

A Critical Evaluation of Impact Measurement Metrics for Content on Instagram

^[1] Ariane-Tabea Schüller

^[1] PostDoc University of Greifswald

Corresponding Author Email: ^[1] Ariane-Tabea.Schueller@uni-greifswald.de

Abstract— *Social media has become an essential tool for businesses, organizations, and individuals to reach their target audience, promote their brands, and engage with their communities. Users, who accumulate a large following through a visual and textual narration of their personal life and lifestyle in posts and videos, are called influencers. Advertisers select and reimburse influencers for their sponsored content based on the engagement, as key performance indicators (KPIs), generated by their posts. This research provides insights for both: advertising companies and scholars. It contributes to literature by critically reevaluating current impact success measurements of sponsored influencer brand content on Instagram. Since its inception in 2010, Instagram has become increasingly popular as a social media platform. It is considered one of the leading social media platforms for sharing photos and videos, with high engagement rates among the users. Measuring the impact of sponsored content on Instagram is essential to evaluate the success, to determine the return on investment of the social media effort, and also to be able to make well-founded decisions about future investments. Consequently, adducted metrics of success measurement should be valid, objective and with little possibility to be manipulated by the influencer.*

Index Terms—*impact measurement metrics, Instagram.*

I. INTRODUCTION

Social media has become an essential tool for businesses, organizations, and individuals to reach their target audience, promote their brands, and engage with their communities [1]. Platforms like Facebook, Twitter, Instagram, and YouTube, among others, allow users to share their thoughts, opinions, and experiences with a large audience. Users, who accumulate a large following through a visual and textual narration of their personal life and lifestyle in posts and videos, are called influencers [2], [3]. Their user-generated content is considered as genuine and honest insights, and therefore followers are more likely to trust these recommendations compared to brand-generated communications [4], [5]. Advertisers select and reimburse influencers for their sponsored content based on the engagement, as key performance indicators (KPIs), generated by their posts. The most commonly used way to measure success of sponsored content is by tracking likes, shares, comments, and followers [6]-[8]. However, these metrics can be influenced by various factors, including the timing of the post, or the type of content, but also lotteries, personal appeals of the influencer to like, comment and/or share the content, and the bid to follow fellow influencer. These methods can change the number of likes, shares, comments and followers significantly, possibly falsifying the KPI in terms of an engagement rate with the advertised brand.

This research provides insights for both: advertising companies and scholars. It contributes to literature by critically reevaluating current impact success measurements of sponsored influencer brand content on Instagram. Since its inception in 2010, Instagram has become increasingly popular as a social media platform. It is considered one of the

leading social media platforms for sharing photos and videos, with high engagement rates among the users [9]. Measuring the impact of sponsored content on Instagram is essential to evaluate the success, to determine the return on investment of the social media effort, and also to be able to make well-founded decisions about future investments. Consequently, adducted metrics of success measurement should be valid, objective and with little possibility to be manipulated by the influencer.

II. THEORETICAL FRAMEWORK

Instagram is a social media platform that enables users to share photos, videos and stories with their followers. Launched in 2010, it has since become one of the most popular social media platforms [10]. It can be characterized as a picture-sharing, entertainment-oriented network, which is based on creative visual content [6], [11]. Users engage on this platform to interact with others through likes, comments, and direct messages. While pictures can be posted permanently, stories are short-lived videos or photos, which disappear after 24 hours. They provide an intimate and authentic glimpse into the life of the users. Overall, it is a visually-focused and highly engaging social media platform that has evolved to a popular location for both personal and business use.

Influencers on Instagram are users who have a large following and create content that resonates with their audience. Whether one is a musician, athlete, fashion lover or a student next door, anyone can be an influencer [12]-[14]. They have the power to shape opinions, drive trends, and influence consumer behavior. Studies have shown that influencer communication impacts the consumers attitudes [15]-[17], intentions [7], [18], and follower engagement [19].

By sharing a multimodal narration of their personal everyday lives and opinions via pictures, videos, texts, hashtags etc. they have created sizeable social networks [20], [21]. Instagram influencers are assumed to be reliable, cost-efficient and -effective brand endorsers [22], [23], [20]. Compared to traditional celebrity endorsements, consumers assess Instagram influencers to be more accessible, credible and therefore more authentic and trustworthy. By means of their large follower size marketing messages can be amplified, while reaching the targeted audience, and leading to favorable outcomes such as electronic-word-of-mouth (eWOM) and purchase intention [24]-[26]. As a result, companies engage with influencers for compensated communication purposes [27].

Instagram influencers can be classified based on various factors, such as 1) follower size, 2) content niche, 3) geographical reach and many more [28]. One way to categorize is by 1) the size of the influencers' follower base [29]-[31]. Understanding this spectrum allows brands to tailor their influencer marketing strategies to fit their goals, whether that involves reaching a broad audience, targeting a specific niche, or fostering deep connections with a community [32]. There are four subcategories to the follower size: A) Mega-Influencers: often exceeding millions of followers with a reach across various demographics and industries. Ideally, they are used for large-scale brand promotions [33], [34]. B) Macro-Influencers: 100.000 to one million followers, often specialize in specific niches or industries. Due to higher engagement rates compared to mega-influencers, macro-influencers foster a sense of community and thereby are more effective for targeted marketing campaigns [35]. C) Micro-Influencers: 10.000 to 100.000 followers, they are recognized for high engagement rates and strong connections through authenticity and relatability with their audience and therefore are ideal for niche marketing [9], [36]. D) Nano-Influencers: 1.000 to 10.000 followers, they have a smaller but highly engaged and loyal community. Nano-Influencers can have significant impact within specific communities [37]. Influencers can also be categorized by 2) content niches. In order to align their products or services with the right audience, brands collaborate with influencers in specific niches. From beauty and fashion to technology and gaming, influencers wield their expertise and passion to connect with their followers across various domains [38]-[40]. The geographical scope of influencers ranges from local tastemakers to international trendsetters. This is essential for brands, which aim to target specific markets or establish a global presence [41]-[43].

There are two sides to content on Instagram: regular editorial content produced by the influencer, and so-called native advertising, also known as sponsored content. The second category refers to paid promotional material, which often mimics the format and appearance of regular content [44]. A notable characteristic of native advertising is its presentation, as it is seamlessly integrated alongside and

often mixed with non-sponsored content [45]. Brand managers face constrained control over the native advertising, with the ability to provide only broad guidelines. However, this limited control is willingly accepted as it allows influencers to convey messages genuinely, preserving their authenticity and trustworthiness [46], [25]. The integration into the regular editorial content creates a challenge for followers on Instagram to distinguish between advertising and non-advertising content, which may lead to different consumer reactions and therefore may affect the impact of the advertising content [27].

Collaborations with influencers can span a spectrum, encompassing anything from individual posts endorsing a product to establishing long-term ambassadorships and even launching extensive product lines exclusively dedicated to and branded by a specific Instagram influencer [47]. The compensation also exhibits considerable diversity, ranging from receiving a complimentary product sample to earning substantial sums, sometimes reaching hundreds of thousands of dollars [48].

To elucidate the significance of impact measurement metrics in influencer marketing on Instagram, this article sets forth two primary research questions:

Research question 1: What metrics are predominantly utilized to measure the impact of content on Instagram?

Research question 2: Can these metrics serve as valid and reliable proxies for the perceived impact of content posted by Instagram influencers as native advertising?

III. METHOD

To address these inquiries, a systematic overview on previous research on measurement methods of the impact of online content is presented. On the basis of 87 scientific articles published between 2015 and 2023 on measurement methods of the impact of online and Instagram content, a conceptual background of diverse measurement metrics for Instagram content is presented. Recent research obtains only rudimentary, non-systematic and fractional insight on the whole spectrum of measurement metrics [46], [49]. Therefore the subsequent section provides a critical evaluation of these metrics, followed by the conclusion and future research directions.

IV. INSTAGRAM IMPACT MEASUREMENT METRICS

Next to the task of selecting the right influencer for a collaboration, the measurement of the resulting campaigns' outcome represents one of the major challenges of Instagram influencer brand relations [50]. Even though many studies have attested positive effects of influencer content on Instagram, marketers deem it difficult to quantify these [51]. There are various methods for measuring the impact of sponsored content on Instagram. The most used methods are (1) engagement metrics: likes, shares, comments and followers. These operating figures measure the level of

interaction between a brand and its audience [52]-[56], [46]. They are accessible to the public and easy to interpret. (2) Reach metrics: quantify the number of people who have viewed the post or seen the reel [57]. The results of surveys of Gräve (2019) [50], Linqia (2016) [58], and Solis (2016) [59] also correspond to these two categories of impact measurement methods. The studies show that social media professionals evaluate influencer campaigns mainly based on the critical but yet easily quantifiable and available rate of engagement and reach. Another method are (3) traffic metrics: measurements of the number of visitors to a website or landing page by clicks, conversions and bounce rates [60]. (4) Sentiment metrics: are positive, negative and neutral attitudes and emotions expressed by the followers [61]. And finally (5) ROI metrics: the return on investment of an Instagram campaign can be measured by cost per lead, cost per conversion, and customer lifetime value [62]-[64]. These performance-related indicators are often used to compensate the influencers based on the success of the campaign, e.g. purchases via allocated influencer affiliated links [46]. Platforms like influencerdb.net, socialbakers.com, or socialblade.com systematically gather these metrics into databases, calculate supplementary metrics, and provide assistance to marketing professionals in identifying Instagram influencers and assessing their impact [50].

V. CRITICAL EVALUATION

The utilization of metrics often triggers a phenomenon known as “reactivity”, which implies that individuals tend to alter their behavior in response to being assessed, observed, or measured [65]. Consequently, those who are subject of evaluation through numerical measures adopt practices and representations aligned with these metrics. This reciprocal relationship affects the very nature of what the metrics were originally intended to measure [66]. According to Duffy (2018) [67], influencers put in significant effort to enhance their visibility on Instagram, primarily with the goal of securing sponsored deals. He notes that these influencers go to such lengths that the pursuit of visibility and sponsorship opportunities can sometimes shift the focus from personal expression to strategic self-promotion in the digital space. In order to ensure that no manipulation is done, companies should monitor the influencers’ activity before, while and shortly after the promotion [50], [68]. The time-consumption of this research is in opposition to the indemnification of a product-fit influencer and a greater precision of pinpoint metrics [69].

Even though ROI metrics are mentioned rather often in combination with performance related influencer compensation [62], [63], these impact measurements are not further evaluated in literature. Perhaps this lack of discussion is due to the austerity of the metrics: “cost per lead” (CPL) are generated through contacts/ leads of potential customers via the brand link included in the content of the influencer. If this contact is converted into a purchase it is called “cost per

conversion” (CPC). If the primary goal is to drive immediate action, such as purchases, CPC may be a more relevant impact measurement compared to CPL. Whereas long-term brand building will be more difficult to measure by CPC. CPL may be well-suited for businesses aiming to foster relationships and engagement with their audience. Therefore the choice between CPL and CPC should align with the overall campaign objectives. Brands focusing on storytelling and relationship-building may find CPL more suitable, while those emphasizing direct sales may lean towards CPC.

Furthermore, practitioners need to keep in mind, that the engagement rate can serve as a valuable metric in assessing influencer’s potential value to a brand, but only if that engagement directly correlates with the campaign goal, e.g. consumer purchasing behavior, public awareness, or image improvement [70]. Likewise, a significant volume of interactions can suggest compelling and captivating content that is likely to elicit a positive response from the audience in favor of the influencer marketing campaign. However, a mere count of interactions, such as comments, doesn’t provide insights into the nature of sentiment of these engagements. Also, Instagram influencers, being cognizant of the significance of such metrics, may strategically enhance their results, using e.g. raffles or personal appeals “to spread some love” via likes and comments, in order to boost the engagement [71]. Consequently, in addition to quantitative measurements, qualitative evaluations have to be conducted [52]. However, the before mentioned survey of Gräve (2019) [50], among 76 professional marketers, reveals a clear preference for easily measurable and readily accessible quantitative KPIs, like the number of interaction or reach, while qualitative metrics are hardly used. This pragmatic decision minimizes the costs of the evaluation process, but there is also a question of whether this shortcut genuinely reflects the desired outcomes, specifically, the creation of authentic, high-quality content that aligns with the brand image. Managers should be advised to prioritize sentiment measures derived from comments as a more valuable evaluation metric, rather than relying solely on straightforward heuristics such as reach or interaction rate [72]. However, this doesn’t negate the importance of the engagement- and reach-metrics. While these methods are necessary, they alone are not sufficient to ensure a reliable measurement of the impact of content on Instagram.

VI. CONCLUSION

Using likes, shares, comments, and followers as the sole measure of the success of sponsored Instagram content is problematic, as these engagement metrics are subjective and can be manipulated by non-brand related actions of the influencer. However, since there are no other alternatives to evaluate the engagement of followers yet, a holistic approach is recommended. To get a more accurate measurement of the success, it is important to take multiple metrics into account, including sentiment, traffic, conversions, and return on

investment. By using a combination of metrics, businesses and organizations can get a more comprehensive understanding of the impact of their social media efforts and make data-driven decisions about their Instagram strategies. Never the less, future research should investigate other determinants, which validate follower engagement, with regard to sponsored content effectiveness.

REFERENCES

- [1] M. Delbaere, M. Brittany, and B. J. Phillips, "Social media influencers: A route to brand engagement for their followers," *Psychology Marketing*, vol. 38, pp. 101-112, 2021.
- [2] G. Ye, L. Hudders, S. De Jans, and M. De Veirman, "The value of influencer marketing for business: A bibliometric analysis and managerial implications," *Journal of Advertising*, vol. 50, no. 2, pp. 160-178, 2021.
- [3] C. Abidin, "Communicative intimacies: Influencers and perceived interconnectedness," *Ada*, vol. 8, pp. 1-16, 2015.
- [4] E. L. Lopes, and J. Goulart-da-Silva, "The effect of celebrity endorsement on omission neglect at different levels of skepticism," *International Journal of Consumer Studies*, pp. 1-15, 2021.
- [5] E. Djafarova, and C. Rushworth, "Exploring the credibility of online celebrities' Instagram profiles in influencing the purchase decisions of young female users," *Computers in Human Behavior*, vol. 68, pp. 1-7, 2017.
- [6] J. Gross, and F. Wangenheim, "Influencer Marketing on Instagram: Empirical research on social media engagement with sponsored posts," *Journal of Interactive Advertising*, vol. 22, no. 3, pp. 289-310, 2022.
- [7] C. Hughes, V. Swaminathan, and G. Brooks, "Driving brand engagement through online social influencers: An empirical investigation of sponsored blogging campaigns," *Journal of Marketing*, vol. 83, no. 5, pp. 78-96, 2019.
- [8] E. Lammenett, "Influencer Marketing – Strategie, Konzept, Umsetzung, Chancen, Potenziale, Risiken," Lammenett-Verlag, 2019.
- [9] L. V. Casalo, C. Flavian, and S. Ibanez-Sanchez, "Influencers on Instagram: Antecedents and consequences of opinion leadership," *Journal of Business Research*, vol. 117, pp. 510-519, 2020.
- [10] Statista, "Number of Instagram users worldwide from 2020 to 2025," <https://www.statista.com/statistics/183585/instagram-number-of-global-users/>, 2023.
- [11] C. Herrando, and M. J. M. Hoyos, "Influencer endorsement posts and their effects on advertising attitudes and purchase intentions," *International Journal of Consumer Studies*, vol. 1, pp. 1-12, 2022.
- [12] A. Martensen, S. Brockhuus-Schack, and A. L. Zahid, "How citizen influencers persuade their followers," *Journal of Fashion Marketing and Management*, vol. 22, no. 3, pp. 335-353, 2018.
- [13] S. Khamis, L. Ang, and R. Welling, "Self-branding, 'micro-celebrity' and the rise of social media influencers," *Celebrity Studies*, vol. 8, no. 2, pp. 191-208, 2017.
- [14] M. Pedroni, "Meso-celebrities, fashion and the media: How digital influencers struggle for visibility," *Film, Fashion & Consumption*, vol. 5, no. 1, pp. 103-121, 2016.
- [15] J. S. Venus, and M. Aziz, "Instafamous and social media influencer marketing," *Marketing Intelligence & Planning*, vol. 37, pp. 567-579, 2019.
- [16] E. A. van Reijmersdal, M. L. Fransn, G. van Noort, S. J. Opre, L. Vandenberg, S. Reusch, and S. C. Boerman, "Effects of disclosing sponsored content in blogs: How the use of resistance strategies mediates effect on persuasion," *The American Behavioural Scientist*, vol. 60, pp. 1458-1474.
- [17] P. W. Ballantine, and C. Au Yeung, "The effects of review valence in organic versus sponsored blog sites on perceived credibility, brand attitude, and behavioural intentions," *Marketing Intelligence & Planning*, vol. 33, pp. 508-521, 2015.
- [18] E. Pöyry, M. Pelkonen, E. Naumanen, and S.-M. Laaksonen, "A call for authenticity: Audience responses to social media influencer endorsements in strategic communication," *International Journal of Strategic Communication*, vol. 13, pp. 336-351, 2019.
- [19] G. Balabanis, and E. Chatzopoulou, "Under the influence of a blogger: The role of information-seeking goals and issue involvement," *Psychology & Marketing*, vol. 36, pp. 342-353, 2019.
- [20] G. S. Dhanesh, and G. Duthler, "Relationship management through social media influencers: Effects of followers' awareness of paid endorsement," *Public Relations Review*, vol. 45, no. 3, 101765, 2019.
- [21] N. Enke, and N. S. Borchers, "Social media influencers in strategic communication: A conceptual framework for strategic social media influencer communication," *International Journal of Strategic Communication*, vol. 13, no. 4, pp. 261-277, 2019.
- [22] B. Al Kurdi, M. Alshurideh, I. Akour, E. Tariq, A. Al Hamad, and H. M. Alzoubi, "The effect of social media influencers' characteristics on consumer intention and attitude toward Keto products purchase intention," *International Journal of Data and Networks Science*, vol. 6, pp. 1135-1146, 2022.
- [23] Influencer Marketing Hub, "Influencer marketing benchmark report 2020," <https://influencermarketinghub.com/influencer-marketing-benchmark-report-2020/>, 2020.
- [24] S. C. Boerman, L. M. Willemsen, and E. P. van der Aa, "This post is sponsored – Effects of sponsorship disclosure on persuasion knowledge and electronic word of mouth in the context of Facebook," *Journal of Interactive Marketing*, vol. 38, pp. 82-92, 2017.
- [25] M. de Veirman, V. Cauberghe, and L. Hudders, "Marketing through Instagram influencers: The impact of number of followers and product divergence on brand attitude," *International Journal of Advertising*, vol. 36, no. 5, pp. 798-828, 2017.
- [26] L. M. Willemsen, P. C. Neijens, f. Bronner, and J. A. de Ridder, "Highly recommended! The content characteristics and perceived usefulness of online consumer reviews," *Journal of Computer-Mediated Communication*, vol. 17, no. 1, pp. 19-38, 2011.
- [27] C. Campbell, and P. E. Grimm, "The challenges native advertising poses: Exploring potential federal trade commission responses and identifying research needs," *Journal of Public Policy & Marketing*, vol. 38, no. 1, pp. 110-123, 2019.
- [28] B. Wissmann, "Micro-influencers: The marketing force of the future?," <https://www.forbes.com/sites/BarrettWissman/2018/03/02/micro-influencers-the-marketing-force-of-the-future/>, 2018.

- [29] S. Kusumasondjaja, and F. Tjiptono, "Endorsement and visual complexity in food advertising on Instagram," *Internet Research*, vol. 29, no. 4, pp. 659-687, 2019.
- [30] J. Porteous, "Micro influencers vs macro influencers, what's best for your business?," <https://www.socialbakers.com/blog/micro-influencers-vs-macro-influencers>, 2018.
- [31] M. Haenlein, and B. Libai, "Seeding, Referral, and Recommendation," *California Management Review*, vol. 59, no. 2, pp. 68-91, 2017.
- [32] A. Neves, R. Viera, F. Mourao, and L. Rocha, "Quantifying complementarity among strategies for influencers' detection on Twitter 1," *Procedia Computer Science*, vol. 51, pp. 2435-2444, 2015.
- [33] R. Conde, and B. Casais, "Micro, macro and mega-influencers on Instagram: The power of persuasion via the parasocial relationship," *Journal of Business Research*, vol. 158, pp. 113708, 2023.
- [34] C. Campbell, and J. R. Farrell, "More than meets the eye: The functional components underlying influencer marketing," *Business Horizons*, vol. 63, no. 4, pp. 469-479, 2020.
- [35] H. Chen, "College-aged young consumers' perceptions of social media marketing: the story of Instagram," *Journal of Current Issues & Research in Advertising*, vol. 39, no. 1, pp. 22-36, 2017.
- [36] C. R. Taylor, "The urgent need for more research on influencer marketing," *International Journal of Advertising*, vol. 39, no. 7, pp. 889-891, 2020.
- [37] R. C. Wibawa, C. P. Pratiwi, and H. Larasati, "The role of nano influencers through Instagram as an effective digital marketing strategy," *Advances in Economics, Business and Management Research*, vol. 198, pp. 233-238, 2021.
- [38] S. Robbins, "Value of mega and micro influencers: a case study," *Influencer Marketing Days Conference 2017*, <http://influencermarketingdays.com/blog/2017/01/mega-micro-influencers-value-case-study>, 2017.
- [39] P. Liengpradit, S. Sinthupinyo, and P. Anuntavoranich, "A conceptual framework to identify specific influencer on social networks," *International Journal of the Computer, the Internet and Management*, vol. 22, no. 2, pp. 33-40, 2014.
- [40] E. Bakshy, J. M. Hofman, W. A. Mason, and D. J. Watts, "Everyone's a influencer: Quantifying influencer on Twitter," *WSDM'11 Proceedings of the fourth ACM international conference on Web search and data mining*, pp. 65-74, 2011.
- [41] K. Bentley, C. Chu, C. Nisotr, E. Pehlivan, and T. Yalcin, "Social media engagement for global influencers," *Journal of Global Marketing*, vol. 34, no. 3, pp. 205-219, 2021.
- [42] M. Palazzo, A. Vollero, P. Vitale, and A. Siano, "Urban and rural destinations on Instagram: Exploring the influencers' role in #sustainabletourism," *Land Use Policy*, vol. 100, pp. 104915, 2021.
- [43] E. Bonnevie, S. D. Rosenberg, C. Kummeth, J. Goldbarge, E. Wartella, and J. Smyser, "Using social media influencers to increase knowledge and positive attitudes toward the flu vaccine," *Plos One*, vol. 15, no. 10, e0240828, 2020.
- [44] B. W. Wojdyski, and N. J. Evans, "Going native: Effects of disclosure position and language on the recognition and evaluation of online native advertising," *Journal of Advertising*, vol. 45, no. 2, pp. 157-168, 2016.
- [45] B. Harms, T. H. Bijmolt, and J. C. Hoekstra, "Digital native advertising: practitioner perspectives and a research agenda," *Journal of Interactive Advertising*, vol. 17, no. 2, pp. 80-91, 2017.
- [46] N. S. Borchers, and N. Enke, "Managing strategic influencer communication: A systematic overview on emerging planning, organization, and controlling routines," *Public Relations Review*, vol. 47, no. 3, pp. 102041, 2021.
- [47] J. E. Lee, and B. Watkins, "YouTube vloggers' influence on consumer luxury brand perceptions and intentions," *Journal of Business Research*, vol. 69, pp. 5753-5760, 2016.
- [48] D. Carter, "Hustle and brand: The sociotechnical shaping of influence," *Social Media & Society*, vol. 2, no. 3, pp. 1-12, 2016.
- [49] G. Sundermann, and T. Raabe, "Strategic communication through social media influencers: Current state of research and desiderata," *International Journal of Strategic Communication*, vol. 13, pp. 278-300, 2019.
- [50] J.-F. Gräve, "What KPIs are key? Evaluation performance metrics for social media influencers," *Social Media & Society*, vol. 5, no. 3, pp. 2056305119865475, 2019.
- [51] E. Uzunoglu, and S. Misci Kip, "Brand communication through digital influencers: Leveraging blogger engagement," *International Journal of Information Management*, vol. 34, pp. 592-602, 2014.
- [52] T. L. V. Lolita, "Characteristics of influencer relations: a literature review," *Jurnal Ilmu Komunikasi*, vol. 20, no. 3, pp. 288-302, 2022.
- [53] C.C. Childers, L.L. Lemon, and M. G. Hoy, "#Sponsored 'Ad: Agency perspective on influencer marketing campaigns," *Journal of Current Issues & Research in Advertising*, vol. 40, pp. 258-274, 2019.
- [54] R. Martinez-Pecino, and M. Garcia-Gavilan, "Likes and problematic Instagram use: the moderating role of self-esteem," *Cyberpsychology Behavioural Social Network*, vol. 22, pp. 412-416, 2019.
- [55] K. Boogaard, "Instagram metrics that matter (and how to track them)," <https://skedsocial.com/blog/10-instagram-metrics-that-matter>, 2018.
- [56] K. H. Chu, J. Allem, T. B. Cruz, and J. B. Unger, "Vaping on Instagram: cloud chasing, hand checks and product placement," *Tobacco Control*, vol. 26, pp. 575-578, 2017.
- [57] S. Vallas, and J. Schor, "What do platforms do? Understanding the gig economy," *Annual Review of Sociology*, vol. 46, pp. 273-294, 2020.
- [58] Linqia, "The state of influencer marketing 2017: A look into how brands and agencies view the future of influencer marketing," <http://www.linqia.com/wp-content/uploads/2016/11/The-State-of-Influencer-Marketing-2017-Final-Report.pdf>, 2016.
- [59] B. Solis, "The influencer marketing manifesto: Why the future of influencer marketing starts with people and relationships not popularity," http://pages.tapinfluence.com/hubfs/Influencer_Marketing_Manifesto.pdf, 2016.
- [60] B. J. Jansen, S. G. Jung, and J. Salminen, "Data quality in website traffic metrics: A comparison of 86 websites using two popular analytics services," http://www.bernardjjansen.com/uploads/2/4/1/8/24188166/traffic_analytics_comparison.pdf, 2020.
- [61] B. Fay, and R. Larkin, "Why online word-of-mouth measures cannot predict brand outcomes offline," *Journal of Advertising Research*, vol. 57, pp. 132-143, 2017.
- [62] K. Freberg, "Discovering public relations: An introduction to creative and strategic practices," Sage Publication.

- [63] E. McDonald, "Data, analytics and creative intuition: An analysis of how to optimize return on social media investment on Instagram," *Journal of Digital & Social Media Marketing*, vol. 8, no. 1, pp. 21-32.
- [64] A. Kumar, R. Bezawada, R. Rishika, R. Janakiraman, and P. K. Kannan, "From social to sale: The effects of firm-generated content in social media on customer behaviour," *Journal of Marketing*, vol. 80, pp. 7-25, 2016.
- [65] W. N. Espeland, and M. Sauder, "Engines of anxiety: Academic rankings, reputation, and accountability," Russell Sage Foundation.
- [66] A. Christin, and R. Lewis, "The drama of metrics: status, spectacle, and resistance among YouTube drama creators," *Social Media & Society*, vol. 1, pp. 1-14, 2021.
- [67] B. E. Duffy, "(Not) getting paid to do what you love," Yale University Press.
- [68] C. W. C. Ki, and Y. K. Kim, "The mechanism by which social media influencers persuade consumers: The role of consumers' desire to mimic," *Psychology & Marketing*, vol. 36, no. 10, pp. 905-922, 2019.
- [69] S. Gallagher, "How influencer relations work," *Journal of Professional Communication*, vol. 6, No. 2, article 2, 2021.
- [70] S. Kay, R. Mulcahy, and J. Parkinson, "When less is more: the impact of macro and micro social media influencers' disclosure," *Journal of Marketing Management*, vol. 36, no. 3-4, pp. 248-278, 2020.
- [71] M. Smith, "Why you shouldn't buy Instagram followers from vending machines – Opinion: Is automating your Instagram too good to be true?," <https://www.adweek.com/performance-marketing/matt-smith-later-guest-post-why-you-shouldnt-buy-instagram-followers-from-vending-machines/>, 2017.
- [72] J. K. Santiago, and I. M. Castelo, "Digital influencers: An exploratory study of influencer marketing campaign process on Instagram," *Online Journal of Applied Knowledge Management*, vol. 8, no. 2, pp. 31-52, 2020.