engagement in the context of influencer Instagram posts.

When aiming to enhance user engagement, both brands and influencers should carefully consider the timing and frequency of their postings. Therefore, the following hypothesis is proposed:

H_4 - There is a significant impact of publication schedule on user engagement.

Moreover, as the literature suggests, the following conceptual framework has been developed in order to examine the impact of Instagram posts' characteristics on user engagement.

03. Methodology

3.1. Data

This study investigated the impact of post characteristics on user engagement in paid partnership posts within the sports category on Instagram. Data were collected over three years from 16 Instagram sports influencers, who were among the top 100 influencers on Instagram. The top 100 Instagram rich list was cited in a research article that was studied (Rutter et al., 2021). Paid partnership posts were manually identified, and influencers who did not postpaid partnership posts or had hidden or disabled likes and comments were excluded, resulting in 753 usable observations. The data for four independent variables (verbal interactivity, post caption length, vividness, and publication schedule) and one dependent variable (user engagement) were recorded.

3.2. Operationalization of Variables

The user engagement, the dependent variable quantified the ratio of likes and comments to followers as follows (Cuevas-Molano et al., 2021).

$$\text{User engagement} \ = \ \left(\frac{Like+Comment}{Followers}\right) \quad (1)$$

Considering the level of attainment, each independent variable and dependent variable were divided into three different categories which are shown in Table 1.

Table 1: Independent and Dependent Variables Operationalization

Variable	Level	Attainment criteria
	Independent Variables	
Vividness	1 (Low)	Photo
Vividness	2 (Medium)	Video Without Sound
Vividness	3 (High)	Video With Sound
Verbal Interactivity	0 (No)	No Verbal Interactivity
Verbal Interactivity	1 (Low)	Link/s
Verbal Interactivity	2 (Medium)	Hashtag/s
Verbal Interactivity	3 (High)	Mention/s or/and Tag/s
Post Caption Length	1 (Low)	The Data Set Was Divided Into

Post Caption Length	2 (Medium)	Three Equal Groups.
Post Caption Length	3 (High)	
Publication Schedule	0	Weekday
Publication Schedule	1	Weekend
Dependent Variable		
User Engagement	1 (Low)	
User Engagement	2 (Medium)	The Dataset Was Divided Into Three Equally Sized Ordinal Categories.
User Engagement	3 (High)	

After, dividing the independent variables into different categorical variables, ordered probit regression analysis was used to examine the impact of posts' characteristics on user engagement. The following basic ordered probit formula has been used in this study (Weerasena & Jayathilaka, 2023).

The general equation of the ordered probit is mentioned below.

$$y_{i*} = x_i\beta + \varepsilon \ I \qquad (2)$$

y_{i*} represents the latent or unobserved dependent variable (user engagement) for the i-th observation.
x_i represents a vector of predictor variables for the i-th observation.
β is a regression coefficient.
ε_i represents the error term or disturbance for the i-th observation.
Thus, the detailed specification of the ordered probit model is as follows.

User engagement(y) = (Vividness * β1 + Verbal interactivity * β2 + Post caption length * β3+ Publication schedule * β4) + εi (3)

A robust regression model was also estimated to account for any heteroscedasticity in the data. Finally, a stepwise regression model was used to identify the significant predictors of user engagement.

04. Results and Discussion

The data shown in Table 2 were obtained using ordered probit regression at 95% confidence interval.

Table 2: Results of Ordered Probit Regression Model

Variable	Coefficient	Std. Err.	z-value	P-value	95% Conf. Interval		Marginal Effects		
							Outcome 1	Outcome 2	Outcome 3
Vividness	0.315	0.044	7.01	0.000	0.227	0.403	-0.113	-0.000	0.113
Verbal interactivity	-0.160	0.058	-2.76	0.006	0.274	-0.046	0.057	0.0003	-0.057
/cut1	-0.353	0.202			-0.750	0.042			
/cut 2	0.553	0.203			0.155	0.951			

Publication schedule and post caption length were found to have no effect on user engagement in 95% confidence interval.

In robust tests,

Table 3: Results of Robust Test

Variable	Coefficient	Std. Error	z	p-value	95% Conf. Interval	
Vividness	0.3151146	0.0426713	7.38	0	0.2314803	0.3987488
Verbal interactivity	-0.160621	0.0578994	-2.77	0.006	-0.2741017	-0.0471404
/cut1	-0.3536224	0.194112			-0.7340749	0.02683
/cut2	0.5539807	0.1919229			0.1778188	0.9301426

The table also includes two cut-off points, /cut1 and /cut2, which indicate the boundaries of the ordered dependent variable. The results showed that the first cut-off point was -0.354 (SE = 0.194) and the second cut-off point was 0.554 (SE = 0.192).

The results of stepwise regression analysis where two variables, publication schedule, and post caption length, were removed due to their insignificant p-values. The model exhibits a statistically significant fit to the data, explaining 7.48% of the variation in user engagement. The variables vividness and verbal interactivity were found to be predictors of user engagement, while the intercept term was also significant). The root mean square error of the model was, indicating a reasonable fit to the data.

4.1. Discussion

The analysis conducted in this study aimed to examine the impact of vividness, verbal interactivity, post caption length, and publication schedule on user engagement and determine the validity of each hypothesis. The results obtained from the ordered probit regression analysis and stepwise regression analysis provided valuable insights into these relationships.

Hypothesis 1 proposed that vividness significantly impacts user engagement, and the findings of this study confirm this hypothesis. Consistent with the findings of Zhao et al. (2021), videos that offer visual and auditory enjoyment possess vivid characteristics that encourage consumers to make more comments. While pictures received strong support, their influence on commenting was found to be limited. However, videos with higher media richness in brand posts achieved greater engagement, aligning with the current study's results and confirming the impact of vividness on user engagement.

Moving on to Hypothesis 2, which suggests a significant impact of verbal interactivity on user engagement, the present study yields contrasting results. According to Cuevas-Molano et al. (2021), posts with higher levels of verbal interactivity tend to receive more likes and comments from consumers, emphasizing the importance of creating interactive posts to boost engagement. However, based on the analysis conducted in this study, verbal interactivity

does not have a significant impact on user engagement, which differs from the previous findings.

Hypothesis 3 proposes a significant impact of post caption length on user engagement, and the results of this study align with this hypothesis. Cuevas-Molano et al. (2021) support this notion, stating that longer posts provide more detailed information and capture greater interest and participation from the audience. The present study's findings provide strong evidence for the significant impact of post caption length on user engagement.

Lastly, Hypothesis 4 suggests that the publication schedule significantly impacts user engagement. However, the analysis conducted in this study fails to support this hypothesis, indicating that the publication schedule does not have a significant influence on user engagement. Consistent with Cuevas-Molano et al. (2021), the study implies that temporal factors have a low impact on consumer engagement on Instagram, preventing the formulation of specific recommendations regarding optimal days and times for publication.

This study contributes to the existing literature on social media marketing by examining the impact of post characteristics on user engagement within the context of Instagram influencer marketing. The findings confirm the significant impact of vividness and post caption length on user engagement, while revealing that verbal interactivity and publication schedule do not have significant influences. These insights can guide businesses in optimizing their social media advertising strategies and enhancing user engagement on Instagram. Additionally, the contrasting results regarding verbal interactivity highlight the need for further research to gain a comprehensive understanding of its role in influencer marketing.

05. Conclusion

The objective of this research was to examine the impact of Instagram paid partnership posts by top global influencers in the sports category on user engagement. The sample consisted of sports influencers from the top 100 Instagram influencers globally. By employing an ordered probit model and conducting statistical analysis, the study aimed to uncover the relationships between various post attributes and user engagement.

The results of the analysis indicate that visual content characterized by high vividness has a significant positive impact on user engagement. This finding aligns with previous research suggesting that dynamic animations, contrasting colors, and engaging visuals enhance user engagement (Cuevas-Molano et al., 2021). Brands and marketers in the sports industry can leverage vividness to optimize their Instagram paid partnership posts and increase user engagement.

In contrast, verbal interactivity was found to have a negative impact on user engagement. This implies that excessive use of interactive elements or prompts in captions may hinder user engagement. Brands should carefully balance their use of verbal interactivity to avoid overwhelming their audience.

The study did not find a significant association between the publication schedules of Instagram paid partnership posts and user engagement. This suggests that temporal factors may have a limited influence on consumer engagement in the context of sports influencers on

Instagram. Therefore, brands should focus on other strategies rather than relying solely on the timing of their posts to drive user engagement.

Regarding post caption length, weak evidence suggests that longer captions may have a negative impact on user engagement, although this relationship is not statistically significant. Further research is needed to explore this relationship more comprehensively. However, previous studies have suggested that longer posts can capture greater interest and participation from the audience (Cuevas-Molano et al., 2021). Brands should consider balancing the length of their captions to provide sufficient information while maintaining audience engagement.

The ordered probit model used in this research demonstrates a good fit for the data, and the independent variables explain approximately 3.66% of the variation in user engagement. While this percentage may seem modest, it provides valuable insights for brands and marketers to optimize their influencer marketing strategies for maximum social media effectiveness.

This study has certain limitations that should be acknowledged. Firstly, the research focused specifically on sports influencers in the top 100 Instagram influencers globally. The findings may not be directly applicable to other sectors or regions, thus limiting the generalizability of the results. Future research should explore the impact of post attributes on user engagement in different sectors or regions to gain a more comprehensive understanding.

This study highlights the significant positive impact of Instagram paid partnership posts by top global influencers in the sports category on user engagement. Visual content characterized by high vividness is particularly effective in driving engagement, while verbal interactivity should be carefully balanced. The study emphasizes the need for brands and marketers to optimize their influencer marketing strategies on Instagram to increase user engagement. Future research in different sectors or regions will provide further insights and assist businesses in tailoring their influencer marketing strategies for maximum social media effectiveness.

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