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Analyzing the Effect of Sponsorship Disclosure on Social Media Influencer Contribution to Engagement in the Test and Measurement Industry

Todd B. Baker

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**Analyzing the Effect of Sponsorship Disclosure on Social Media Influencer
Contribution to Engagement in the Test and Measurement Industry**

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Dissertation

George Fox University

Portland, Oregon

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A dissertation submitted to George Fox University in partial fulfillment of the
requirements for the degree of Doctor of Business Administration

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Dedication

I dedicate this dissertation to our Lord and Savior, Jesus Christ, as I am content and trust in God to provide for my needs and will not be consumed by cupidity or anxiety. "I can do all this through him who gives me strength" (New International Version, 1991, Phillippians 4:13).

I also dedicate this work to my wonderful wife Yvette and children, Derk and Muirgheal. Their support, encouragement, and love helped me to achieve this goal. I hope and pray that this work inspires my children to seek a lifetime of learning and pursue their dreams.

Lastly, I dedicate this to my parents Dave and Shirley, whose counsel, love, and guidance has enabled me to accomplish so much over the years. I would not be here without them.

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Abstract

Audiences are consuming digital content at an increasing rate, and they use social media as a substantial source of information on products and services. Businesses are leveraging influencer marketing to reach their audiences and create a pre-disposition to buy from their brands represented by these social media influencers. Marketers are likely to increase their investments in social media by 53.6% in the coming five years, placing greater attention on this topic for many business executives (Moorman, 2021). This quantitative study explored the varying forms of sponsorship disclosure cues and their effect on engagement rates for different influencer types in the Test & Measurement (T&M) industry. The analysis utilized archival data from 31 YouTube influencers, along with different forms of sponsorship disclosures, to explore their effect on engagement rates. The study found a significant correlation with engagement rate for Impartial and Implied sponsorship disclosures but an insignificant correlation for Explicit sponsorship disclosures. This study is important as it revealed that it is worthwhile for businesses and influencers to consider the implications of contract arrangements and the obligations they may inadvertently place on an influencer to change their sponsorship disclosure approach in order to remain transparent and compliant while maintaining their perceived credibility.

Keywords: social media, influencer marketing, sponsorship disclosure, engagement

Table of Contents

Chapter 1: Introduction.....	1
Statement of the Research Problem.....	6
Research Questions and Hypotheses.....	8
Definition of Terms	9
Delimitations	10
Limitations.....	12
Significance of the Study	13
Researcher's Perspective	14
Chapter 2: Literature Review.....	15
Influencer Marketing	15
Types of Influencers	17
Offline and Online Influencer Marketing	18
Influencer Marketing in Social Media.....	19
Social Media Influencers.....	20
SMI Categories.....	22
Informers and Infotainers.....	25
Credibility	27
SMI Attributes	29
Sponsorship Disclosure.....	32
Engagement	36
Behavioral Manifestation	37

Engagement Strategies in B2B	39
Engagement Metrics	40
Summary	42
Chapter 3: Methodology	44
Research Design	44
Variables	45
Independent	45
Moderating	46
Dependent.....	47
Theoretical Model	48
Data Source and Collection	48
Measures	50
Data Analysis	50
Chapter 4: Results.....	52
Sample.....	52
Hypotheses Results	64
H ₁ Results – Impartial Sponsorship Disclosure	73
H ₂ Results – Implied Sponsorship Disclosure	74
H ₃ Results – Explicit Sponsorship Disclosure.....	75
Additional Findings.....	75
Engagement During the COVID-19 Pandemic	75

Engagement with Sponsorship Promotion Banners	82
Engagement and Influencer Comments	84
Chapter 5: Discussion and Implications	88
Findings	88
H ₁ Findings – Impartial Sponsorship Disclosure.....	89
H ₂ Findings – Implied Sponsorship Disclosure.....	89
H ₃ Findings – Explicit Sponsorship Disclosure	90
Limitations.....	91
Implications.....	91
Academic.....	92
Business.....	93
Influencer.....	94
Future Research	96
Conclusion	99
References.....	101

List of Tables

Table 4.1 Influencers by Country	53
Table 4.2 Influencers by Influencer Type.....	55
Table 4.3 Videos by Theme	56
Table 4.4 Videos by Year	58
Table 4.5 Videos by Influencer by Year	60
Table 4.6 Videos by Influencer.....	61
Table 4.7 Videos by Disclosure Category	62
Table 4.8 Videos with Sponsorship Flag	63
Table 4.9 Univariate Descriptive Statistics	65
Table 4.10 Levene's Test of Equality of Error Variances	66
Table 4.11 Tests of Between-Subjects Effects	67
Table 4.12 Estimates by Influencer Type	69
Table 4.13 Pairwise Comparisons by Influencer Type	69
Table 4.14 Univariate Tests by Influencer Type.....	69
Table 4.15 Estimates by Disclosure Category	70
Table 4.16 Pairwise Comparisons by Disclosure Category.....	71
Table 4.17 Univariate Tests by Disclosure Category.....	71
Table 4.18 Estimates by Interaction of Influencer Type * Disclosure Category	72
Table 4.19 Pairwise Comparisons by Interaction of Influencer Type * Disclosure Category.....	73
Table 4.20 Univariate Tests by Interaction of Influencer Type * Disclosure Category ...	74
Table 4.21 Videos Uploaded by COVID Date Categorization	76

Table 4.22 Videos Uploaded by Year and Month	77
Table 4.23 Descriptives for Engagement by COVID Date Categorization.....	80
Table 4.24 Tests of Homogeneity of Variances for Engagement by COVID Date Categorization	80
Table 4.25 ANOVA for Engagement by COVID Date Categorization	80
Table 4.26 ANOVA Effect Sizes for Engagement by COVID Date Categorization	81
Table 4.27 Multiple Comparisons for Engagement by COVID Date Categorization.....	81
Table 4.28 Group Statistics of Sponsorship Flag	83
Table 4.29 Independent Samples Test of Sponsorship Flag	83
Table 4.30 Independent Samples Effect Sizes of Sponsorship Flag	84
Table 4.31 Descriptive Statistics of Engagement Rate by Influencer Comments.....	84
Table 4.32 Correlations of Engagement Rate by Influencer Comments	85
Table 4.33 Descriptive Statistics of Engagement Rate by Informer Comments	85
Table 4.34 Correlations of Engagement Rate by Informer Comments.....	86
Table 4.35 Descriptive Statistics of Engagement Rate by Infotainer Comments	86
Table 4.36 Correlations of Engagement Rate by Infotainer Comments	87

List of Figures

Figure 2.1 Social Media Influencer Typology	23
Figure 3.1 Proposed Model	48
Figure 4.1 Influencers by Country	54
Figure 4.2 Influencers by Influencer Type.....	55
Figure 4.3 Videos by Theme.....	57
Figure 4.4 Videos by Year	58
Figure 4.5 Videos by Influencer by Year	59
Figure 4.6 Videos by Influencer	62
Figure 4.7 Videos by Disclosure Category	63
Figure 4.8 Videos with Sponsorship Flag	64
Figure 4.9 Estimated Marginal Means of Engagement Rate	68
Figure 4.10 Videos Uploaded by COVID Date Categorization	77
Figure 4.11 Videos Uploaded by Year and Month	79
Figure 4.12 Means Plots of Videos Uploaded by COVID Date Categorization	82

Chapter 1: Introduction

Digital content consumption continues to rise among consumers, and they are turning to social media (SM) as a source of information on products and services (Wielki, 2020). The increased density of connected computing and the proliferation of mobile devices have substantially changed our world as SM adoption has accelerated, and access to information continues to reach new levels worldwide (Agnihotri et al., 2016). Accordingly, marketers are relying more heavily on SM in their strategies to reach their audience. The most recent Chief Marketing Officer (CMO) Survey reports that SM spending has increased by 30.8% over the past five years and is anticipated to accelerate that increase by 53.6% over current levels in the coming five years (Moorman, 2021). This rapid rise in SM spending as a proportion of the total marketing promotional mix has placed greater attention on this topic for many CMOs.

Influencer marketing is the fastest growing trend in SM outreach with exponential year-over-year growth. According to a survey by CAA-GBG and CreatorIQ (2020), the number of influencer campaigns grew from only 50 in 2015-Q1 to 800 in 2018-Q1. The COVID-19 pandemic caused a brief short-term decline, but the growth continued at a steady pace. Through a partnership with Upfluence and access to over 4 million creator profiles, Influencer Marketing Hub reports similarly strong campaign growth from 590 in 2018-Q1 to 2900 in 2020-Q4 (Geyser, 2022). This trend is expected to continue in the near term, with approximately 50% of internet users currently following an influencer account on SM and relying on those social media influencers (SMIs) for recommendations (De Veirman & Hudders, 2020; Vrontis et al., 2021).

Multiple SM platforms exist to connect users in bounded systems that foster interactivity, individualization, integrated communication, immediacy, and serve as information collectors (Habibi et al., 2015). Prominent global SM platforms currently include YouTube, Facebook, Twitter, Instagram, Snapchat, Pinterest, Tumblr, Tik Tok, LinkedIn, and several others. While all of these examples offer strong participation rates and are highly relevant in business-to-consumer (B2C) contexts, many of these platforms in business-to-business (B2B) have met with varying success (Backaler, 2018, Swani et al., 2019). The differences between B2C and B2B buying decision processes have been well documented, with a convergence on several key B2B characteristics that make the implementation of modern SM marketing communications approaches uniquely challenging (Backaler, 2018; Grewal et al., 2015; Habibi et al., 2015; Järvinen & Karjaluo, 2015; Steward et al., 2019; Webster, 1991):

- Larger number of decision-makers and/or purchase influencers
- Greater functional, rational, or utilitarian decision-making criteria
- More knowledgeable customers
- Increased product or service complexity
- Higher-value exchange and purchase size
- More direct and intense customer relationships
- Slower decision-making cycle

In the \$27.7 billion Test and Measurement (T&M) industry, suppliers encounter these same characteristics as they serve customers working on the next generation of high-tech electronics products (Markets and Markets, 2021). The T&M equipment market includes general purpose and mechanical test equipment, which are used in

various applications, including automotive and transportation, aerospace and defense, information technology and telecommunications, education and government, semiconductor and electronics, industrial, and healthcare (Allied Market Research, 2022). In the T&M industry, long sales cycles for these capital-intensive purchases have continued to increase during the COVID-19 pandemic (Fortive Corporation, 2020; Keysight Technologies, 2021). Highly skilled engineers and expert technicians are end users of this test equipment, and they are unwilling to compromise the quality of their devices or additional features, despite their desire to lower the overall costs of testing (Markets and Markets, 2021). Ultimately, organizational buying behavior is indeed an individual behavior in an organizational setting as the individuals define the problems, make the decisions, and choose to act (Webster, 1991). Keinänen and Kuivalainen (2015) concluded that individuals in B2B settings who frequently utilize SM for personal use tend to be active on SM for business. Academia is slowly filling the research gaps surrounding the use of SM in industrial marketing. Salo (2016) suggested further studies exploring the virality of SM influence on buyer-seller relationships would be beneficial to B2B marketers focusing on customer-level interactions beyond simply organizational-level behaviors. While the characteristics found in complex industrial buying decision processes remain key to B2B scenarios at the organizational level, firms can influence individual behaviors through SM connections (Habibi et al., 2015; Wang et al., 2017).

Related to these characteristics, Roederkerk and Pauwels (2016) note that B2B firms often embrace SM with the intent to position themselves as thought-leaders in knowledge-intensive industries, gain insight into customer needs for product innovation, strengthen customer relationships, and increase their overall brand preference to create

a pre-disposition to purchase. These implications help explain how SM can and should be used differently by T&M vendors while also providing insights into which SM platforms may outperform others in these applications.

As customers continue to increase their use of ad blockers, with over half of them doing so already, the effectiveness of online advertising may continue to decline and give way to further increases in the use of SMIs to reach relevant audiences (De Veirman & Hudders, 2020; Martínez-López et al., 2020). T&M engineers are highly knowledgeable and informed as they evaluate, recommend, or specify T&M equipment, with 84% preferring to never engage with a vendor's salesperson prior to narrowing their selection down online (GlobalSpec & TREWMarketing, 2022). This behavior is consistent with overall B2B buyer trends, where 77% of buyers indicated they conduct their own research before engaging a sales representative (Grewal et al., 2015; Pal, 2019). T&M vendors are now leveraging SMIs in their marketing strategies to expand their reach and increase engagement with their target audiences.

One of the most significant challenges for firms is the identification of the SMI with the ability to not only reach the largest audience through a large number of followers but also have a sufficient number of followees which increases the perception of the SMI's authenticity, trustworthiness, and credibility (De Veirman et al., 2017). Gross and Wangenheim (2018) have further categorized SMIs using two factors that identify and highlight the unique identification for each of the four types of influencers. *Snoopers* are motivated to create content through self-expression, sharing, and experiencing it with others as they discover new SM platforms. *Informers* are driven to fill important domain gaps on SM by sharing their deep expertise in an area.

Entertainers contribute content that offers amusement, enjoyment, and relaxation to their audiences. *Infotainers* are a hybrid of Informers and Entertainers who deliver informational content combined with entertaining elements. Each of these four SMI types are distinguished by their domain breadth and social presence, with Informers and Infotainers uniquely well-equipped to address engineering audiences by means of their domain expertise.

SMIs extend the reach of a brand while leveraging their trust and credibility with their audience to create the desired impacts for awareness and engagement (Tafesse & Wood, 2021). Customers frequently look for authenticity in the brands they interact with on SM. As a result, marketers often utilize SMI experiences in conjunction with traditional media posts and supplemented advertising channels to introduce familiarity and trust (Arora et al., 2019). When a brand is perceived to be directly manipulating an influencer's content, then any attempts at persuasion for commercial purposes are going to lead to negative responses from followers (Martínez-López et al., 2020). In 2017, the Federal Trade Commission (FTC) required content creators to disclose paid promotional sponsorships, and subsequently, several prominent SM platform policies were updated accordingly. These sponsorship disclosures have a potential impact on the effectiveness and credibility of SMIs, depending on how they are handled. Emphasizing compensation from a sponsor through reasonable justification could strengthen the source's credibility and provide a more positive attitude toward the SMI (Evans et al., 2017). Interestingly, however, research leads to conflicting results regarding whether the type of sponsorship disclosure impacts the audiences'

engagement (Choi et al., 2018; Evans et al., 2017; Hwang & Jeong, 2016; Stubb et al., 2019).

The measurement of SM marketing effectiveness is often dependent on the firm's objectives, with many metrics commonly tied to engagement rates for Views, Likes/Shares, Comments, and Clicks (Arora et al., 2019; Peters et al., 2013). For SMIs, this valuation challenge remains largely unaddressed, as suggested in the Marketing Science Institute (MSI) research priorities for 2020-2022. Once again, the MSI suggests opportunities for additional research surrounding measuring the value of SMI impact and a firm's strategy vis-à-vis their relationships with influencers regarding paid, owned, or earned promotion (Marketing Science Institute, 2020). Further understanding the effect of various SMI sponsorship disclosures on engagement rates should prove insightful in theoretical and practical applications, potentially improving the alignment and effectiveness for specific influencer types as they seek to actively engage with their audiences.

Statement of the Research Problem

SMIs rely on their trusted personas to help build deeper psychological bonds and establish longer-term relationships with their audiences that are improved through the SMI's credibility (Tafeese & Wood, 2020). The credibility of an influencer encompasses their positive attributes of trustworthiness, expertise, and attractiveness that affect their receiver's acceptance of a message (Ohanian, 1990; Sternthal et al., 1978). Several more recent studies have explored sponsorship disclosure by influencers, the subsequent effects on their credibility, attitudes toward them, and the perception of the brands they represent to demonstrate the impact these varying forms of disclosures

may have (Boerman et al., 2017; Carr & Hayes, 2014; Colliander & Erlandsson, 2015; De Veirman & Hudders, 2020; Hwang & Jeong, 2016; Lu et al., 2014; Martínez-López et al., 2020; van Reijmersdal et al., 2016). Various sponsorship disclosure classifications have been studied, ranging from simple binary *disclosure / no disclosure* models (Boerman et al., 2017; van Reijmersdal et al., 2016), binary *direct / indirect disclosure* (Lu et al., 2014), or *simple / honest opinion* disclosures (Hwang & Jeong, 2016), to broader multi-tiered disclosure categories spanning *explicit, implied, impartial, and no disclosure* (Carr & Hayes, 2014). Within this study, the more comprehensive categorization from Carr & Hayes (2014) is utilized to define varying forms of sponsorship disclosures.

The study of SM has primarily centered around B2C communications, with B2B marketers following in their footsteps to determine which strategies translate into their marketing environment. While these studies suggest strong SM participation rates that are highly relevant in B2C contexts, Swani et al. (2017) observe that these mimicked B2B approaches have met with varying success. Many B2B firms in the past were also tentative in the use of SM as they lacked the skills and systems to analyze their ability to positively affect customer behaviors (Bernard, 2016). T&M vendors investing in SMIs can enhance customer relationships, but their strategies often differ from those used by lower-cost consumer transactional products. The findings from this study may help expand academic understanding of SMI engagement in the T&M industry using varying forms of sponsorship disclosure and potentially provide valuable insights for firms seeking to improve their SM strategies and increase audience interactions with their brands.

Research Questions and Hypotheses

The purpose of this quantitative study is to explore the effect sponsorship disclosure has on SMI engagement rates for engineering customers in the T&M industry. For this study, the research question is: What are the effects of sponsorship disclosure on engagement rates for different Social Media Influencer types in the Test and Measurement industry?

This study will provide further insight into the effect SMI sponsorship disclosures have on engagement rates of different types of influencers by using varying forms of sponsorship disclosure including impartial disclosure communicating an absence of bias, implicit disclosure with tacit divulgence of third-party involvement, and explicit disclosure with a full explanation of the impact third-party involvement has on the influencer. The no disclosure category will be used as a control condition under the assumption, similar to Carr and Hayes (2014), that online reviews with no disclosure of competing interest will result in a standard level of reviewer credibility relative to other disclosure classifications tested.

H₁: Impartial sponsorship disclosure by Social Media Influencers will have an insignificant effect on engagement rates relative to no disclosure for both Informers and Infotainers.

H₂: Implied sponsorship disclosure by Social Media Influencers will have a more significant effect on engagement rates for Informers than Infotainers.

H₃: Explicit sponsorship disclosure by Social Media Influencers will have a lesser effect on engagement rates for Infotainers than Informers.

Definition of Terms

Credibility of an influencer encompasses their positive attributes of trustworthiness, expertise, and attractiveness that affect the receiver's acceptance of a message (Ohanian, 1990; Sternthal et al., 1978). These SMI attributes are the characteristics that SMIs embody that help build deeper psychological bonds and establish longer-term relationships with their audiences, who often view them as attractive, authentic, and relatable (Lou & Yuan, 2019; Tafesse & Wood, 2021).

Engagement in the context of social media represents how customers actively interact with content through clicks, likes, shares, retweets, or comments depending on the platform used. For YouTube specifically, this includes likes, shares, and comments (Voorveld et al., 2018).

Engagement Rate is an often-used metric to track how actively involved an audience is with the content being shared. The measurement of the engagement rate is calculated by dividing the total number of non-unique engagements on a post by the total reach, then multiplying by 100 to express it as a percentage (Yost et al., 2021).

Social Media Platforms are bounded systems in which social media users and influencers interact through a broad range of information-sharing approaches. These platforms are the fundamental medium for communication among individuals and aid in connecting businesses directly with consumers (Arora et al., 2019). The types and characteristics of SM platforms include collaboration, gaming, blogging, networking, and discussion groups (Huang et al., 2019). Prominent global SM platforms currently include YouTube, Facebook, Twitter, Instagram, Snapchat, Pinterest, Tumblr, Tik Tok, LinkedIn,

and several others with a specific regional appeal (Peters et al., 2013; Vrontis et al., 2021; Wielki, 2020).

A Social Media Influencer (SMI) is a user on a social media platform who has established their position of authority, expertise, or knowledge regarding topics in a particular industry (Brown & Hayes, 2008; Kim & Kim, 2021). By carefully managing their social media presences, they are able to acquire additional followers and strengthen their relationships with them to add value to the brands that support them (Belanche et al., 2020).

Sponsorship Disclosure in the United States is a legally required public declaration that content has been paid for through direct or indirect exchange of money, service, or other valuable consideration (Boerman et al., 2017; Hwang & Jeong, 2016; Stubb et al., 2019).

Sponsored Content includes the material and ideas published online in a seamlessly integrated manner and conforms to the social media platform where it is presented. Companies frequently compensate social media influencers for posting content regarding their products or services (Boerman et al., 2017; De Veirman & Hudders, 2020; Stubb et al., 2019).

Delimitations

The study is delimited in the following ways. First, the targeted audience consists of T&M engineers who use, recommend, evaluate, or specify test and measurement equipment. These engineers can be found in multiple market segments or industries, including consumer electronics, automotive, aerospace and defense, commercial and industrial electronics, and wireless communications.

Second, the study focuses on the early stage of the customer journey, or the hierarchy of effects model, between the awareness and interest phases. SMIs positively expand consumers' knowledge and recall of a brand (Attention/Awareness) through electronic word-of-mouth (eWOM) in the early stages of the customer journey. However, they also affect consumers' purchase intentions to improve sales conversion (Action/Purchase) in the latter stages (Lou & Yuan, 2019). Many studies in B2C connect SMI outcomes to this later stage of Action/Purchase using purchase intent (Carr & Hayes, 2014; Kumar et al., 2016; Lu et al., 2014; Yost et al., 2021), but the inherently long average sales cycles in the T&M industry create tremendous complexity and are beyond the scope and timeframe of this dissertation (Backaler, 2018; Habibi et al., 2015; Steward et al., 2019).

Third, SMIs can be categorized based on their potential reach into macro-influencers and micro-influencers. Mega-influencers typically have a much broader reach with over 1,000,000 followers, while macro-influencers and micro-influencers are often more targeted, with only up to 1,000,000 or 100,000 followers, respectively (Ehlers, 2021; Gross, 2021). The macro-influencers and micro-influencers utilized in this research are focused on smaller engineering audiences and have not achieved mega-influencer levels of celebrity status.

Last, the scope of the research encompasses a single SM platform. YouTube is the primary SM platform for engineers seeking information on the latest engineering technologies and trends, with nearly 80% of those engineers finding valuable content on YouTube (GlobalSpec & TREWMarketing, 2022). This audience utilizes additional SM

platforms to a lesser extent, but research inclusive of multiple platforms is often beyond the practical scope of a single study.

Limitations

This study is limited in the following ways, and the findings should be interpreted with these limitations in mind. First, the archival data utilized for the study focuses solely on influencers addressing the engineering audience within the T&M industry. Therefore, the findings may not be extrapolated beyond the audience and industry selected in this study.

Second, the study's design is limited to three pre-defined categories for sponsorship disclosure found in the archival data. While these classifications align with prior B2C research in this area for multi-tiered forms of disclosure (Carr & Hayes, 2014; Hwang & Jeong, 2016), these cannot be extrapolated to additional degrees of disclosure. Further research on additional variations for the style/wording of such disclosures could be explored to determine sensitivity within a specific disclosure category. (e.g., Variations within the *explicit* sponsorship disclosure could include adaptations such as “this content sponsored by NewCo” versus “NewCo has sponsored this content” in the phrasing of the disclosure.)

Third, the archival data to be used in the study relies on a range of product categories in the T&M industry. The forms of sponsorship disclosure and engagement rates apply to this limited set of products. Further research would be needed on different product or service categories and other industries.

Significance of the Study

The rising use of SM and influencers continues to accelerate. The estimated spend on influencer marketing has grown from just \$1.7 billion in 2016 to \$9.7 billion in 2020, with a projected spend of \$15 billion in 2022 (Santora, 2022). Growth in the next 12 months for SM spending in the B2B Product sector is expected to be 32.4%, outpacing the B2C Product sector at only 11.6% growth (Moorman, 2021). In the U.S., 38% of B2B marketing respondents indicated that influencer marketing would be top of mind in their 2021 marketing efforts and remains one of the top three tactics behind account-based marketing and video marketing (Guttmann, 2021). The primary measure for evaluating SMI effectiveness in both sectors remains to be engagement, with 39% of marketers using engagement as the primary criterion and 28% secondarily looking at audience reach (Geyser, 2022).

Despite the rapid adoption of influencer marketing, the effectiveness of this marketing spend, and the legal responsibility of sponsorship disclosures, research in this area has primarily focused on the B2C sector with direct-to-consumer low-cost transactional purchases. Tiwany et al. (2021) also concluded, in a B2B context, that no study has fully explored SM utilization or adoption. However, SM does play a vital role in attracting potential customers and building relationships (Pal, 2019). This study aims to understand better the effect varying forms of sponsorship disclosures (Carr & Hayes, 2014; Hwang & Jeong, 2016; Liljander et al., 2015) have on engagement rates in a more complex T&M industry. The findings from this study may help other B2B marketers improve the impact of SMIs as they relate to their marketing promotional mix and provide further insights for future academic research into the differences between

influencer types (Gross & Wangenheim, 2018) as they pertain to SMI sponsorship disclosure categories.

Researcher's Perspective

The study of sponsorship disclosures by SMIs in the T&M industry, and the use of influencer marketing, is of particular interest to the researcher since he is employed as a marketing professional in the T&M industry. He has over 30 years of experience in high-tech marketing in this industry, acknowledging the presence of an implicit bias in this study. The results of this study will hopefully offer insights to help marketers improve their use of SMIs in their marketing promotional mix and further the understanding of the effect sponsorship disclosure categories may have on audience engagement rates.

The researcher's involvement within the T&M industry offers an insider's perspective on B2B marketing and access to exclusive archival datasets to conduct this research study. He hopes that regardless of the study's outcome, the findings will add to existing research on SMI sponsorship disclosures and their practical applications.

Chapter 2: Literature Review

This literature review follows a topical order approach, commencing with an introduction to influencer marketing and its relevance in social media. We then examine the types and dimensions of influencers found on social media channels. The credibility of these influencers is subsequently connected to three key attributes to punctuate the importance of trustworthiness alongside expertise. We then move on to discuss the applicability of sponsorship disclosure in relation to credibility and explore the use of engagement rate as a measure of success in social media outcomes.

Influencer Marketing

Firms in the high-tech industry continue to battle the de-commoditization of their products and solutions by implementing evolving marketing strategies that enhance their differentiation and perception (Matthyssens & Vandenbempt, 2008). One such strategy involves the use of influencer marketing to move beyond the often-ignored digital advertisements (De Veirman & Hudders, 2020). Influencer marketing is the practice of having a prominent or compelling personage use their reach to persuade an audience regarding a brand, product, or service (Brown & Hayes, 2008; De Veirman et al., 2017; Lou & Yuan, 2019). The Federal Trade Commission (n.d.) further elaborates upon this definition to clarify that persuasion through endorsement includes any material connection to a firm, including personal, family, employment, or financial relationship, which encompasses compensation of paid, discounted, or free products or services.

Recognition of the first influencer is often attributed to Wedgwood in 1760 as the pottery maker to King George III, who marketed his own brand with Royal approval (Suciu, 2020). However, this extended history of influencer marketing significantly pre-

dates the modern era of usage, which effectively began in the 1900s. Early firms often associated with modern influencer utilization include Murad Cigarettes sponsoring comedian Roscoe Arbuckle in 1905, Coca-Cola's use of Santa Claus as a fictional endorser in the 1930s, Coco Channel with Marilyn Monroe, and more recently, Nike's sponsorship of Michael Jordan (Kim, 2020; Suciu, 2020; Weinstein, 2021). With the introduction of the internet, the digital age has fueled the rapid explosion of contemporary influencers beginning with bloggers in 2005 and quickly spreading to social media platforms (Ye et al., 2021). These SMLs reach consumer audiences in both B2C and B2B scenarios through recommendations that influence purchase intentions (Lou & Yuan, 2019).

Today's customer buying processes within B2B are well documented in academic literature, including the theme of influences within the customer journey (Steward et al., 2019). The early Webster and Wind Model comprehensively considered four variables that influenced organizational buying decisions, including environmental, organizational, buying center, and individual (Webster, 1991). The industrial buyer behavior model by Sheth (1973) integrated behavioral constructs to encompass risks, conflicts, negotiations, and sources of information which accounted for the influencing of individuals during the journey (Steward et al., 2019). When products or services are recommended by an influencer, consumers are more likely to trust the suggestion as opposed to traditional advertising (De Veirman et al., 2017; Lou & Yuan, 2019; Ye et al., 2021).

Types of Influencers

Influencers can be categorized in multiple ways, but most references are based on Feick and Price's (1987) work, which broadened to three types: early purchasers, opinion leaders, and market mavens. Traditionally, early purchasers and opinion leaders were the two primary categories of influencers, with market mavens being added to reflect general marketplace knowledge or expertise (Feick & Price, 1987). These three types of influencers, based on Feick and Price (1987), are summarized as follows:

- Early purchasers: Through their early adoption of a product or service, they are visible influencers through their product usage or experience in the purchasing process.
- Opinion leaders: Motivated by their involvement with a product category, they act as intermediaries between media sources and the opinions of the masses to provide information and impressions.
- Market mavens: Using their knowledge and experience of a general marketplace, they originate dialogues and answer information requests related to their areas of expertise.

These influencers can persuade individuals through multiple marketing and sales communication channels, including offline and online influencer marketing tactics. While early purchasers remain primarily relevant in offline communications, both opinion leaders and market mavens have quickly adapted to online communication (Backaler, 2018; Gross & Wangenheim, 2018; Nunes et al., 2018).

Offline and Online Influencer Marketing

Kozinets et al. (2010) comprehensively summarized the Evolution of WOM Theory, which consists of three evolutionary shifts revealing distinct models that currently coexist and can be utilized under different circumstances. However, until the advent of the internet, the first two models utilized more traditional offline forms for WOM. The Linear Marketer Influencer model became predominant in the post-World War II era as marketers began to focus on “opinion leaders” to share a firm’s marketing messages and meanings with consumers. These offline approaches in the Linear Marketer Influence Model exert indirect influence of opinion leaders through traditional advertising and promotions. These influencer communications through offline WOM often involve the opinion leader’s sharing of their view unidirectionally with only one or possibly a few people at any point in time (Eisingerich et al., 2015). While inefficient, this approach is significantly more effective than advertising for awareness, and the influencer’s persuasion also leads to action (Gelb & Johnson, 1995).

The introduction of the internet changed many facets of marketing, including the ability of influencers to reach broader audiences more effectively and efficiently on behalf of businesses (Ye et al., 2021). This most recent era of influencer marketing is predominately experienced online and represented by Kozinets et al. (2010) using the Network Coproduction Model. Two distinguishing aspects of this model are notable since specific consumers are directly targeted as influencers by business marketers, and the firm’s marketing messages are exchanged amongst the consumer network. This strategy for online influencer marketing (OIM) attempts to leverage the influencers’

distinctive resources to promote a firm's products or services, yet many marketers lack an adequate understanding of its opportunities and challenges (Leung et al., 2021).

The use of OIM has grown in adoption as its value and persuasiveness have become more apparent in the past decade (De Veirman & Hudders, 2020). Customers recognize that traditional advertising only promotes products favorably, whereas they perceive greater value and trust in the opinions of peers through OIM (Campbell, 2013; De Veirman et al., 2017). OIM utilization has proliferated through social networking platforms which enable influencers to connect with their audiences with greater interactivity, individualization, and immediacy (Habibi et al., 2015). As OIM continues to supplant its offline WOM successor, influencers on social sites have become the primary driver of consumer behavior and the future of customer relationship management (Eisingerich et al., 2015).

Influencer Marketing in Social Media

Opinion leaders who contribute to online conversations may influence the consumer's preferences and attitudes (Nunes et al., 2018; Sun et al., 2006). Influencers on SM have the potential to reach much larger audiences than through traditional WOM, yet they are still able to maintain a moderate level of interaction with their followers (Eisingerich et al., 2015). In this medium, they also have the ability to take advantage of asynchronous communication channels that further enhance their ability to connect in a one-to-many fashion for efficiency of information exchange and strengthening relationships (Eisingerich et al., 2015; Lou & Yuan, 2019). This point is significant for engineers since their perception of the information's quality is essentially a matter of their trust in the information's source. In a longitudinal field study, Hertzum (2002)

demonstrated that engineers share both hard facts, along with contextual information regarding the source of the content for those who may not know the person providing the information, to help fellow engineers in assessing the trustworthiness of that source.

The establishment of trust through valuable information exchange and self-disclosure becomes a valuable tool for marketers (Leite & Baptista, 2021). As potential audiences migrate toward the abundant utilization of SM platforms, along with the increased adoption of ad blockers which minimize the effectiveness of traditional online advertising, the impact of influencer marketing in SM will continue to dominate online marketing communications (Martínez-López et al., 2020). The use of celebrity influencers has been well documented, but more recently, a newer form of endorser has arisen in the form of social media influencers (Martínez-López et al., 2020; Schouten et al., 2020). This research plans to examine further the effects of sponsorship disclosure on engagement rates of varying types of SMIs.

Social Media Influencers

Through the implementation of influencer marketing strategies within SM, marketers hope to leverage opinion leaders who can persuade their customers to react positively toward their offerings (De Veirman & Hudders, 2020; Lal & Sharma, 2021; Leung et al., 2021; Kim & Kim, 2021). These opinion leaders are found with high-profile celebrity backgrounds or more modest levels of notoriety in the form of influencers on social media (Kim, 2020; Ohanian, 1990; Schouten et al., 2020). However, the definitions surrounding influencer communications are diverse. Therefore it is essential to clarify the definition of an SMI used in the context of this paper. For this purpose, an SMI is a user on a SM platform who has established their position of authority,

expertise, or knowledge regarding topics in a particular industry (Brown & Hayes, 2008; Kim & Kim, 2021).

While, on the surface, there appear to be similarities between celebrities and SMIs, the notable differences between the two are well-documented (Gross, 2022; Schouten et al., 2020; Sundermann & Raabe, 2019). These differences are succinctly outlined by Sundermann and Rabe (2019) using four aspects: (1) SMIs attain prominence only through their efforts on SM platforms; (2) SMIs are more relatable and approachable to their audiences; (3) SMIs may alter and co-produce content in a way to improve authenticity; and (4) SMIs are not employed by the firms so their content is not directly controlled.

By carefully managing their social media presences, these SMIs are able to acquire additional followers by delivering content as reliable information sources and strengthening their relationships with these audiences to add value to the brands that support them (Belanche et al., 2020; De Veirman et al., 2017; Lou & Yuan, 2019; Schouten et al., 2020). SMIs who endorse brands on SM are typically compensated through material (i.e., free products or samples) or financial (i.e., direct monetary payment, discounts, or a percentage of sales) means to reach their numerous followers (De Veirman & Hudders, 2020). These SMIs emerge as more credible than celebrity endorsers since they often mirror the consumer's circumstances and backgrounds while also seeming more relatable through direct communication with their followers (De Veirman et al., 2017; Djafarova & Rushworth, 2017; Dwivedi et al., 2015; Schouten et al., 2020).

Firms can benefit from these existing relationships that SMIs have with their followers to help strengthen their own connections with end customers (Leite & Baptista, 2021). In addition, SMIs positively expand consumers' knowledge and recall of a brand through eWOM in the early stages of the customer journey and also affect their purchase intentions to improve sales conversion in the latter stages (Lou & Yuan, 2019; Nunes et al., 2018). However, selecting an influencer that appropriately aligns with a firm's audience and affects their behavior requires an understanding of the various types of SMIs.

SMI Categories

SMIs are often categorized based simplistically on the number of followers they have attracted through their SM platforms as they extend their reach. The range of these levels has continued to expand as SMIs become the predominant form of opinion leaders (Boerman, 2020; Kozinets et al., 2010; Ye et al., 2021). The modern categorization now spans pico- to mega-influencers, with the following ranges commonly defined (Gross, 2021).

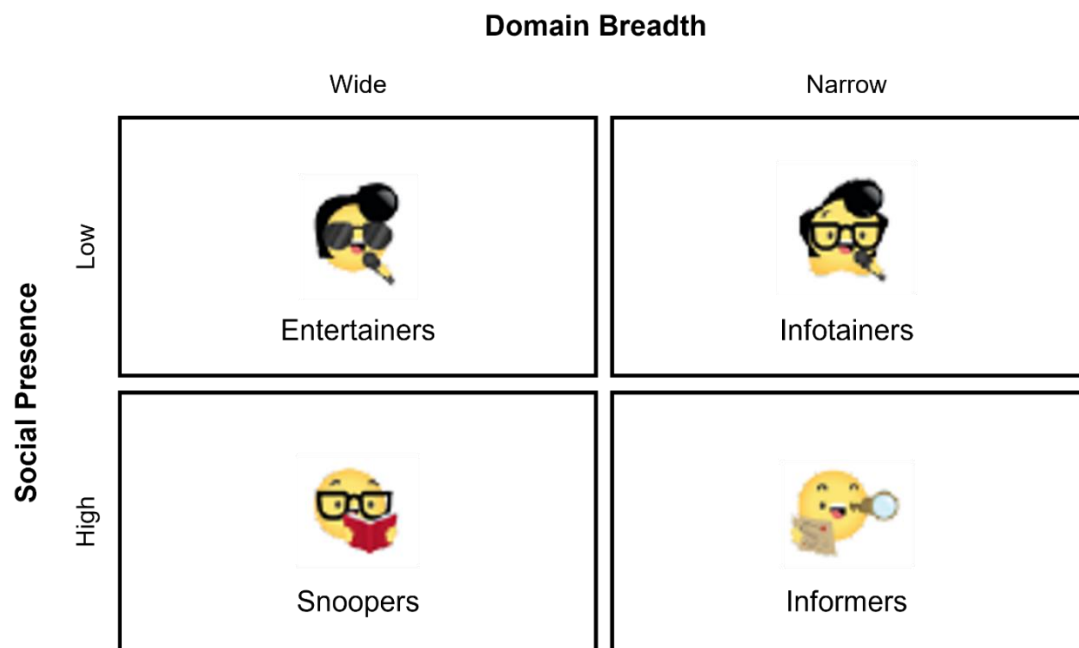
- Mega-Influencers: Over 1,000,000 followers
- Macro-Influencers: Between 100,000 and 1,000,000 followers
- Micro-Influencers: Between 10,000 and 100,000 followers
- Nano-Influencers: Between 1,000 and 10,000 followers
- Pico-Influencers: Less than 1,000 followers

While convenient for tracking purposes, the numerical categorization based on reach is a one-dimensional classification that lacks the ability to delve into potential effectiveness based on the situations and purposes for which the influencer is used (De

Veirman et al., 2017; Gross & Wangenheim, 2018). One of the most significant challenges for firms is the identification of the SMI with the ability to not only reach the largest audience through a large number of followers but also have a sufficient number of followees which increases the perception of the SMI's authenticity, trustworthiness, and credibility (De Veirman et al., 2017). Gross and Wangenheim (2018) have further categorized SMIs using two factors that identify and distinguish four types of influencers. These two characteristics represent their *domain breadth* and their *social presence*, as shown in Figure 2.1 (Gross & Wangenheim, 2018).

Figure 2.1

Social Media Influencer Typology



Note. Types of social media influencers based on defined characteristics of domain breadth and social presence. Adapted from “The Big Four of Influencer Marketing. A Typology of Influencers,” by J. Gross and F. V. Wangenheim, 2018, *Marketing Review St. Gallen*, 2, 30-38. Copyright 2018 by Marketing Review St. Gallen.

Domain breadth reflects the span of the influencer's knowledge across multiple fields and varies from narrow to wide (Gross & Wangenheim, 2018). The depth of expertise within a narrowly defined domain is also beneficial when the influencer and audience both share the same interest and knowledge regarding a topic (Weiss et al., 2008). This is particularly interesting in the narrowly defined topics related to the markets of the T&M industry, where the engineering audience is also highly knowledgeable within a specific domain and looks for additional expertise within a narrow field of interest (GlobalSpec & TREWMarketing, 2022; Hertzum, 2002). The informative value of the influencer's content within a narrow domain positively affects their audience's trust in the SMI's posts (Lou & Yuan, 2019).

Social presence represents the influencer's ability and willingness to engage in an exchange with their audience (Gross & Wangenheim, 2018). It is an essential dimension in explaining how consumers become comfortable in an online experience and come to trust the human influencers on the other side of the exchange (Jin et al., 2019; Shen, 2012). The value of information is also judged by the influencer's response speed, the volume of communication, and the frequency of interaction with their followers (Weiss et al., 2008). Social exchanges strengthen relationships between the SMI and their audience, which also leads to greater trust perception of the influencer (Kim & Kim, 2021).

Gross and Wangenheim (2018) highlight the unique identification of each of these four major types of influencers. *Snoopers* are motivated to create content through self-expression, sharing, and experiencing it with others as they discover new SM platforms. *Informers* are driven to fill important domain gaps on SM by sharing their

deep expertise in an area. *Entertainers* contribute content that offers amusement, enjoyment, and relaxation to their audiences. *Infotainers* are a hybrid of Informers and Entertainers who deliver informational content combined with entertaining elements. Each of these four SMI types are distinguished by their domain breadth and social presence, with Informers and Infotainers uniquely well-equipped to address engineering audiences by means of their domain expertise.

Informers and Infotainers

Influencers such as Informers and Infotainers are defined as having narrow domain breadth since they require domain-specific knowledge as they create valuable content based on their specific areas of expertise. While their level of social presence may differ, their ability to credibly connect with audiences at varying levels of exchange give marketers the flexibility to tailor to their own SM strategies and objectives.

Informers share their knowledge and expertise through high-value content and frequently interact with their audience to answer follow-up questions or comments. Gross and Wangenheim (2018) established that Informers are motivated to deliver educational information that draws upon their high degree of competence and expertise within a domain. An Informer's audience is often searching for advice and help regarding domain-specific issues and challenges. In return, these influencers are grateful for their audience's feedback on content quality as they have immense regard for their perception as trustworthy and credible sources of domain-specific information (Gross & Wangenheim, 2018). Informers regularly answer comments and questions, engaging with their followers individually by offering advice and suggestions within their area of expertise. Gross and Wangenheim (2018) also discovered that Informers set

high expectations of themselves for continuous improvement as they provide quality content that is thoroughly investigated, prepared, and finalized prior to release.

Infotainers also provide informational content using their domain expertise, similar to Informers, but they combine this with entertaining elements that attract a broader audience. Gross and Wangenheim (2018) revealed that Informers could further transition into becoming Infotainers by adding those entertaining components. Once an influencer has established themselves as an Infotainer, they often remain in that category since they benefit from both the freedom to create domain-specific content and attract a broader audience with domain-related content that has an entertaining appeal (Gross & Wangenheim, 2018). This status results in a larger and more diverse audience, which also moderates their frequency of contact with their audiences or aggregates it through group event interactions.

Through their domain-specific focus and depth of expertise within a narrow area of interest, both Informers and Infotainers are suitable SMIs capable of addressing discerning engineering audiences who are highly knowledgeable in their fields (GlobalSpec & TREWMarketing, 2022; Gross & Wangenheim, 2018; Hertzum, 2002). Informers offer greater closeness and are more approachable to target audiences, while Infotainers increase audience reach and diversity while continuing to provide valuable information (Gross & Wangenheim, 2018). Depending on the firm's marketing strategy, the social presence of the SMI could be factored into the selection process to strengthen relationships that lead to greater SMI trust perception (Kim & Kim, 2021). Both Informers and Infotainers are associated with marketing campaigns that aim to reach an audience in a credible and compelling manner through their narrow domain

breadth, which has been shown to positively affect an audience's trust in the SMI's posts (Gross & Wangenheim, 2018; Lou & Yuan, 2019). Evans et al. (2017) noted the need for further understanding of how different SMI types might also be impacted by varying disclosure characteristics. This research intends to build upon these categories of SMIs by examining the effect of varying sponsorship disclosures on the engagement rates for different influencer types in the T&M industry.

Credibility

Using social influence theory as a theoretical lens, Tafesse and Wood (2021) further unraveled the implicit elements of the relationships between influencers and their followers. The foundation of social influencer theory is based upon Kelman's 1974 model, which was initially tested in the context of persuasive communication, but has subsequently been extended to analyze the relationships of individuals to social systems through three processes: compliance, identification, and internalization (Kelman, 2006). Further studies have connected these parasocial relationships between influencers and users on SM to the SMI's credibility and a consumer's intentions (Kapitan & Silvera, 2016; Leite & Baptista, 2021; Shan et al., 2020; Sokolova & Kefi, 2020).

A source's credibility is often used to "imply a communicator's positive characteristics that affect the receiver's acceptance of a message" (Ohanian, 1990). The credibility of an influencer on SM is built on the trust established through information exchanges and self-disclosure (Leite & Baptista, 2021). Morgan and Hunt (1994) theorized that trust and commitment were essential to relationship marketing and facilitate valuable information exchange. Trust transfer theory has been utilized to show

how an individual's trust is transferred from a trusted source to an associated unknown target (Jarvenpaa et al., 2000; Stewart, 2003). Influencers who are most effective can persuade individuals to take actions based upon the trusted opinion of their expert recommendations (Backaler, 2018). This point is particularly relevant to the T&M industry as Hertzum (2002) demonstrated that an engineer's perception of information quality is essentially a matter of their trust in the information's source.

The source credibility model is based on the consumer's perception of the SMI's attributes of trustworthiness, expertise, and attractiveness that affect their acceptance of a message (Ohanian, 1990; Shan et al., 2020; Sternthal et al., 1978). Extending this framework further, Munnukka et al. (2016) introduced the concept of similarity between the influencer and their audience as a distinctly separate attribute, whereas Ohanian (1990) had applied measures of likability and similarity within the attractiveness scale for nomological validity. Research by Lou and Yuan (2019) confirmed that perceived similarity between SMIs and followers positively affects the follower's trust in the influencer's posts. Ancillary studies have also shown higher trust in influencers than celebrities, as consumers feel perceptively similar to these opinion leaders and more easily identify with them (Djafarova & Rushworth, 2017; Jin et al., 2019; Kim & Kim, 2021; Schouten et al., 2020). The source's credibility is key to the influencer's success in strengthening positive brand evaluations and relies on the extent of their established and personable relationships with their audiences (Dwivedi et al., 2015; Jin et al., 2019). More concisely, these SMI attributes are the characteristics of credibility that SMIs embody to connect with their audiences, who often view them as attractive, authentic, and relatable (Lou & Yuan, 2019; Tafesse & Wood, 2021).

SMI Attributes

Research by Lou and Yuan (2019) confirmed that a customer's trust in a brand is positively influenced by an influencer's trustworthiness, attractiveness, and perceived similarity to their followers. This result is in line with previous studies by Djaforova and Rushworth (2017), who noted the effects of an influencer's credibility on their followers' trust and brand awareness. Lou and Yuan (2019) further connected the influencer's expertise and attractiveness to a strengthening of the audience's brand awareness. The SMI attributes of authenticity, attractiveness, and reliability are the embodiment of credibility that SMIs use to create deeper psychological bonds and form longer-term relationships with their audiences (Lou & Yuan, 2019; Tafesse & Wood, 2021). Several studies have successfully connected the SMI's ability to leverage their credibility within these relationships to positively affect a customer's intentions (Djaforova & Rushworth, 2017; Jin et al., 2019; Kim & Kim, 2021; Lou & Yuan, 2019; Ohanian, 1990; Schouten et al., 2020).

Attractiveness is not necessarily related to the influencer's physical characteristics or charisma but is more attuned to their likeability and familiarity (Vrontis et al., 2021). The content produced by the SMI can be considered attractive and esthetically pleasing, which lends itself to strengthening the attitude of followers toward the influencer (Ki & Kim, 2019). Visually pleasing and easily digested content improves the likeability and raises the perception of good taste, enhancing the SMI's favorability with their followers. Sun et al. (2006) identified a positive relationship between an influencer's leadership and their innovativeness, indicating that SMIs with stronger innovative traits are more attractive to their audiences. However, the inherent status of

an influencer's expertise alone among their followers may not consequently result in the prevalence of trust, but the combination of expertise and attractiveness does positively affect brand awareness (Lou & Yuan, 2019). Their results also suggested that SMIs who transform their expertise into valuable information significantly influence their followers' purchase intentions, more so than based on the entertainment of the content. The attractiveness of the SMI encompasses their ability to provide valuable information in an easily consumable manner that enhances their credibility, resulting in a continued strengthening of the influencer-follower relationship.

Authenticity consists of the SMI's knowledge and skills that enable them to make claims relating to the subject, as well as the audience's perception that they are honest, truthful, and sincere (Lou & Yuan, 2019). When the influencer's style and disposition are aligned with the brand being represented, they also appear more authentic and trustworthy (Jin et al., 2019). This can result in followers having deeper processing and internalization of brand messages when influencers are positioned as highly authentic and credible experts (Kapitan & Silvera, 2016). The SMI's authenticity reflects their credibility and is comprised of their expertise and trustworthiness resulting from the audience's perception of content value, brand alignment, and forthright delivery.

Relatability is connected to the influencer's perceived similarity, accessibility, and approachability with their audience. Lou and Yuan (2019) define source similarity as "the perceived likeness (e.g., demographic or ideological factors) of the source to the receiver." Shan et al. (2020) also suggest that high degrees of congruence between a consumer's ideal self-image and the image of the SMI leads to positive endorsement outcomes. Through their focused areas of domain expertise and higher levels of social

presence with their audience, SMIs offer greater perceived accessibility than traditional celebrities, which also increases their relatability (Schouten et al., 2020). While similarity, attractiveness, expertise, and trustworthiness are strongly correlated, Munnukka et al. (2016) further demonstrated that a customer's involvement with a product vigorously increases the perceived similarity between the influencer-follower and therefore has the foremost impact on attitude formation. As relatable communicators, SMIs can create positive intergroup feelings and reduce uncertainty with their audiences through homophily with a perceived similarity in their beliefs, values, experiences, and lifestyles (Kim & Kim, 2021). The relatability of the SMI toward their audience enhances their credibility, thus resulting in the strengthening of their ability to effectively drive positive brand attitudes and outcomes.

Through the increased prevalence of influencer marketing over the past decade, many PR and SM agencies are noting that firms are shifting away from big-name influencers and increasing investments in smaller SMIs as audiences are seeking even more authenticity and relatability in content that is optimized for conversion (Lo, 2022). These SMI attributes of authenticity, attractiveness, and reliability represent the credibility and trustworthiness necessary for those deep psychological bonds and long-term relationships between the influencer and their audience. Interestingly, the trustworthiness of an influencer can negatively influence brand awareness and purchase intentions, possibly indicating that followers may hold ambivalent or skeptical beliefs about an influencer's motives despite the content's informative value (Lou & Yuan, 2019). Furthermore, additional studies have demonstrated that as credibility and trust are formed in the influencer-follower relationship, an SMI's attractiveness,

authenticity, and relatability are impacted by the presence of various sponsorship disclosure approaches (Carr & Hayes, 2014; Evans et al., 2017; Hwang & Jeong, 2016; Kay et al., 2020; van Reijmersdal et al., 2020).

Sponsorship Disclosure

Endorsement-based advertising has a formidable potential for misleading or deceiving consumers due to the integrated nature of the sponsored and non-sponsored content since it is often shown in conjunction (Mathur et al., 2018). In an effort to alleviate this concern, several countries have implemented regulations for endorsers and advertisers to improve transparency (Backaler, 2018). The Federal Trade Commission (n.d.) guidelines and regulations of endorsements outline the legal requirements for influencers to disclose their relationships with firms that have compensated them to promote their brand and offerings to an extended audience. In the United States, this sponsorship disclosure is a legally required public declaration that content has been paid for through direct or indirect exchange of money, service, or other valuable consideration (Boerman et al., 2017; Hwang & Jeong, 2016; Stubb et al., 2019). The presence of sponsorship disclosures has been shown to overtly signal the presence of advertising, resulting in the trigger of consumer resistance, and are typically only used when there is a risk of consumer deception (Campbell & Evans, 2018). Prior research by Carr and Hayes (2014) revealed that sponsored SMI content is evaluated based on the magnitude of external influence cues such as sponsorship disclosure. The form of these disclosure cues affects an audience's behavioral intentions and their perceptions of the influencer's credibility (Liljander et al., 2015).

The initial guidelines put in place by the FTC in 2017 require content creators to disclose paid promotional sponsorships. According to the Federal Trade Commission (n.d.) guidelines, this disclosure shall inform consumers of any “material connection” an influencer has with a firm, including personal, family, employment, or financial relationship, which encompasses compensation of paid, discounted, or free products or services. These guidelines make it the responsibility of the influencer to produce these disclosures and comply with the laws against deceptive advertising. A sponsorship disclosure is not required if no material connection exists between the influencer and the firm, thus making the No Disclosure state a default status. When a disclosure is required, the guidelines clearly articulate that it should be placed within the message itself since they may go unnoticed if placed at the end of a post or video, on a separate profile page, or anywhere a consumer would be required to click learn more information. The disclosure language is not specified, but the guidelines provide suggested wording that influencers should use to explain the relationship simply and clearly.

Despite the FTC’s guidelines, Mathur et al. (2018) discovered that only ~10% of endorsement-based content on YouTube and Pinterest contained any disclosures, and furthermore, only 1.82% of the YouTube videos contained the full explanation disclosure explicitly advocated for by the FTC. To address this ongoing concern and improve disclosure transparency, the Federal Trade Commission (2022) continues to revise the guidelines and publicize enforcement of violations by influencers. Without the presence of a clear non-sponsorship disclosure, consumers may recognize the posted content as advertising, which may result in mistrust and negative results for both the influencer and the brand (De Veirman & Hudders, 2020). A study by van Reijmersdal et al. (2016)

confirmed that a consumer's persuasion knowledge is activated when sponsorships are disclosed, which triggers their cognitive resistance to persuasion. Using research also based on persuasion knowledge, Evans et al. (2017) demonstrated that the clarity of the language used in the sponsorship disclosure is strongly related to brand attitudes and intentions, thus further reinforcing the significance of disclosure transparency.

Extensive research has been performed on the impact of disclosures in traditional advertising, with more recent studies now turning their attention toward the effect of sponsorship disclosures within the context of influencer marketing. Various sponsorship disclosure classifications have been studied, primarily using simplified binary disclosure / no disclosure models (Boerman et al., 2017; Kay et al., 2020; van Reijmersdal et al., 2016) or binary direct / indirect disclosure (Lu et al., 2014). De Veirman and Hudders (2020) based their study of message sidedness on the binary disclosure / no disclosure model and revealed that having two-sided messages disclosed did not lead to higher influencer credibility ratings. The timing of binary sponsorship disclosures also indicates that upfront disclosure has a greater impact on perceived attitudes, while post disclosure has no significant effect (Choi et al., 2018).

Research by Hwang and Jeong (2016) expanded these sponsorship disclosure models to include an honest opinion disclosure classification to determine the positive effect on credibility in relation to simple disclosures. Carr and Hayes (2014) most comprehensively demonstrated that sponsorship disclosures in varying forms of explicitness affect the perceived influencer credibility for market mavens. While limited to market mavens, their study insightfully utilized four forms of sponsorship disclosures:

no disclosure, impartial disclosure, implied disclosure, and explicit disclosure. Each of these is explained more precisely as used in this context (Carr & Hayes, 2014).

- No Disclosure: An influencer makes no reference or disclaimer of third-party involvement or explicated position.
- Impartial Disclosure: The SMI clearly states they have not been influenced or biased by an outside party.
- Implied Disclosure: By tacitly recognizing third-party involvement, the SMI identifies potential influence without revealing the degree or nature.
- Explicit Disclosure: The SMI provides a full explanation regarding the impact of third-party involvement on their positions or attitudes.

Carr and Hayes (2014) used the no disclosure category as a control condition against which other classifications were compared, under the assumption that online reviews with no disclosure of competing interest will result in a standard level of reviewer credibility relative to other disclosure forms tested. Most interestingly, their research of impartial disclosure resulted in no significant difference relative to non-disclosure. This outcome may be explained by the notion that user-generated online content is inherently impartial by its very nature, similar to previous research, which notes that peer recommendations are also perceived as more credible than firm-generated content. Results for implied disclosure yielded the lowest credibility perceptions, with tacit divulgence creating cognitive dissonance whereby the consumer is left with an impression of the influencer's bias through misleading or unclear disclosure forms. As expected, sponsored blog posts using explicit disclosures

confirmed increases in the influencer's perceived credibility by reducing the reader's uncertainty regarding the opinion leader's quality and character (Carr & Hayes, 2014).

These results are consistent with later research regarding disclosure impacts on consumer attitudes and intentions (Boerman et al., 2017; Uribe et al., 2016; van Reijmersdal et al., 2016). However, further research could highlight the effects these self-disclosure categories may have on customer behaviors in relation to different influencer types. Since differing influencer types exhibit distinct social presences (Gross & Wangenheim, 2018), their ability to drive engagement with their audience may be impacted dissimilarly through self-disclosure. This research aims to contribute to this area by examining the effects of varying sponsorship disclosures on the engagement rates for distinct influencer types.

Engagement

Electronic word-of-mouth on social sites (sWOM) has tremendous potential for amplification of marketing communications, but some end users may be less willing to engage in sWOM than traditional WOM (Eisingerich et al., 2013). To strengthen consumer engagement, marketers can leverage the trust consumers have in the influencer (Liu et al., 2018). This perceived influence leads to brand engagement in self-concept, suggesting that followers establish engagement with influencers through personal and intimate communications (Jiménez-Castillo & Sánchez-Fernández, 2019). In the context of SM, engagement represents how customers actively interact with posted content through Clicks, Likes, Shares, Retweets, or Comments, depending on the platform used, in a way that is visible to other SM users (Gross, 2022). These social interactions are highest for SM platforms conducive to sharing sWOM, such as

Facebook and YouTube, which feature Likes, Shares, and Comments (Voorveld et al., 2018). This engagement is an indicator of the audience's activeness and involvement, which also provides essential feedback to SMIs regarding the audience's perception of the influencer and their content (Gross, 2022). High levels of engagement manifested by these consumer behaviors lead to an increase in their exposure to information that ultimately enhances their perceived connection with the brand (Liu et al., 2018).

Building upon the trust transfer theory, Liu et al. (2018) demonstrated that all three dimensions of consumer engagement (cognitive, emotional, and behavioral) were found to be statistically significant contributors to overall engagement leading to trust. However, the dimension of behavioral engagement is most relative to this study as this type of engagement can be viewed as a consumer's behavioral manifestation toward a firm, which can be measured through sWOM activities.

Behavioral Manifestation

Customer behavioral expressions may manifest themselves through various actions, including WOM activities, recommendations, reviews, or blogging (van Doorn et al., 2010). However, these actions are distinctly different from a customer's aforementioned psychological construct of attitudes such as trust, satisfaction, and commitment (van Doorn et al., 2010). In their research, customer engagement behavior is modeled using distinct consequences that manifest as measurable elements of time, money, and effort. Engagement on SM in this scenario encompasses both the time and effort applied by the customer to respond or react to the SMI content. Building upon the customer engagement behavior model, Jaakola and Alexander (2014) were able to analyze behavioral manifestations of customer engagement using various resources

applied toward value co-creation. They found that engaged customers impacted other stakeholders' willingness to engage with a firm through their influencing and mobilizing behaviors.

Customers expressing their behaviors online through engagement have been shown to add value to the firm beyond the transactional elements. For example, an engagement that increases the number of reviews, raises recommendations, shows product or service expertise, or offers credible opinion leadership also persuades other potential customers to interact and raises the total value for the firm (Kumar et al., 2010).

These behaviors manifested in task-based initiatives encourage psychological ownership and, ultimately, customer engagement (Harmeling et al., 2016). In their research, Harmeling et al. (2016) recognized the following four types of engagement tools that could be pertinent for future study and potential use by firms. First, *amplification* tools that diffuse engagement behaviors within a SM network, such as buttons for repins, retweets, and shares. Second, *connective* tools that facilitate the connection between customers, such as tagging and following. Third, *feedback* tools that enable customers to react to content and share their knowledge/empathy, such as likes, comments, or ratings. Fourth, *creative* tools to facilitate the creation, development, and contribution of unique ideas through upload links and design functions. The use of many of these tools by firms is now widespread, offering an opportunity to study these customer behaviors across various platforms. Zhang et al. (2011) also made a noteworthy discovery that these behavioral manifestations are very personal decisions

and contributions, based on their conclusions in the study of retweeting volumes in response to a post and the lifespan of a tweet.

Engagement Strategies in B2B

SM strategies that leverage psychological motivations for communication include a person's need to share information, express self-identity, uniqueness, expertise, feelings, emotions, concern for others, and excitement (Swani et al., 2017). B2B customers hold different behaviors when it comes to SM usage. Therefore generalized SM marketing strategies found in B2C are more tailored to the distinct markets served in B2B (Bernard, 2016; Silva, Duarte, et al., 2020; Wang et al., 2017). Influencer marketing on SM using content with functional/rational appeals has been demonstrated to deliver significantly more engagement in B2B environments than in their B2C counterparts (Swani et al., 2020). Consumers of B2B content engaged more in content with functional appeals by commenting on posts and were more likely to be motivated by that content, as demonstrated through liking or sharing those posts (Swani et al., 2017). In B2B, the organizational buying process involves multiple decision-makers and requires comprehensive information analysis for more complex offerings, both of which are addressed through functional/rational appeals. To enable B2B customers to make more informed decisions, Kumar et al. (2016) demonstrated how SM communication increased customer access to more sophisticated product-related details. For complex products/services often encountered in the B2B environment, SM offers a communication channel to effectively inform customers of specific features and benefits that leverage a firm's competitive advantages and unique selling propositions (Kumar et al., 2016; Swani et al., 2014).

Another outcome of the research by Swani et al. (2017) was the observation that emotional appeals in B2B have a higher number of likes than in B2C. This was contrary to prior research by Lothia et al. (2003) and yet reinforced their findings, leading to their conjecture that emotional cues are just as relevant in building relationships with functional/rational B2B customers. Emotional cues used by an influencer, when appropriate and relevant, may strengthen the B2B relationship through additional positive responses in the form of likes and sharing.

Strong calls to action or purchases in SM do not increase the popularity of messages in either the B2B or B2C environment (Swani et al., 2014). In these instances, SM viewers have little to no motivation to share content that accentuates commercialism. Therefore, SMI posts emphasizing bottom-of-the-funnel or purchase/action messaging for that stage of the customer journey, regardless of the sponsorship disclosure approach, should be used sparingly if the intent is to drive engagement.

Engagement Metrics

The study by Jiménez-Castillo and Sánchez-Fernández (2019) demonstrated that SMIs influence the behavior of their followers, affecting their perceptions, evaluations, and purchase intentions. However, Silva, Duarte, et al. (2020) discovered that contrary to expectations, financial measures such as ROI are not the most important SM metrics for B2B firms. These financial measures are relegated to a secondary role, with primary proxies leading to financial returns, including awareness, engagement, reach, and influence. Audience reach is often used as a primary objective for a firm's SM strategy as it is easily measured. However, firms should also be focusing

on customer engagement since the power of SM platforms lend themselves to these downstream metrics (Hanna et al., 2011). Firms are compelled to look beyond follower counts, since SMIs with high numbers of followers do not necessarily raise the perception of opinion leadership, to evaluate SMIs based on their audience engagement (De Veirman et al., 2017). In fact, higher follower counts could negatively impact follower engagement as their perception of an SMI being attractive, authentic, and relatable is diminished (Lou & Yuan, 2019; Tafesse & Wood, 2021).

The advantage of engagement is that it is a forward-looking metric that observes one's motivational state while interacting with an activity, as opposed to a backward-looking metric such as satisfaction, which represents the individual's overall emotional attitude based on a specific offering (Liu et al., 2018). Using forward-looking metrics for engagement highlights a consumer's motivation to interact and can be measured directly through the SM platforms.

These engagement metrics can directly measure Likes, Shares, or Comments across many SM platforms, which indicate the audience's expression of different emotions and feelings (Gross, 2021). While more audience reach remains a primary objective for many firms, the measurement of engagement can be normalized using the reach to more accurately reflect the level of engagement relative to other activities. For example, the measurement of Likes/Follows reflects consumption behaviors, while Comments represent deeper engagements of contribution behaviors (Silva, Farias, et al., 2020). Engagement captures the extent to which followers constructively engage with and are favorably persuaded by the SMIs; therefore, it "offers a parsimonious

numeric measure” of an SMI’s level of influence on their audience (Tafesse & Wood, 2021).

Calculation of the engagement rate is performed by dividing the total number of engagements on a post by the total reach, then multiplying by 100 to express as a percentage (AlAnezi & Almutairy, 2021; Bentley et al., 2021; Jang et al., 2021; Yost et al., 2021). Prior research has also demonstrated that engagement in the form of customer purchase intentions and attitudes are influenced by the presence of various sponsorship disclosure approaches (Boerman, 2020; Carr & Hayes, 2014; Kay et al., 2020). This research intends to build upon these studies by examining the effect of varying sponsorship disclosures on the engagement rates for different influencer types in the T&M industry.

Summary

A review of the literature and prior research revealed the increasing significance of influencer marketing usage in SM. While celebrity influencers have been well-documented over several decades of advertising research, SMIs represent a new form of endorsers worthy of further study (Martínez-López et al., 2020; Schouten et al., 2020). Based on characteristics spanning their domain breadth and social presence, two influencer types defined as Informers and Infotainers are suitable SMIs capable of addressing discerning engineering audiences who are highly knowledgeable in their fields (Gross & Wangenheim, 2018; Hertzum, 2002).

Built upon trust transfer theory, the credibility of an influencer is constructed on the trust established through information exchanges and self-disclosure (Leite & Baptista, 2021; Stewart, 2003). The SMI attributes of attractiveness, authenticity, and

relatability are the characteristics of credibility that SMIs embody to help build deeper psychological bonds and establish longer-term relationships with their audiences (Lou & Yuan, 2019; Tafesse & Wood, 2021). In addition, perceptions of the influencer's credibility and the audience's behavioral intentions can be affected by sponsorship disclosure cues (Carr & Hayes, 2014; Hwang & Jeong, 2016; Liljander et al., 2015).

The behavioral intentions of the audience are manifested in their SM engagements, which capture the extent to which followers constructively interact with and are favorably persuaded by the SMI (Tafesse & Wood, 2021). These forward-looking engagement metrics include direct measurement of likes, shares, or comments, which observe the audience's emotional state and indicate the audience's expression of different emotions and feelings (Gross, 2021; Liu et al., 2018). The engagement rate is a straight-forward calculation used to factor in audience sizes by dividing the total number of engagements on a post by the total reach, then multiplying by 100 to express the result as a percentage (AlAnezi & Almutairy, 2021; Bentley et al., 2021; Jang et al., 2021; Yost et al., 2021).

This proposed study aims to bridge the gap and further the understanding of the effect varying forms of sponsorship disclosures have on engagement rates for different influencer types in a complex T&M industry. Insights on alignment of SMI types with specific disclosures may enable marketers to more efficiently increase audience engagement with a brand.

Chapter 3: Methodology

This chapter provides an overview of the research design and methodology used in this study. This research aims to answer the question proposed in Chapter 1, which is: What are the effects of sponsorship disclosure on engagement rates for different Social Media Influencer types in the Test and Measurement industry?

As the use of SMIs continues to rise, according to a B2B marketing spend increase of 32.4% in the next 12 months (Moorman, 2021), the primary measure for evaluating an SMI's effectiveness remains to be engagement, with 39% of marketers using engagement as the primary criterion (Geyser, 2022). This study aims to understand better the effect varying categories of sponsorship disclosures (Carr & Hayes, 2014; Hwang & Jeong, 2016; Liljander et al., 2015) have on engagement rates in a more complex T&M industry and explore differences between influencer types (Gross & Wangenheim, 2018) as they pertain to SMI sponsorship disclosure classifications. The study's results may provide meaningful insights into the alignment of SMI types with specific forms of disclosure that enable marketers to increase audience engagement more efficiently with a brand.

Research Design

The proposed study uses a quantitative analysis method of archival data from YouTube influencers in the T&M industry to explore varying forms of sponsorship disclosure and their effect on engagement rates. To understand the causal relationship of moderating variables that affect the direction and strength of a relationship between independent and dependent variables, a quantitative study is a preferred choice (Creswell & Creswell, 2018).

This research utilizes archival data from publicly available YouTube channels of SMIs in the T&M industry who create videos on relevant engineering technologies and trends. Archival data is a valid source for dissertation research and provides rich opportunities for further study (Rudestam & Newton, 2015). In addition, archival data offers two significant advantages for use in this study. First, the longitudinal data spans several years allowing observation of the variables over extended periods. Second, the extracted data is observational, cross-sectional, and utilizes a publicly accessible source, without interaction with SM influencers or their audience whose usernames have been omitted. Therefore, the study minimizes ethical risk and exposure considerations.

Variables

The quantitative study uses a moderating variable that affects the direction and strength of the relationship between the independent and dependent variables. A summary of the variables used in the study is listed below, followed by an additional explanation detailing the criteria for each.

- Independent: SMI Type (Informer or Infotainer)
- Moderating: Sponsorship Disclosure Category (No, Impartial, Implied, Explicit)
- Dependent: Engagement Rate (Percentage of Engagement/Reach)

Independent

The two types of SMIs relevant to this study include Informers and Infotainers, which are defined as having narrow domain breadth and differing social presences, as set forth by Gross and Wangenheim (2018). The narrow domain breadth reflects not

only the expertise of the influencer but also how narrowly the content is created in terms of the topic, which is exhibited by both SMI types in the T&M industry. The social presence represents the influencer's ability and willingness to engage in an exchange with their audience. Similar to Gross and Wangenheim (2018), the classification of each SMI into the Informers and Infotainers typology can be based not only on the entertainment style and aspects of the content, but also on the number of SMI replies relative to the number of audience comments, with higher audience interaction SMIs as Informers and those SMIs with lower audience interaction as Infotainers.

Moderating

The four categories of sponsorship disclosure were developed and defined by Carr and Hayes (2014), including *impartial disclosure* communicating an absence of bias, *implicit disclosure* with tacit divulgence of third-party involvement, and *explicit disclosure* with a full explanation of the impact of third-party involvement has on the influencer. Similar to research conducted by Carr and Hayes (2014), the no disclosure category will be used as a control condition under the assumption that online reviews with no disclosure of competing interest will result in a standard level of reviewer credibility relative to other disclosure classifications tested. Therefore, each form of disclosure is defined below, including example statements used by Carr and Hayes (2014) to clarify how the SMI may represent these.

- No Disclosure: An influencer makes no reference or disclaimer of third-party involvement or explicated position.
- Impartial Disclosure: The SMI clearly states they have not been influenced or biased by an outside party.

Example: *“All statements and opinions detailed in this review are my own.*

You may order this camera from many online vendors using the link provided in the review. I did not receive any personal benefit from reviewing this product.”

- Implied Disclosure: By tacitly recognizing third-party involvement, the SMI identifies potential influence without revealing the degree or nature.

Example: *“All statements and opinions detailed in this review are my own.*

However, Canon apparently heard about my blog a while back and gave me a XT D-SLR camera to use and talk about. You can order this camera from Amazon.com using the link provided in the review. Amazon gives me a small commission for every camera bought through the link.”

- Explicit Disclosure: The SMI provides a full explanation regarding the impact of third-party involvement on their positions or attitudes.

Example: *“All statements and opinions detailed in this review are my own.*

However, Canon apparently heard about my blog a while back and gave me a XT D-SLR camera to use and talk about. Canon pays me every time I plug their product and a percentage of the camera sales.”

Dependent

Engagement metrics can be directly measured on YouTube as Likes or Comments, which indicate the audience’s expression of different emotions and feelings (Gross, 2021), and are “forward-looking” metrics that observe one’s motivational state while interacting with an activity (Liu et al., 2018). The measurement of engagement can be normalized using the audience reach, in the form of total views, to accurately reflect

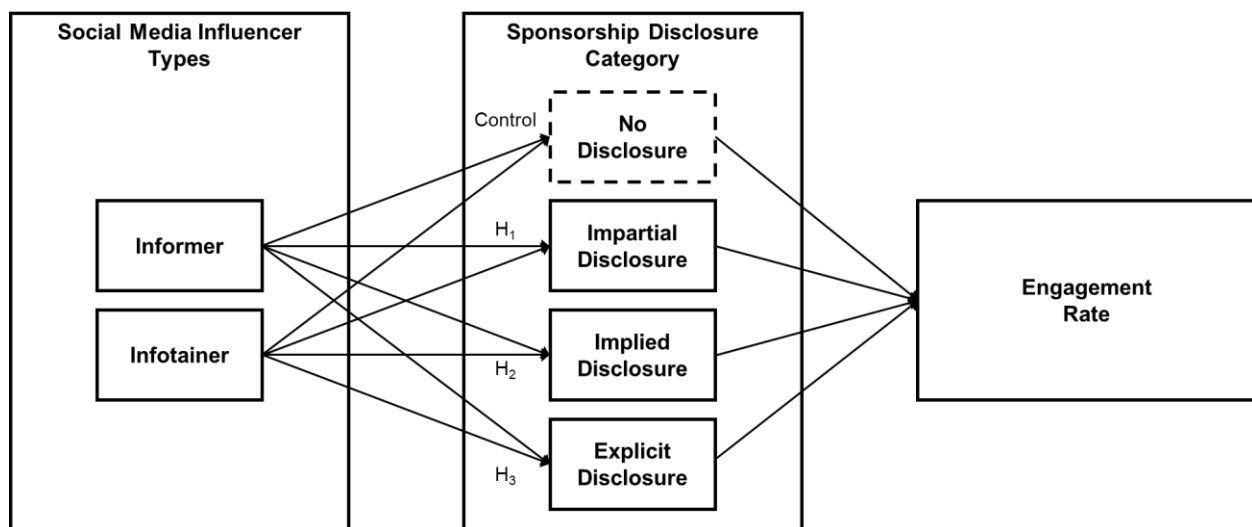
the level of engagement relative to other posts. The dependent variable was measured as the number of non-unique interactions (i.e., Likes and Comments) divided by the total reach (i.e., number of views), expressed as a percentage, similar to Yost et al. (2021).

Theoretical Model

Theorized relationships between the variables in this proposed study are shown in Figure 3.1, along with their connection to the proposed hypotheses.

Figure 3.1

Proposed Model



Data Source and Collection

SMIs relevant to the T&M industry were identified using social listening tools (i.e., Talkwalker), a unified customer experience management platform (i.e., Sprinklr), and subscription/featured channel listings from those previously identified influencers. Included within the archival dataset are 39 YouTube influencers from the T&M industry, with eight influencer channels being excluded from the analysis, resulting in a total of 31

SMLs studied. Those excluded included influencers who have not maintained their channels or included multiple influencers in a single channel for corporate distribution.

The archival dataset was obtained through yt-dlp (GitHub, 2022), which is a youtube-dl fork from a command-line program, to download specific YouTube fields from the popular video SM website. Python scripting was used to run the yt-dlp executable and then parse the resulting JSON data into a usable format in the form of a .csv file. Separate .csv files were created for the SMLs included in the study, containing each unique YouTube video post's relevant data identified separately.

The yt-dlp filesystem, verbosity, and simulation options used in this study to create the JSON data file include the following:

- -j: Quiet print JSON information for each video
- --write-comments: Retrieve video comments to be placed in the infojson

The yt-dlp output template fields used in this study for the content of the JSON data file include the following:

- <id> (string): Video identifier
- <fulltitle> (string): Video title ignoring live timestamp and generic title
- <upload_date> (string): Video upload date in UTC (YYYYMMDD)
- <uploader_id> (string): Nickname or id of the video uploader
- <channel> (string): Full name of the channel the video is uploaded on
- <channel_follower_count> (numeric): Number of followers of the channel
- <view_count> (numeric): Number of users who have watched the video
- <like_count> (numeric): Number of positive ratings of the video
- <comment_count> (numeric): Number of non-unique comments on the video

Measures

For this study, the archival data includes measures supporting the independent, moderating, and dependent variables in similar studies (Carr & Hayes, 2014; Gross & Wangenheim, 2018; Yost et al., 2021). As depicted in the theoretical model proposed for this study, shown in Figure 3.1, these measures include the following data for each SMI video posted: SMI Type (Informer or Infotainer), Sponsorship Disclosure Category (No, Impartial, Implied, Explicit), Engagement Rate (Likes and Comments / Views).

An independent team of digital marketing communications specialists with work experience in social media and public relations analyzed the sponsorship disclosure classifications. Using the definitions from Carr and Hayes (2014), each video in the study was coded for the individual form of sponsorship disclosure. The results were included in the .csv file and associated with each unique video identifier. Once the disclosure categories were coded into the archival data set, further analysis was performed to answer the research question proposed in chapter one.

Data Analysis

Analysis of the archival data was performed in IBM's SPSS statistical analysis software tool using multiple correlation tests to investigate the relationships between sponsorship disclosure categories and engagement rates for different influencer types. A factorial analysis of variance (ANOVA) was selected to analyze the dichotomous independent, categorical moderator, and continuous dependent variables (Salkind & Frey, 2020).

The dataset analysis will likely provide useful insights for aligning SMI types with specific disclosures, thus enabling marketers to more efficiently increase audience

engagement with a brand. In addition, the proposed study's results bridge a gap in the literature and advance the understanding of the effect varying forms of sponsorship disclosure have on engagement rates for different influencer types in a complex T&M industry.

Chapter 4: Results

The results presented in this chapter reflect the effects of sponsorship disclosure on engagement rates for different Social Media Influencer types in the Test and Measurement industry. The research study tested three hypotheses which are as follows:

- H₁*:** Impartial sponsorship disclosure by Social Media Influencers will have an insignificant effect on engagement rates relative to no disclosure for both Informers and Infotainers.
- H₂*:** Implied sponsorship disclosure by Social Media Influencers will have a more significant effect on engagement rates for Informers than Infotainers.
- H₃*:** Explicit sponsorship disclosure by Social Media Influencers will have a lesser effect on engagement rates for Infotainers than Informers.

The descriptive information and frequency statistics for the archival data set are presented, followed by correlational statistical findings, which are presented to accept or reject the hypotheses. Finally, additional findings will be included to contribute further insights into this study and offer prospective topics for future research.

Sample

The archival data set was obtained through yt-dlp (GitHub, 2022), which enables the download of specific YouTube fields. Python scripting was used to run the yt-dlp executable and then parse the resulting JSON data into a usable format for input into SPSS. A total of 31 YouTube influencers from the T&M industry were included in the final data set, with eight influencer channels excluded from the sample. Those

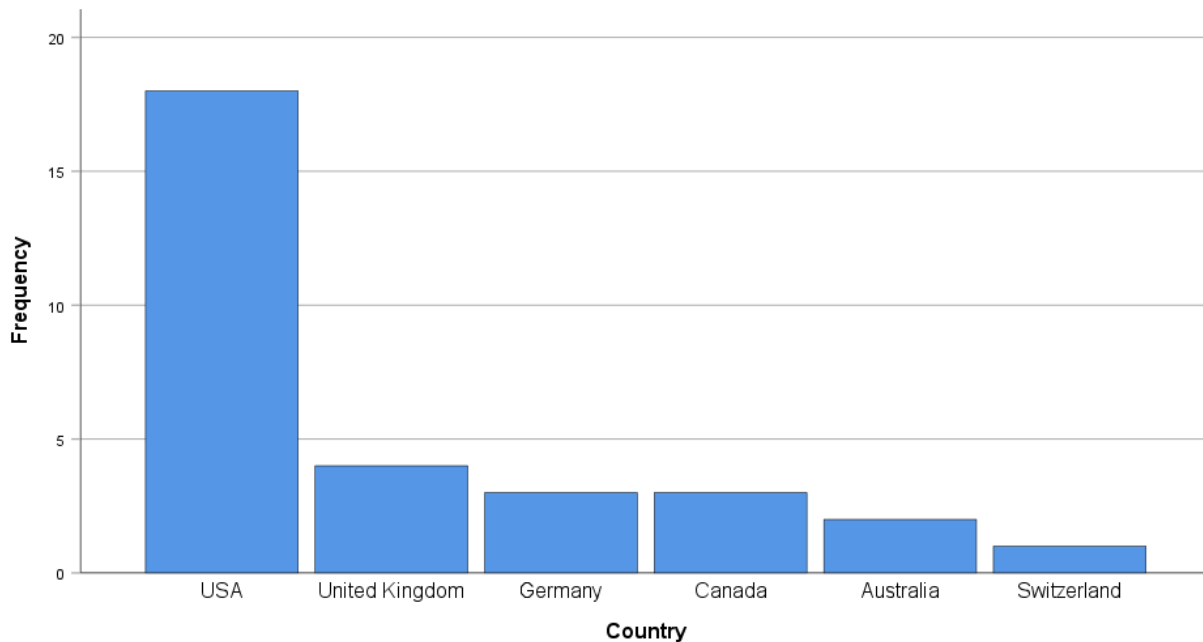
influencers who were excluded had not maintained their channels or included multiple influencers in a single channel for corporate distribution.

The 31 SMIs included in the study were all English-speaking influencers, with 18 of the channels located in the United States (58.1%). The United Kingdom had the second largest number of influencers, with four channels (12.9%), followed by Canada and Germany, which each had three channels (9.7%). The remaining influencers included two from Australia (6.5%) and one from Switzerland (3.2%).

Table 4.1

Influencers by Country

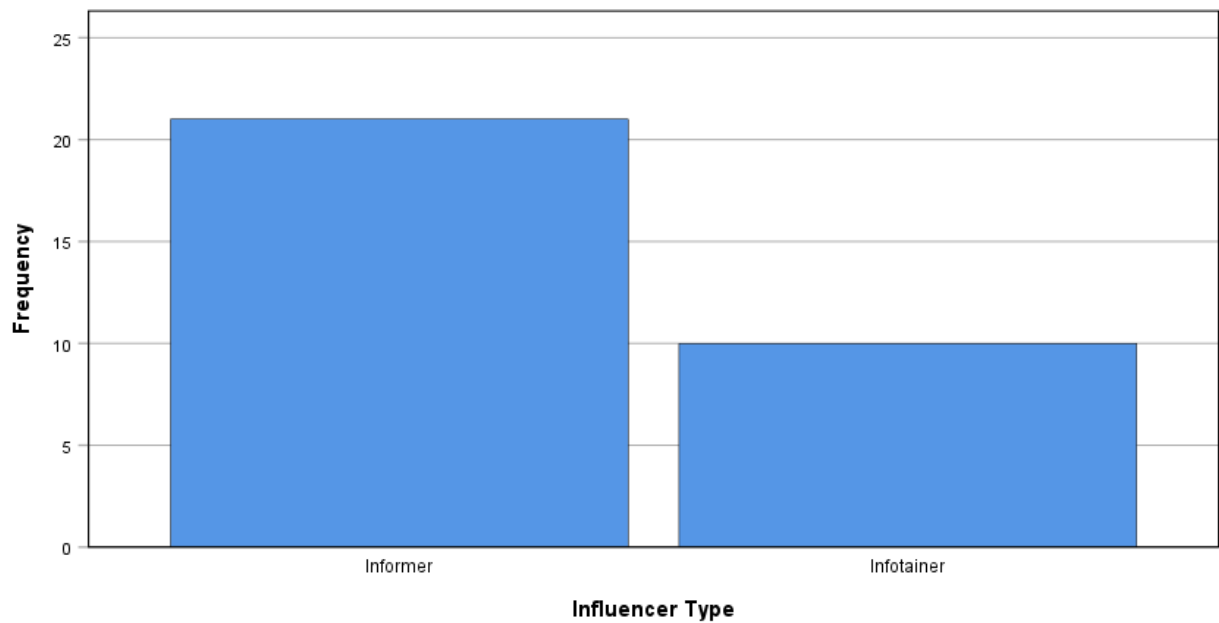
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Australia	2	6.5	6.5	6.5
	Canada	3	9.7	9.7	16.1
	Germany	3	9.7	9.7	25.8
	Switzerland	1	3.2	3.2	29.0
	United Kingdom	4	12.9	12.9	41.9
	USA	18	58.1	58.1	100.0
	Total	31	100.0	100.0	

Figure 4.1*Influencers by Country*

The two types of SMIs relevant to this study included Informers and Infotainers, which were defined as having narrow domain breadth and differing social presences, as set forth by Gross and Wangenheim (2018). Classification of each SMI was performed by an independent team of digital marketing communications specialists with work experience in social media and public relations. Similar to Gross and Wangenheim (2018), these Informer and Infotainer classifications were based not only on the entertainment style and aspects of the content, but also on the number of SMI replies relative to the number of audience comments. Informers comprised the majority of the influencer types, with a total of 21 (67.7%), while Infotainers represented the remaining 10 (32.3%) influencers.

Table 4.2*Influencers by Influencer Type*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Informer	21	67.7	67.7	67.7
	Infotainer	10	32.3	32.3	100.0
	Total	31	100.0	100.0	

Figure 4.2*Influencers by Influencer Type*

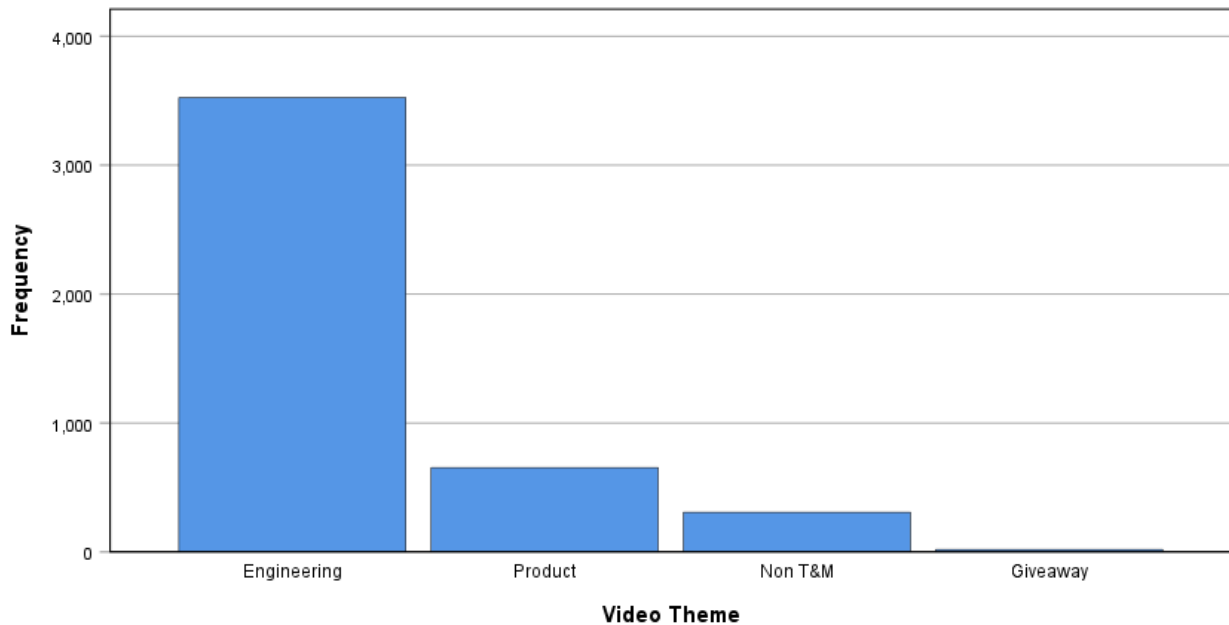
The archival data set included 4,506 total videos, with the majority of the videos falling into relevant themes of Engineering with 3,523 videos (78.2%) and Product with 655 videos (14.5%), representing a total of 4,178 videos (92.7%). These video themes are highly relevant to the study because they offer engineering insights and trends, or product reviews for engineering solutions. On the other hand, the 308 Non-T&M videos

(6.8%) and 20 Giveaway videos (0.4%) were less relevant to the study and included topics unrelated to engineering themes or product reviews. Examples of Non-T&M videos included topics such as home improvement projects, YouTube account policies, politics, the economy, or vacation plans. Examples of Giveaway videos included free product giveaways to any viewers who posted a comment to the video, where the influencer would randomly select a winner from those comments, which resulted in an unusually high number of comments without providing substantial engineering informational value.

Table 4.3

Videos by Theme

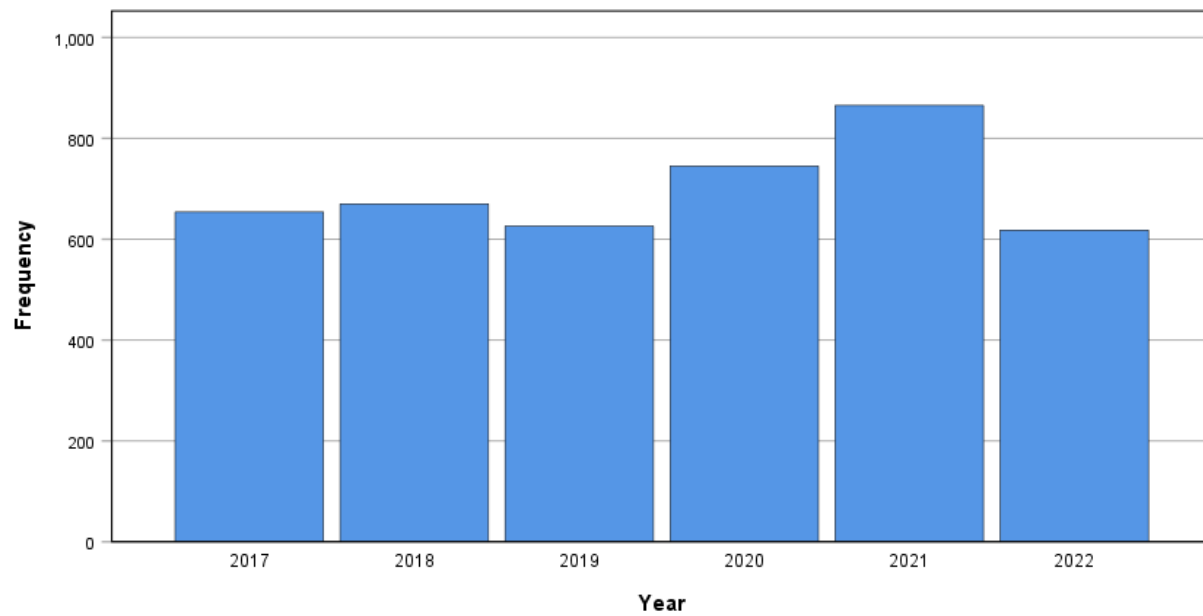
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Engineering	3523	78.2	78.2	78.2
	Product	655	14.5	14.5	92.7
	Non T&M	308	6.8	6.8	99.6
	Giveaway	20	0.4	0.4	100
	Total	4506	100	100	

Figure 4.3*Videos by Theme*

The 4,178 videos examined in this study spanned a 6-year period, offering a longitudinal analysis of the archival data set. The number of videos posted in each of the six years ranged from a low of 618 (14.8%) in 2022 to a high of 865 (20.7%) in 2021. The volume of videos posted during the COVID-19 pandemic, which encompassed the majority of 2020 and 2021, included 1,610 (38.5%) of the videos observed.

Table 4.4*Videos by Year*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2017	654	15.7	15.7	15.7
	2018	670	16.0	16.0	31.7
	2019	626	15.0	15.0	46.7
	2020	745	17.8	17.8	64.5
	2021	865	20.7	20.7	85.2
	2022	618	14.8	14.8	100.0
	Total	4178	100.0	100.0	

Figure 4.4*Videos by Year*

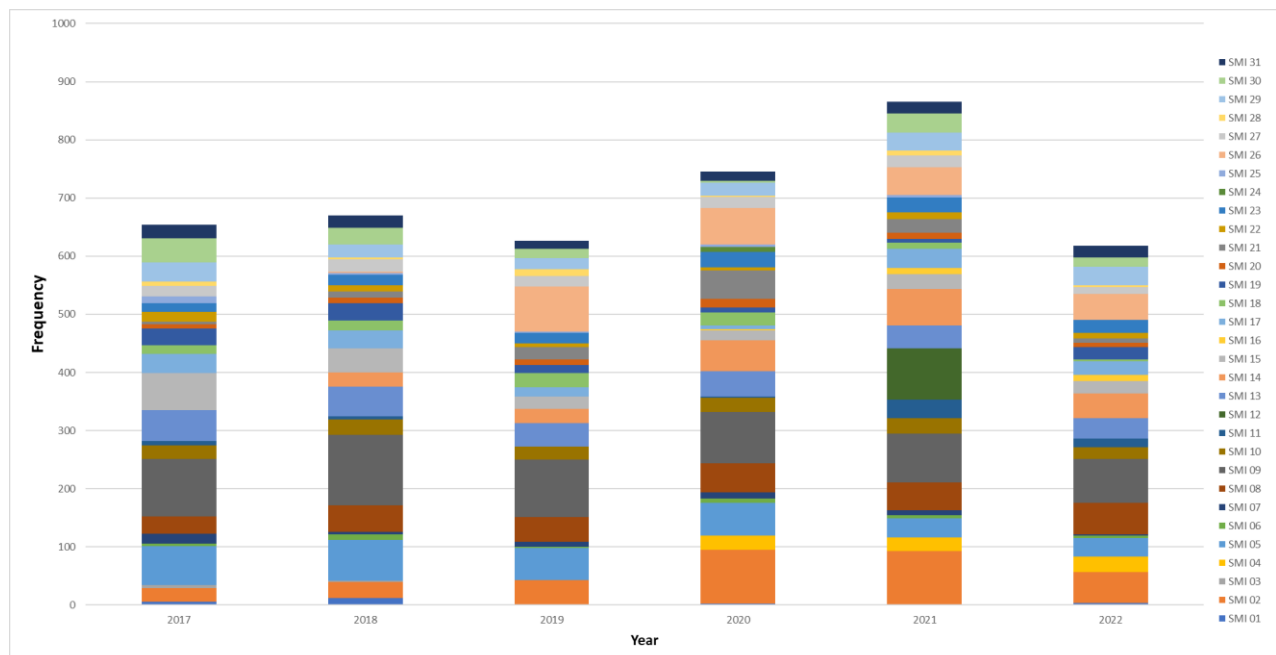
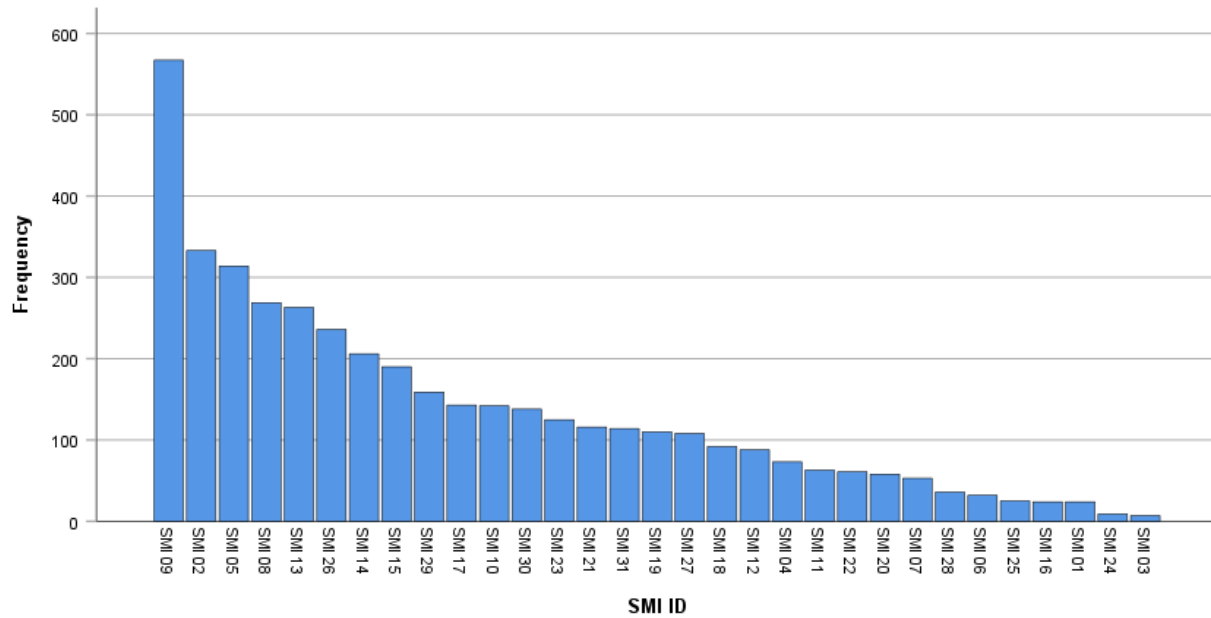


Table 4.5*Videos by Influencer by Year*

		2017	2018	2019	2020	2021	2022
Valid	SMI 01	6	12	0	2	0	4
	SMI 02	23	28	43	93	93	53
	SMI 03	5	2	0	0	0	0
	SMI 04	0	0	0	24	23	26
	SMI 05	67	70	55	57	33	32
	SMI 06	5	9	2	7	5	4
	SMI 07	17	5	9	11	9	2
	SMI 08	29	45	42	50	48	55
	SMI 09	99	122	99	88	84	75
	SMI 10	24	26	22	24	26	20
	SMI 11	7	6	0	3	32	15
	SMI 12	0	0	0	0	88	0
	SMI 13	53	51	41	43	40	35
	SMI 14	0	24	24	53	62	43
	SMI 15	64	41	21	17	26	21
	SMI 16	0	0	0	2	11	11
	SMI 17	33	31	16	7	33	23
	SMI 18	15	17	25	22	10	3
	SMI 19	28	30	14	9	7	22
	SMI 20	8	10	9	14	10	7
	SMI 21	4	10	22	49	24	7
	SMI 22	17	11	6	6	11	10
	SMI 23	15	18	18	26	26	22
	SMI 24	0	0	0	9	0	0
	SMI 25	12	3	2	4	4	0
	SMI 26	0	2	78	63	48	45
	SMI 27	18	21	18	19	20	12
	SMI 28	7	4	11	2	9	3
	SMI 29	33	22	20	22	30	32
	SMI 30	42	29	15	3	33	16
	SMI 31	23	21	14	16	20	20
	Total	654	670	626	745	865	618

Table 4.6*Videos by Influencer*

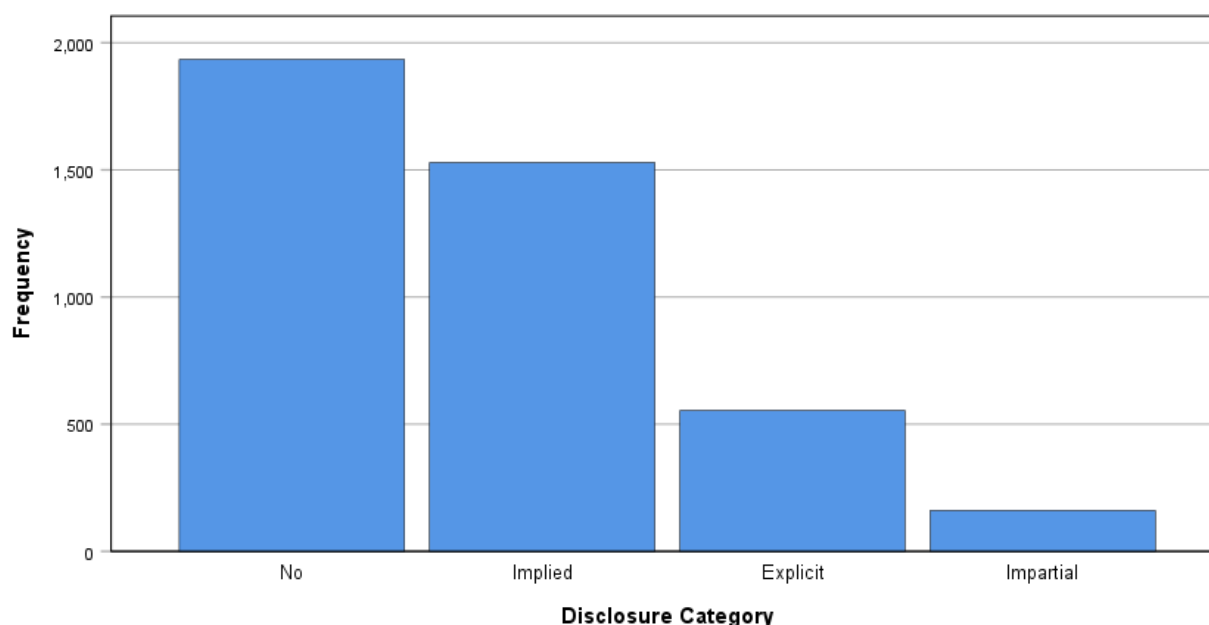
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	SMI 09	567	13.6	13.6	13.6
	SMI 02	333	8.0	8.0	21.5
	SMI 05	314	7.5	7.5	29.1
	SMI 08	269	6.4	6.4	35.5
	SMI 13	263	6.3	6.3	41.8
	SMI 26	236	5.6	5.6	47.4
	SMI 14	206	4.9	4.9	52.4
	SMI 15	190	4.5	4.5	56.9
	SMI 29	159	3.8	3.8	60.7
	SMI 17	143	3.4	3.4	64.1
	SMI 10	142	3.4	3.4	67.5
	SMI 30	138	3.3	3.3	70.8
	SMI 23	125	3.0	3.0	73.8
	SMI 21	116	2.8	2.8	76.6
	SMI 31	114	2.7	2.7	79.3
	SMI 19	110	2.6	2.6	82.0
	SMI 27	108	2.6	2.6	84.6
	SMI 18	92	2.2	2.2	86.8
	SMI 12	88	2.1	2.1	88.9
	SMI 04	73	1.7	1.7	90.6
	SMI 11	63	1.5	1.5	92.1
	SMI 22	61	1.5	1.5	93.6
	SMI 20	58	1.4	1.4	95.0
	SMI 07	53	1.3	1.3	96.2
	SMI 28	36	0.9	0.9	97.1
	SMI 06	32	0.8	0.8	97.9
	SMI 25	25	0.6	0.6	98.5
	SMI 01	24	0.6	0.6	99.0
	SMI 16	24	0.6	0.6	99.6
	SMI 24	9	0.2	0.2	99.8
	SMI 03	7	0.2	0.2	100.0
	Total	4178	100.0	100.0	

Figure 4.6*Videos by Influencer*

Of the 4,178 videos, the sponsorship disclosure categories for No disclosure included 1,934 (46.3%), and Implied disclosure indicated 1,529 (36.6%), representing 82.9% of the total. Explicit disclosures by the SMIs accounted for 554 (13.3%) of the videos, while Impartial disclosures occurred in 161 (3.9%) of the video posts.

Table 4.7*Videos by Disclosure Category*

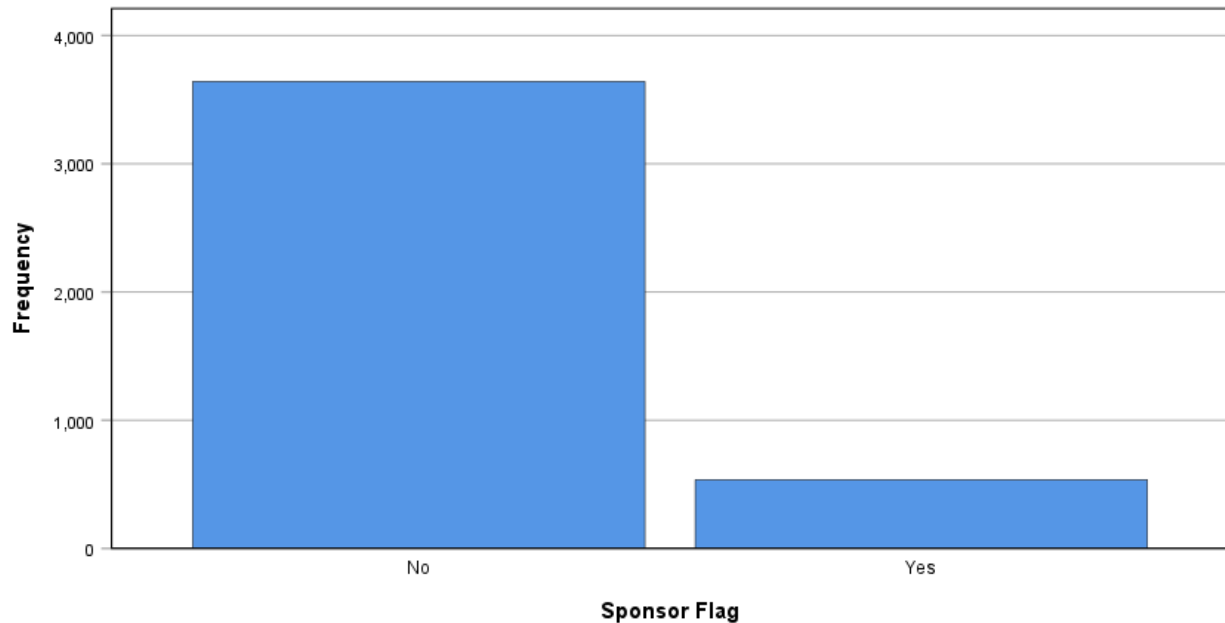
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Explicit	554	13.3	13.3	13.3
	Impartial	161	3.9	3.9	17.1
	Implied	1529	36.6	36.6	53.7
	No	1934	46.3	46.3	100.0
	Total	4178	100.0	100.0	

Figure 4.7*Videos by Disclosure Category*

Sponsorship promotional flags are user-initiated banners on YouTube that briefly appear on top of a video at the beginning to indicate that promotional content is contained in the post more clearly. The archival data set includes 3,642 (87.2%) videos with No sponsorship flags and 536 (12.8%) videos with sponsorship flags on the posts.

Table 4.8*Videos with Sponsorship Flag*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	3642	87.2	87.2	87.2
	Yes	536	12.8	12.8	100.0
	Total	4178	100.0	100.0	

Figure 4.8*Videos with Sponsorship Flag*

Hypotheses Results

A factorial analysis of variance (ANOVA) was utilized to analyze the dichotomous independent, categorical moderator, and continuous dependent variables. A univariate analysis of the relationship between the independent variable (Influencer Type), moderating variable (Sponsorship Disclosure Category), and the dependent variable (Engagement Rate) was used since the four sponsorship disclosure categories identified in the categorical moderator variable were not ranked or ordered.

The engagement rate descriptive statistics highlight the unequal sample sizes and unequal variances. Larger variances are associated with the greater sample sizes, which provides additional confidence in the p -values in the analysis. However, the homogeneity of variance assumption was explored further using a Levene's test.

Table 4.9*Univariate Descriptive Statistics*

Dependent Variable: Engagement Rate

Influencer Type	Disclosure Category	Mean	Std. Deviation	N
Informer	Explicit	3.86118	1.981493	27
	Impartial	4.67949	1.967801	122
	Implied	5.57899	2.253912	1142
	No	4.71433	2.522697	1580
	Total	5.04876	2.431521	2871
Infotainer	Explicit	4.38409	1.412253	527
	Impartial	3.33016	1.658191	39
	Implied	3.97519	1.621201	387
	No	4.32504	2.109194	354
	Total	4.21557	1.708152	1307
Total	Explicit	4.35861	1.447197	554
	Impartial	4.35263	1.979318	161
	Implied	5.17306	2.223509	1529
	No	4.64308	2.456342	1934
	Total	4.78812	2.263597	4178

With a non-normal distribution of data, a Levene's test can be used to check the assumption of equal variances (Landau & Everitt, 2003). The significance ($p < .001$) indicates a violation of the assumption of homogeneity of variances. As the homogeneity is violated due to unequal variances and sample sizes, a more robust alpha level is recommended. Using a significance of $p = .01$, rather than $p = .05$, will provide additional confidence in the statistical analysis.

Table 4.10*Levene's Test of Equality of Error Variances*

		Levene Statistic	df1	df2	Sig.
Engagement Rate	Based on Mean	38.983	7	4170	<.001
	Based on Median	35.414	7	4170	<.001
	Based on Median and with adjusted df	35.414	7	3780.79 4	<.001
	Based on trimmed mean	38.098	7	4170	<.001

Note. Tests the null hypothesis that the error variance of the dependent variable is equal across groups. Dependent variable = Engagement Rate. Design = Intercept + InfluencerType + DisclosureCategory + InfluencerType * DisclosureCategory.

There was a significant effect of influencer type on engagement rate, and a small portion (0.5%) of the variance in engagement rate is explained by the influencer type [$F(1,4170) = 20.640, p < .001, \eta^2 = .005$]. The sponsorship disclosure category also demonstrated a significant effect on engagement rate, with the same small portion (0.5%) of the variance [$F(3,4170) = 7.516, p < .001, \eta^2 = .005$]. The interaction of influencer type and sponsorship disclosure category also indicated a significant effect on engagement rate, but this time with a slightly larger portion (1.3%) of the variance in engagement rate explained by the interaction of the variables [$F(3,4170) = 18.960, p < .001, \eta^2 = .013$].

The tests of between-subject effects has an adjusted R^2 of .057, which implies the model has a small fit (Landau & Everitt, 2003). To confirm the effect size for a factorial analysis of variance is represented by omega squared (ω^2) and calculated as

using Equation (4.1), with guidelines (.01 is small, .06 is medium, and .14 is large) to indicate the strength of the association (Salkind & Frey, 2020).

$$\omega^2 = \frac{SS_{between\ groups} - (df_{between\ groups})(MS_{within\ groups})}{MS_{within\ groups} + SS_{total}} \quad (4.1)$$

The calculated effect sizes for influencer type ($\omega^2 = .004$), sponsorship disclosure category ($\omega^2 = .001$), and the interaction of influencer type and sponsorship disclosure category ($\omega^2 = .004$) all implied a small effect.

Table 4.11

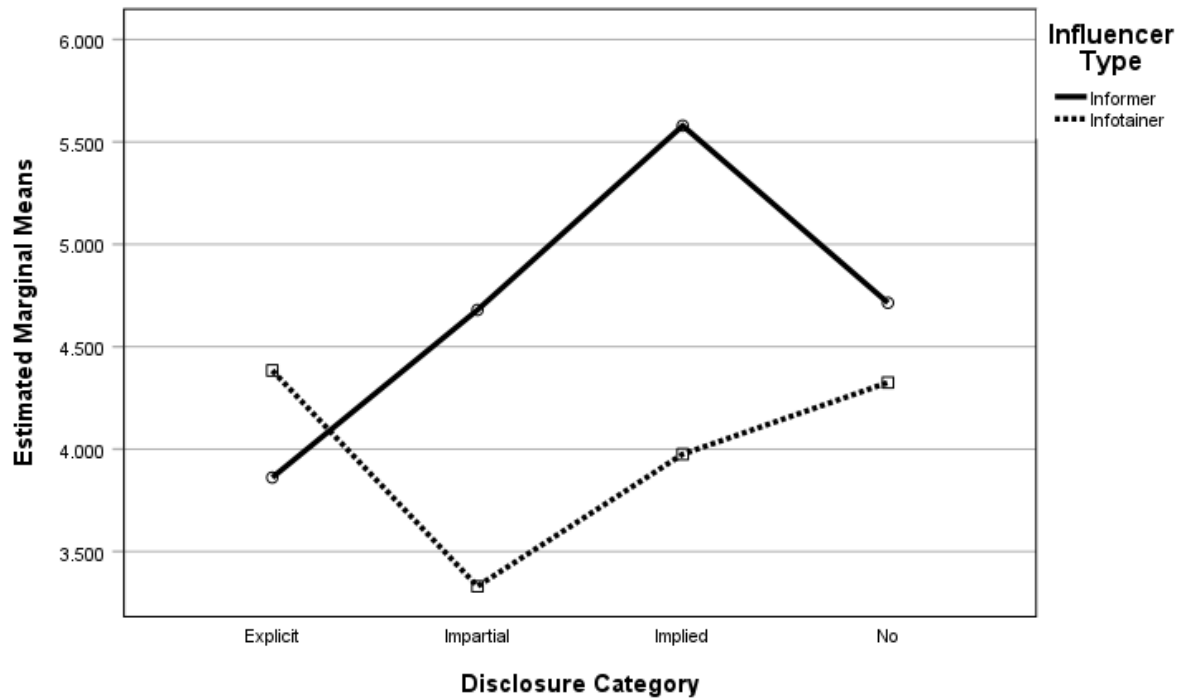
Tests of Between-Subjects Effects

Dependent Variable: Engagement Rate

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1248.127 ^a	7	178.304	36.892	<.001	.058
Intercept	15239.302	1	15239.302	3153.072	<.001	.431
InfluencerType	99.758	1	99.758	20.640	<.001	.005
DisclosureCategory	108.985	3	36.328	7.516	<.001	.005
InfluencerType * DisclosureCategory	274.910	3	91.637	18.960	<.001	.013
Error	20154.278	4170	4.833			
Total	117187.523	4178				
Corrected Total	21402.406	4177				

a. R Squared = .058 (Adjusted R Squared = .057)

Looking ahead in the SPSS output, the interaction between the two factors is visually suggested by the nonparallel lines of the plot for estimated marginal means of engagement rate. The degree of the observed interaction for the factors on engagement rate ($p < .001$) is consistent with the results shown in Table 4.10.

Figure 4.9*Estimated Marginal Means of Engagement Rate*

To further quantify the effects of these factors, the univariate analysis provides estimates for the mean engagement rates and formulates the 95% confidence intervals. Given the unequal variances and sample sizes for the data set, the analysis demonstrates the differences in the estimated means for both the influencer type in Table 4.12 and the sponsorship disclosure category in Table 4.15 relative to the means reported in Table 4.9.

There is a significant difference in unweighted means for influencer types of .705 ($p < .001$), indicating the difference in mean engagement rate between Informers and Infotainers is estimated to have a .705 higher engagement rate for Informers (95% CI [.401, 1.009]).

Table 4.12*Estimates by Influencer Type*

Dependent Variable: Engagement Rate

Influencer Type	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Informer	4.708	.119	4.476	4.941
Infotainer	4.004	.100	3.808	4.199

Table 4.13*Pairwise Comparisons by Influencer Type*

Dependent Variable: Engagement Rate

(I) Influencer Type	(J) Influencer Type	Mean Difference (I-J)	Std. Error	Sig. ^b	95% Confidence Interval for Difference ^b	
					Lower Bound	Upper Bound
Informer	Infotainer	.705*	.155	<.001	.401	1.009
Infotainer	Informer	-.705*	.155	<.001	-1.009	-.401

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Table 4.14*Univariate Tests by Influencer Type*

Dependent Variable: Engagement Rate

	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Contrast	99.758	1	99.758	20.640	<.001	.005
Error	20154.278	4170	4.833			

The F tests the effect of Influencer Type. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

For sponsorship disclosure categories, significant differences were demonstrated relative to Implied disclosures. The unweighted mean engagement rate for Implied sponsorship disclosure was .654 higher than for Explicit disclosures ($p = .004$, 95% CI [.211, 1.098]), .772 greater than for Impartial disclosures ($p < .001$, 95% CI [.356, 1.188]), and elevated .257 more than for No sponsorship disclosure at all ($p = .005$, 95% CI [.078, .437]).

Table 4.15

Estimates by Disclosure Category

Dependent Variable: Engagement Rate

Disclosure Category	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Explicit	4.123	.217	3.697	4.548
Impartial	4.005	.202	3.608	4.401
Implied	4.777	.065	4.650	4.904
No	4.520	.065	4.393	4.646

Table 4.16*Pairwise Comparisons by Disclosure Category*

Dependent Variable: Engagement Rate

(I) Disclosure Category	(J) Disclosure Category	Mean Difference (I-J)	Std. Error	Sig. ^b	95% Confidence Interval for Difference ^b	
					Lower Bound	Upper Bound
Explicit	Impartial	.118	.297	.691	-.464	.699
	Implied	-.654*	.226	.004	-1.098	-.211
	No	-.397	.226	.079	-.841	.047
Impartial	Explicit	-.118	.297	.691	-.699	.464
	Implied	-.772*	.212	<.001	-1.188	-.356
	No	-.515*	.212	.015	-.931	-.099
Implied	Explicit	.654*	.226	.004	.211	1.098
	Impartial	.772*	.212	<.001	.356	1.188
	No	.257*	.091	.005	.078	.437
No	Explicit	.397	.226	.079	-.047	.841
	Impartial	.515*	.212	.015	.099	.931
	Implied	-.257*	.091	.005	-.437	-.078

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Table 4.17*Univariate Tests by Disclosure Category*

Dependent Variable: Engagement Rate

	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Contrast	108.985	3	36.328	7.516	<.001	.005
Error	20154.278	4170	4.833			

The F tests the effect of Disclosure Category. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

The univariate analysis of the interaction between the two factors of influencer type and sponsorship disclosure category on engagement rates reveals a significant difference between Informers and Infotainers across all sponsorship disclosure categories except Explicit disclosures ($p = .228$). The unweighted mean engagement rate for the Impartial disclosures is 1.349 greater for Informers than Infotainers ($p < .001$, 95% CI [.556, 2.142]), even more elevated in Implied disclosures at 1.604 ($p < .001$, 95% CI [1.350, 1.857]), and only .389 higher for No disclosure at all ($p < .001$, 95% CI [.136, .643]).

Table 4.18

*Estimates by Interaction of Influencer Type * Disclosure Category*

Dependent Variable: Engagement Rate

Influencer Type	Disclosure Category	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Informer	Explicit	3.861	.423	3.032	4.691
	Impartial	4.679	.199	4.289	5.070
	Implied	5.579	.065	5.451	5.707
	No	4.714	.055	4.606	4.823
Infotainer	Explicit	4.384	.096	4.196	4.572
	Impartial	3.330	.352	2.640	4.020
	Implied	3.975	.112	3.756	4.194
	No	4.325	.117	4.096	4.554

Table 4.19*Pairwise Comparisons by Interaction of Influencer Type * Disclosure Category*

Dependent Variable: Engagement Rate

Disclosure Category	(I) Influencer Type	(J) Influencer Type	Mean Difference (I-J)	Std. Error	Sig. ^b	95% Confidence Interval for Difference ^b	
						Lower Bound	Upper Bound
Explicit	Informers	Infotainers	-.523	.434	.228	-1.373	.328
	Infotainers	Informers	.523	.434	.228	-.328	1.373
Impartial	Informers	Infotainers	1.349*	.404	<.001	.556	2.142
	Infotainers	Informers	-1.349*	.404	<.001	-2.142	-.556
Implied	Informers	Infotainers	1.604*	.129	<.001	1.350	1.857
	Infotainers	Informers	-1.604*	.129	<.001	-1.857	-1.350
No	Informers	Infotainers	.389*	.129	.003	.136	.643
	Infotainers	Informers	-.389*	.129	.003	-.643	-.136

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

H₁ Results – Impartial Sponsorship Disclosure

H₁ studied the effect of Impartial sponsorship disclosures between the two influencer types. The interaction of influencer type and Impartial sponsorship disclosure indicated a significant relationship with engagement rate, and a small effect size shows a portion (0.3%) of the variance in engagement rate is explained by the interaction of the variables [$F(1,4170) = 11.133$, $p < .001$, $\eta^2 = .003$]. This indicates a significant relationship with a small effect; therefore, we can accept *H₁* that Impartial sponsorship disclosures have an insignificant effect on engagement rates relative to no disclosure for both Informers and Infotainers.

Table 4.20*Univariate Tests by Interaction of Influencer Type * Disclosure Category*

Dependent Variable: Engagement Rate

Disclosure Category		Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Explicit	Contrast	7.023	1	7.023	1.453	.228	.000
	Error	20154.278	4170	4.833			
Impartial	Contrast	53.806	1	53.806	11.133	<.001	.003
	Error	20154.278	4170	4.833			
Implied	Contrast	743.482	1	743.482	153.829	<.001	.036
	Error	20154.278	4170	4.833			
No	Contrast	43.829	1	43.829	9.068	.003	.002
	Error	20154.278	4170	4.833			

Each F tests the simple effects of Influencer Type within each level combination of the other effects shown. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

H₂ Results – Implied Sponsorship Disclosure

H_2 was to study the effect of Implied sponsorship disclosures between both influencer types of Informers and Infotainers. The interaction of influencer type and Implied sponsorship disclosure from Table 4.20 indicated a significant relationship with engagement rate. A small to medium effect size indicates that a portion (3.6%) of the variance in engagement rate is explained by the interaction of the variables [$F(1,4170) = 53.829, p < .001, \eta^2 = .036$]. Figure 4.9 and Table 4.19 also highlight that Informers experience a more significant effect for Implied disclosures than Infotainers ($MD = 1.604$). Therefore, we can accept H_2 that Implied sponsorship disclosures have a more significant effect on engagement rates for Informers than Infotainers.

H₃ Results – Explicit Sponsorship Disclosure

H₃ studied the effect of Explicit sponsorship disclosures between the two influencer types. Table 4.20 shows the interaction of influencer type and Explicit sponsorship disclosure indicated an insignificant relationship with engagement rate and no effect (0.0%) to the variance in engagement rate explained by the interaction of the variables [$F(1,4170) = 1.453, p = .228, \eta^2 = .000$]. Therefore, we fail to reject the null hypothesis that Explicit sponsorship disclosures have a lesser effect on engagement rates for Infotainers than Informers.

Additional Findings

Following the correlational statistical analysis of the hypotheses in the study, three additional analytical discoveries were made. While these results do not directly relate to the proposed hypotheses, they may contribute further insights for future research.

Engagement During the COVID-19 Pandemic

Table 4.4 and Figure 4.4 indicate an increase in the number of videos posted during the COVID-19 pandemic. Further analysis of the pandemic's impact on engagement rates showed a potential correlation. For the purpose of this ANOVA, the videos were classified based on their upload date into Pre-COVID, COVID, and Post-COVID categories. The categories are based on the historic timeline documenting the COVID-19 pandemic in the United States, when states began implementing shutdowns on March 15, 2020 to prevent the spread of the virus and then on April 2, 2021 when the Centers for Disease Control and Prevention (CDC) eased their restrictions on travel by fully vaccinated people (Centers for Disease Control and Prevention, 2022). Therefore,

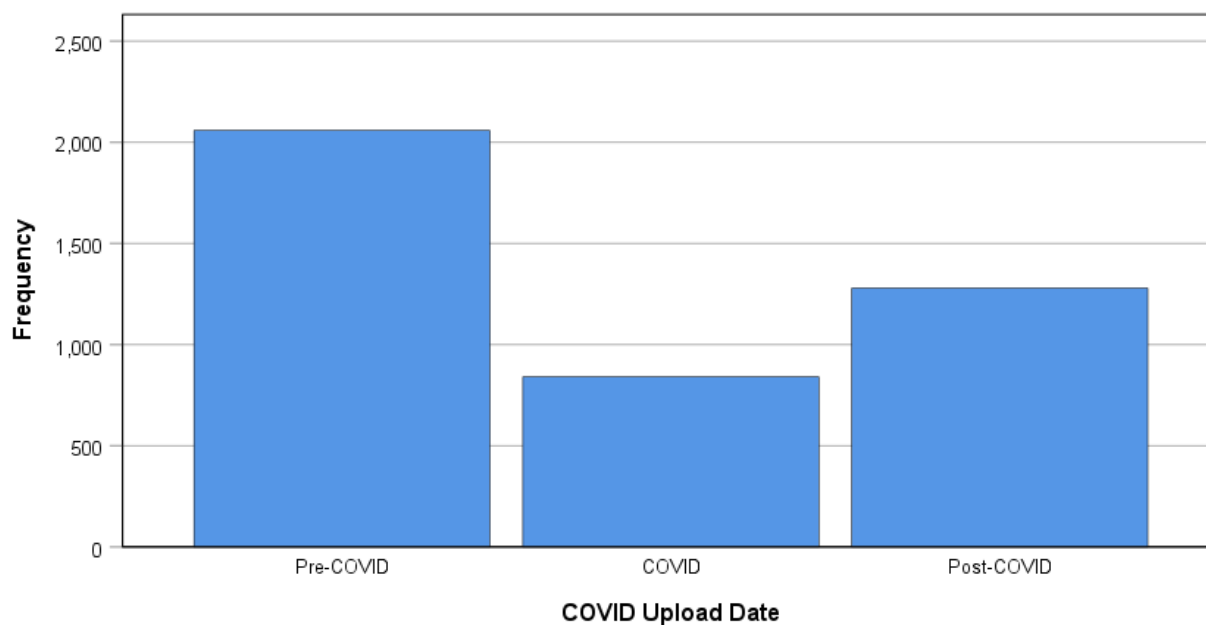
videos uploaded prior to March 15, 2020 are categorized as Pre-COVID, those after April 2, 2021 as Post-COVID, and videos uploaded between those dates are classified as COVID postings.

The majority of the 4,178 videos in the study were categorized into Pre-COVID (49.3%), with the second most as Post-COVID (30.6%), and the remainder as COVID (20.1%). Due to the difference in duration of the categories, additional exploration revealed there was an increase in the number of videos posted during the pandemic (841 videos over 13 months, 64.69 videos/month). The increase in COVID postings was notable relative to the number of videos produced within the Pre-COVID timeframe (2,058 videos over 38 months, 54.16 videos/month) and the Post-COVID levels (1,279 videos over 21 months, 60.90 videos/month).

Table 4.21

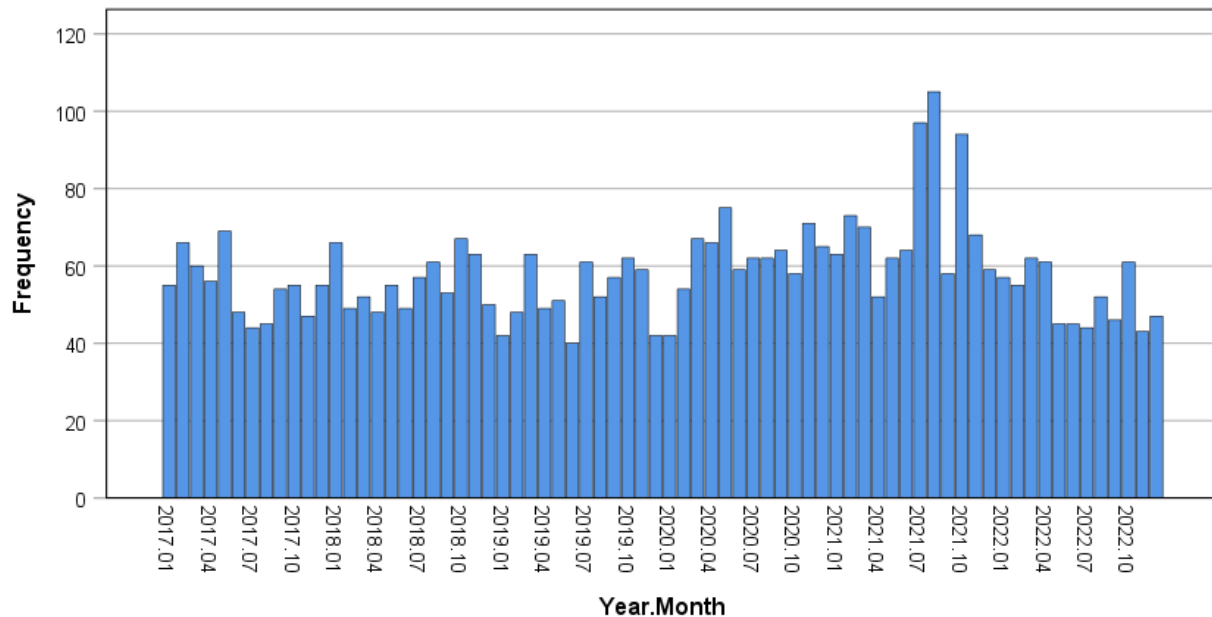
Videos Uploaded by COVID Date Categorization

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Pre-COVID	2058	49.3	49.3	49.3
	COVID	841	20.1	20.1	69.4
	Post-COVID	1279	30.6	30.6	100.0
	Total	4178	100.0	100.0	

Figure 4.10*Videos Uploaded by COVID Date Categorization***Table 4.22***Videos Uploaded by Year and Month*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2017.01	55	1.3	1.3	1.3
	2017.02	66	1.6	1.6	2.9
	2017.03	60	1.4	1.4	4.3
	2017.04	56	1.3	1.3	5.7
	2017.05	69	1.7	1.7	7.3
	2017.06	48	1.1	1.1	8.5
	2017.07	44	1.1	1.1	9.5
	2017.08	45	1.1	1.1	10.6
	2017.09	54	1.3	1.3	11.9
	2017.10	55	1.3	1.3	13.2
	2017.11	47	1.1	1.1	14.3
	2017.12	55	1.3	1.3	15.7
	2018.01	66	1.6	1.6	17.2
	2018.02	49	1.2	1.2	18.4
	2018.03	52	1.2	1.2	19.7
	2018.04	48	1.1	1.1	20.8
	2018.05	55	1.3	1.3	22.1
	2018.06	49	1.2	1.2	23.3
	2018.07	57	1.4	1.4	24.7
	2018.08	61	1.5	1.5	26.1

	Frequency	Percent	Valid Percent	Cumulative Percent
2018.09	53	1.3	1.3	27.4
2018.10	67	1.6	1.6	29.0
2018.11	63	1.5	1.5	30.5
2018.12	50	1.2	1.2	31.7
2019.01	42	1.0	1.0	32.7
2019.02	48	1.1	1.1	33.8
2019.03	63	1.5	1.5	35.4
2019.04	49	1.2	1.2	36.5
2019.05	51	1.2	1.2	37.7
2019.06	40	1.0	1.0	38.7
2019.07	61	1.5	1.5	40.2
2019.08	52	1.2	1.2	41.4
2019.09	57	1.4	1.4	42.8
2019.10	62	1.5	1.5	44.3
2019.11	59	1.4	1.4	45.7
2019.12	42	1.0	1.0	46.7
2020.01	42	1.0	1.0	47.7
2020.02	54	1.3	1.3	49.0
2020.03	67	1.6	1.6	50.6
2020.04	66	1.6	1.6	52.2
2020.05	75	1.8	1.8	53.9
2020.06	59	1.4	1.4	55.4
2020.07	62	1.5	1.5	56.8
2020.08	62	1.5	1.5	58.3
2020.09	64	1.5	1.5	59.9
2020.10	58	1.4	1.4	61.2
2020.11	71	1.7	1.7	62.9
2020.12	65	1.6	1.6	64.5
2021.01	63	1.5	1.5	66.0
2021.02	73	1.7	1.7	67.8
2021.03	70	1.7	1.7	69.4
2021.04	52	1.2	1.2	70.7
2021.05	62	1.5	1.5	72.2
2021.06	64	1.5	1.5	73.7
2021.07	97	2.3	2.3	76.0
2021.08	105	2.5	2.5	78.5
2021.09	58	1.4	1.4	79.9
2021.10	94	2.2	2.2	82.2
2021.11	68	1.6	1.6	83.8
2021.12	59	1.4	1.4	85.2
2022.01	57	1.4	1.4	86.6
2022.02	55	1.3	1.3	87.9
2022.03	62	1.5	1.5	89.4
2022.04	61	1.5	1.5	90.8
2022.05	45	1.1	1.1	91.9
2022.06	45	1.1	1.1	93.0
2022.07	44	1.1	1.1	94.0
2022.08	52	1.2	1.2	95.3
2022.09	46	1.1	1.1	96.4
2022.10	61	1.5	1.5	97.8
2022.11	43	1.0	1.0	98.9
2022.12	47	1.1	1.1	100.0
Total	4178	100.0	100.0	

Figure 4.11*Videos Uploaded by Year and Month*

Based on the categorization by video upload date surrounding the COVID-19 pandemic, a one-way ANOVA was used on the 4,178 videos to test if there was a significant difference in engagement rates. A significant difference was discovered with a small effect since only 1.9% of the variance was attributed to the variable $[F(2,4175) = 40.240, p < .001, \eta^2 = .019]$.

For videos uploaded based on the COVID categorization, significant differences in engagement rates were demonstrated relative to the Pre-COVID category. The unweighted mean engagement rate for Pre-COVID videos were -.526 lower than during COVID ($p < .001$, 95% CI [-.746, -.307]) and -.672 lower than Post-COVID videos ($p < .001$, 95% CI [-.863, -.481]).

Table 4.23*Descriptives for Engagement by COVID Date Categorization*

Engagement Rate								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Pre-COVID	2058	4.47643	2.119085	.046712	4.38482	4.56804	.000	16.272
COVID	841	5.00291	2.311180	.079696	4.84648	5.15934	.000	16.822
Post-COVID	1279	5.14841	2.385688	.066708	5.01754	5.27928	.000	14.286
Total	4178	4.78812	2.263597	.035020	4.71946	4.85678	.000	16.822

Table 4.24*Tests of Homogeneity of Variances for Engagement by COVID Date Categorization*

		Levene Statistic	df1	df2	Sig.
Engagement Rate	Based on Mean	17.842	2	4175	<.001
	Based on Median	18.082	2	4175	<.001
	Based on Median and with adjusted df	18.082	2	4168.006	<.001
	Based on trimmed mean	18.528	2	4175	<.001

Table 4.25*ANOVA for Engagement by COVID Date Categorization*

Engagement Rate					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	404.761	2	202.380	40.240	<.001
Within Groups	20997.645	4175	5.029		
Total	21402.406	4177			

Table 4.26*ANOVA Effect Sizes for Engagement by COVID Date Categorization*

		Point Estimate	95% Confidence Interval	
			Lower	Upper
Engagement Rate	Eta-squared	.019	.011	.028
	Epsilon-squared	.018	.011	.027
	Omega-squared	.018	.011	.027
	Fixed-effect			
	Omega-squared	.009	.005	.014
Random-effect				

a. Eta-squared and Epsilon-squared are estimated based on the fixed-effect model.

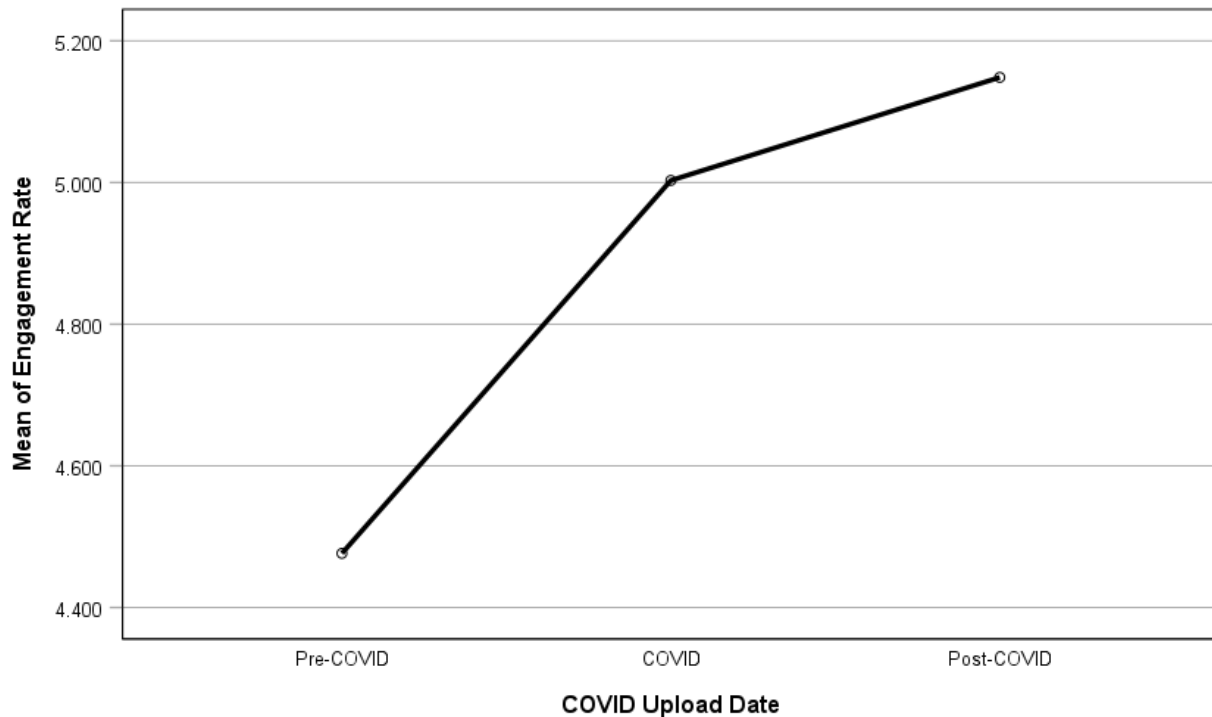
Table 4.27*Multiple Comparisons for Engagement by COVID Date Categorization*

Dependent Variable: Engagement Rate

Bonferroni

		Mean		Sig.	95% Confidence Interval	
(I) COVID Upload Date	(J) COVID Upload Date	Difference (I-J)	Std. Error		Lower Bound	Upper Bound
Pre-COVID	COVID	-.526481*	.091783	<.001	-.74630	-.30667
	Post-COVID	-.671979*	.079850	<.001	-.86322	-.48074
COVID	Pre-COVID	.526481*	.091783	<.001	.30667	.74630
	Post-COVID	-.145498	.099562	.432	-.38394	.09295
Post-COVID	Pre-COVID	.671979*	.079850	<.001	.48074	.86322
	COVID	.145498	.099562	.432	-.09295	.38394

*. The mean difference is significant at the 0.05 level.

Figure 4.12*Means Plots of Videos Uploaded by COVID Date Categorization****Engagement with Sponsorship Promotion Banners***

An independent *t*-test was performed between the factor of the presence of a sponsorship promotional banner and the engagement rate associated with that video. The influencer sets these promotional flags during the initial posting process. Of the 4,178 videos in the study, only 536 videos contained a sponsorship flag. All 536 of these videos were voluntarily flagged by the influencers, so the banners appeared at the beginning of the video in compliance with the FTC guidelines established in 2017 (Federal Trade Commission, n.d.). With a non-normal distribution of data, the Levene's test indicates a violation of the assumption of homogeneity of variances with a significance ($p < .001$). As the homogeneity is violated due to unequal variances and

sample sizes, the t -values for equal variances not assumed will be used to provide additional confidence in the statistical analysis. The t -test indicated the means are statistically significant, with a medium effect size demonstrated by Hedges' correlation due to the unequal sample sizes, indicating the absence of a sponsorship promotional banner has a strong positive relationship with a medium effect on the engagement rate ($p < .001$, $r^2 = .206$).

Table 4.28

Group Statistics of Sponsorship Flag

	Sponsor Flag Coding	N	Mean	Std. Deviation	Std. Error Mean
Engagement Rate	No	3642	4.84771	2.318501	.038418
	Yes	536	4.38322	1.798025	.077663

Table 4.29

Independent Samples Test of Sponsorship Flag

		Levene's Test for Equality of Variances		t-test for Equality of Means							
						Significance		Mean Difference	Std. Error Difference	95% CI of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p			Lower	Upper
Engagement Rate	Equal variances assumed	51.324	<.001	4.445	4176	<.001	<.001	.464484	.104486	.259636	.669332
	Equal variances not assumed			5.361	821.645	<.001	<.001	.464484	.086646	.294411	.634557

Table 4.30*Independent Samples Effect Sizes of Sponsorship Flag*

				95% Confidence	
				Interval	
		Standardizer ^a	Point Estimate	Lower	Upper
Engagement Rate	Cohen's d	2.258530	.206	.115	.296
	Hedges' correction	2.258936	.206	.115	.296
	Glass's delta	1.798025	.258	.166	.350

a. The denominator used in estimating the effect sizes.

Cohen's d uses the pooled standard deviation.

Hedges' correction uses the pooled standard deviation, plus a correction factor.

Glass's delta uses the sample standard deviation of the control group.

Engagement and Influencer Comments

To further analyze the effects on engagement rate due to an influencer's comments on each of their own videos, a Pearson's correlation was performed using a bivariate analysis. The results indicate there is no significant correlation between how often an influencer comments on their video and the engagement rate ($p = .414$).

Table 4.31*Descriptive Statistics of Engagement Rate by Influencer Comments*

	Mean	Std. Deviation	N
Comment Author is Influencer	33.35	85.365	4178
Engagement Rate	4.78812	2.263597	4178

Table 4.32*Correlations of Engagement Rate by Influencer Comments*

		Comment Author is Influencer	Engagement Rate
Comment Author is Influencer	Pearson Correlation	1	.013
	Sig. (2-tailed)		.414
	N	4178	4178
Engagement Rate	Pearson Correlation	.013	1
	Sig. (2-tailed)	.414	
	N	4178	4178

When exploring the outcomes based on specific influencer types, the results indicate there is also no significance in the relationship between an Informer commenting on their own videos and the engagement rate associated with that specific video ($p = .176$).

Table 4.33*Descriptive Statistics of Engagement Rate by Informer Comments*

	Mean	Std. Deviation	N
Comment Author is Informer	31.21	63.283	2871
Engagement Rate	5.04876	2.431521	2871

Table 4.34*Correlations of Engagement Rate by Informer Comments*

		Comment Author is Informer	Engagement Rate
Comment Author is Informer	Pearson Correlation	1	-.025
	Sig. (2-tailed)		.176
	N	2871	2871
Engagement Rate	Pearson Correlation	-.025	1
	Sig. (2-tailed)	.176	
	N	2871	2871

However, when analyzing the outcomes based on the influencer type for Infotainers, the results show that their comments on a video post have a significant relationship with the engagement rate with a medium effect which accounts for 9.8% of the effect ($p < .001$, $\eta^2 = .098$).

Table 4.35*Descriptive Statistics of Engagement Rate by Infotainer Comments*

	Mean	Std. Deviation	N
Comment Author is Infotainer	38.05	120.308	1307
Engagement Rate	4.21557	1.708152	1307

Table 4.36*Correlations of Engagement Rate by Infotainer Comments*

		Comment Author is Infotainer	Engagement Rate
Comment Author is Infotainer	Pearson Correlation	1	.099**
	Sig. (2-tailed)		<.001
	N	1307	1307
Engagement Rate	Pearson Correlation	.099**	1
	Sig. (2-tailed)	<.001	
	N	1307	1307

** . Correlation is significant at the 0.01 level (2-tailed).

Chapter 4 discussed the results from the analysis of the archival data set. The analysis was performed with IBM's SPSS statistical analysis software tool using multiple correlation tests to investigate the relationships between sponsorship disclosure categories and engagement rates for different influencer types. Results indicated a significant correlation with engagement rate for Impartial and Implied sponsorship disclosures, with a small effect size explained by the interaction of the variables studied, but an insignificant correlation for Explicit sponsorship disclosures. Therefore, we accepted hypotheses H_1 and H_2 , but failed to reject the H_3 hypothesis. Additional results were also explored concerning engagement rates during the COVID-19 pandemic, the effect of sponsorship promotion banners on engagement rates, and the impact influencer comments on their own videos have on the engagement rates.

Chapter 5: Discussion and Implications

The use of SM and influencers continues to grow at a rapid pace, while the primary measures for evaluating the effectiveness of these marketing channels are also shifting from tangible awareness metrics toward more conspicuous criteria such as engagement (Geyser, 2022; Moorman, 2021). The purpose of this study aligns with prior literature and research and aims to enhance understanding of the effect varying categories of sponsorship disclosures (Carr & Hayes, 2014; Hwang & Jeong, 2016; Liljander et al., 2015) have on engagement rates in a complex T&M industry and explore differences between influencer types (Gross & Wangenheim, 2018) as they pertain to SMI sponsorship disclosure classifications.

The study's results indicated a significant correlation with engagement rate for Impartial and Implied sponsorship disclosures with a small effect size explained by the interaction of the variables studied, but an insignificant correlation for Explicit sponsorship disclosures. Furthermore, additional insights were revealed for both business and academic implications, and logical next steps for future research are presented.

Findings

This study endeavored to answer the proposed question, which was: What are the effects of sponsorship disclosure on engagement rates for different Social Media Influencer types in the Test and Measurement industry? The question gave rise to three hypotheses that each explored the relationship between varying sponsorship disclosure categories and the resulting engagement rates for two types of influencers in the T&M industry.

H₁ Findings – Impartial Sponsorship Disclosure

H₁ studied the effect of Impartial sponsorship disclosures between the two influencer types. Based on prior research by Carr and Hayes (2014), the assumption was that there would be no significant difference relative to non-disclosure and, therefore, an insignificant effect on engagement rates between Informers and Infotainers. Analysis of the archival data set in SPSS revealed a significant correlation with engagement based on the interaction of influencer type and Impartial sponsorship disclosures, with a small effect size where the interaction of the variables explains 0.3% of the variance ($p < .001$, $\eta^2 = .003$). Therefore, we accepted the *H₁* hypothesis as the results are statistically significant and consistent with current research where the effect of Impartial sponsorship disclosure is small and only a portion of the possible sources impacting the engagement rates experienced by the influencers.

H₂ Findings – Implied Sponsorship Disclosure

H₂ was to study the effect of Implied sponsorship disclosures between both influencer types of Informers and Infotainers. Prior research showed that tacit divulgence creates cognitive dissonance, whereby the consumer is left with an impression of the influencer's bias through misleading or unclear disclosure forms (Carr & Hayes, 2014). Based upon this research, the assumption was made that Informers would experience a more significant effect on their engagement rates than Infotainers. Analysis of the interaction of influencer type and Implied sponsorship disclosure indicated a significant correlation with engagement rate, with a small to medium effect size as 3.6% of the variance in engagement rate is explained by the interaction of the variables ($p < .001$, $\eta^2 = .036$). The mean difference of 1.604 for Implied disclosures

between Informers and Infotainers further supports acceptance of the H_2 hypothesis that Informers experience a more significant effect on their engagement rates than Infotainers when using Implied sponsorship disclosures. Therefore, the H_2 hypothesis was accepted as the results are statistically significant and aligned with prior research, but with a small to medium effect size indicating that Implied sponsorship disclosure is merely one of the possible sources affecting engagement rates.

H₃ Findings – Explicit Sponsorship Disclosure

H_3 studied the effect of Explicit sponsorship disclosures between the two influencer types. The assumption was that Explicit disclosures would have less of an effect on Informers since prior literature indicated these Explicit disclosures increase an influencer's perceived credibility by reducing the audience's uncertainty regarding the influencer's quality and character (Carr & Hayes, 2014). Conversely, the assumption was that Infotainers would experience more of an effect on their engagement rates based on prior research, which revealed sponsorships disclosures that are noticed increase the recognition of advertising by a celebrity endorser and consequently generates distrust in the post (Boerman et al., 2017). The results of the analysis for influencer type and Explicit sponsorship disclosure indicated an insignificant relationship with engagement rate and no contribution to the variance in engagement rate explained by the interaction of the variables ($p = .228$, $\eta^2 = .000$). These insignificant results are not in alignment with the original hypothesis; therefore, we rejected the H_3 hypothesis.

Limitations

This study is limited in the following ways, and these findings should be interpreted with these limitations in mind, recognizing that the study would benefit from future additions to this research. First, the archival data set utilized for the study focused solely on influencers addressing the engineering audience within the T&M industry. Therefore, the findings may not be extrapolated beyond the audience and industry selected in this study.

Second, the archival data set used in the study relied on a range of product categories found within the T&M industry. The forms of sponsorship disclosure and engagement rates apply to this limited set of products. Further research would be needed on different product or service categories and other industries.

Third, the study's design was limited to the pre-defined categories for sponsorship disclosure found in the archival data set. While these classifications align with prior research in this area for multi-tiered forms of disclosure (Carr & Hayes, 2014; Hwang & Jeong, 2016), these cannot be extrapolated to additional degrees of disclosure.

Fourth, the study focused on engagement rates from a specific SM platform. The archival data set included only YouTube video postings by SMIs. Therefore, the findings may not be extrapolated to other SM platforms utilized in the T&M industry, such as LinkedIn, Facebook, Twitter, or Instagram.

Implications

The aim of this study was to bridge the gap in literature and further the understanding of the effect varying forms of sponsorship disclosures have on

engagement rates for different influencer types in a complex T&M industry. This study is one of the first to utilize archival data from actual customer engagements, to explore the interaction of these variables. This distinction provides insights on alignment of SMI types with specific disclosures, which may influence academic research, enable business marketers to more efficiently increase audience engagement with a brand, and provide influencers with new approaches to structuring contracts or postings.

Academic

Despite the rapid adoption of SM by businesses and customers, research surrounding influencer marketing has primarily focused on direct-to-consumer low-cost transactional purchases. Tiwary et al. (2021) also concluded that no study has fully explored SM utilization or adoption in a B2B context. This study provides preliminary research on sponsorship disclosure categories for different influencer types and how they impact the engagement rates of their followers. While this study is not generalizable due to its limitations, it does further academic understanding of influencer marketing.

Building upon trust transfer theory, SMI credibility is constructed on the trust established through information exchanges and self-disclosure (Leite & Baptista, 2021; Stewart, 2003). The characteristics of credibility embodied by an SMI include attributes of attractiveness, authenticity, and relatability which help the influencer to build deeper psychological bonds and establish longer-term relationships with their audiences (Lou & Yuan, 2019; Tafesse & Wood, 2021). The current study adds additional insights regarding the effect varying forms of sponsorship disclosure cues (Carr & Hayes, 2014; Hwang & Jeong, 2016; Liljander et al., 2015) have on engagement rates using archival

data from the T&M industry. These SM engagements are a manifestation of the audience's behavioral intentions, which capture the extent to which followers constructively interact with and are favorably persuaded by the SMI (Tafesse & Wood, 2021). Further academic research on these forward-looking engagement metrics, which observe the audience's emotional state and indicate the audience's expression of different emotions and feelings, will be beneficial (Gross, 2021; Liu et al., 2018).

The study also revealed other areas that could benefit future research. The COVID-19 pandemic impacted marketing budgets for social media influencer campaigns and the target audience of engineers who rapidly transitioned into remote working environments, facilitating remote learning. The additional findings revealed an increase in the number of influencer postings during the pandemic. The corresponding engagement rates during the lockdown periods increased significantly and have remained elevated throughout the recent post-pandemic timeframe. Additional research regarding the impact of the pandemic and its long-term effects on SM engagement rates could be beneficial. This study has room for expansion within influencer marketing and applicability to other industries to better understand the effect of sponsorship disclosures and their impacts on businesses and influencers.

Business

The increasing use of SM and influencers by businesses attempting to connect with their customers and build a predisposition to purchase from their brand continues to accelerate. Influencer marketing has grown from only \$1.7 billion in 2016 to \$9.7 billion in 2020, with projections to exceed \$15 billion in 2022 (Santora, 2022). Marketers in the U.S. have indicated that 38% of them have placed influencer marketing at the top

of their 2021 marketing efforts, and it remains in the top three tactics, along with account-based marketing and video marketing (Guttmann, 2021). As marketers seek to continue utilizing SMIs, this study revealed that it is worthwhile to consider the implications of contract arrangements and the obligations they may inadvertently place on an influencer to change their sponsorship disclosure approach in order to remain transparent and compliant while maintaining their perceived credibility.

Jiménez-Castillo and Sánchez-Fernández (2019) demonstrated that SMIs influence the behavior of their followers, affecting their perceptions, evaluations, and purchase intentions. To measure the effectiveness of these SMI tactics, engagement is used by 39% of business marketers (Geyser, 2022). Businesses are focusing on customer engagement since the power of SM platforms lends themselves to these downstream metrics (Hanna et al., 2011). This study shows a significant relationship between the interaction of influencer types and their sponsorship disclosure cues with their effect on engagement rates. However, additional findings also revealed that engagement rates rapidly rose during the COVID-19 pandemic and continued to rise through 2022. This insight reinforces the relevance of customer engagement metrics as marketers continue to evaluate individual influencer approaches and effectiveness. Marketers can potentially align SMI types used in conjunction with disclosure strategies to efficiently increase audience engagement with a brand.

Influencer

Careful management of their social media presence enables SMIs to acquire followers and strengthen their relationships with their audience to add value to the brands they represent (Belanche et al., 2020; De Veirman et al., 2017; Lou & Yuan,

2019; Schouten et al., 2020). Compensation for this representation typically comes in the form of material or financial means (De Veirman & Hudders, 2020). In the United States, the FTC legally requires disclosure of this sponsorship disclosure with a public declaration that content has been paid for through direct or indirect exchange of money, service, or other valuable consideration (Boerman et al., 2017; Hwang & Jeong, 2016; Stubb et al., 2019). Liljander et al. (2015) demonstrated that the form of these disclosure cues affects an audience's behavioral intentions and their perceptions of the influencer's credibility, which in turn, impacts their ability to acquire new followers and maintain those relationships.

This study shows a significant relationship exists due to the interaction of influencer type and Impartial or Implied sponsorship disclosures. In contrast, the interaction of influencer type and Explicit disclosure demonstrated no significant correlation and no contribution to the variance in engagement rates. In this case, Informers and Infotainers can responsibly disclose the terms of their relationships with a brand, or lack thereof, without significant concern of negatively impacting their goals for attracting and maintaining their audiences.

However, the additional findings from the study did reveal that the absence of a promotional banner has a significant positive relationship with a small effect on the engagement rate. These promotional banners are set up by the influencer when posting sponsored content to assist with the transparency of promotional content for their audiences. Influencers may want to use these insights to potentially structure their relationships and contracts with firms in such a way as to provide greater flexibility and

minimize the need to utilize a promotional flag while remaining compliant with the expectations outlined in the FTC guidelines.

Future Research

Social media adoption and access to information continue to accelerate worldwide, thanks to the increased density of connected devices (Agnihotri et al., 2016). As a result, audiences are consuming digital content at an increasing rate, and they use SM as a substantial source of information on products and services (Wielki, 2020). This is further confirmed by the latest CMO Survey, which reports that SM spending will likely increase by 53.6% in the coming five years, placing greater attention on this topic for many CMOs (Moorman, 2021).

The study of SM has primarily centered around B2C communications, with B2B marketers following in their footsteps to determine which strategies translate into their marketing environment. Tiwary et al. (2021) concluded that in a B2B context, no study has fully explored SM utilization or adoption, and this topic would benefit from additional research. This study intended to test the interaction of varying sponsorship disclosure categories by different influencer types to better understand their effects on engagement rates in a B2B setting. While limited in scope and focused on the engineering audience within the T&M industry, it offers a baseline and approach for future research into different industries or focus areas.

Future research regarding sponsorship disclosures in other industries highlighting credibility concerns may be beneficial. Industries and segments such as healthcare, politics, and financial markets may reveal different results and additional insights. The topic of misinformation on social media during the COVID-19 pandemic

garnered substantial coverage over the past several years (Niemieć, 2020), and would be an interesting topic for future research related to this approach in the healthcare segment. Notably, the current study's additional findings revealed significant differences and increased engagement rates during and after the pandemic. These industries and segments may also include a broader array of influencer types, including Entertainers and Snoopers, which would shed light on the impact of sponsorship disclosures on their engagement rates.

This research focused primarily on English-speaking audiences in North America who consume engineering content from SMIs around the world. Therefore, these results may not be generalizable to other cultures and the broader global audience. A comparative, cross-cultural study, perhaps using Hofstede's (2001) cultural dimensions, could provide an interesting analysis for future research. However, a coherent global analysis may be limited in scope due to varying customer acceptance and government restrictions for specific SM platforms.

YouTube was the SM platform utilized in this study as it is the primary SM platform for engineers seeking information on the latest engineering technologies and trends (GlobalSpec & TREWMarketing, 2022). This audience utilizes additional SM platforms to a lesser extent, such as Instagram, Twitter, Facebook, and LinkedIn. Future research of these platforms regarding the effect of influencer types and sponsorship disclosures on engagement rates may reveal interesting insights on the variation based on each of the SM platforms.

Further research concerning the size of an influencer's subscriber base in relation to the impact of disclosure cues on engagement rates could also be another

area worthy of exploration. For example, SMIs are often categorized based on their potential reach, where mega-influencers typically have a broad reach with over 1,000,000 followers, while macro-influencers and micro-influencers are often more targeted, with only up to 1,000,000 or 100,000 followers, respectively (Gross, 2021). The study of SMIs categorized by follower counts has been previously explored in regard to credibility and trustworthiness (Ehlers, 2021; Ohanian, 1990; Schouten et al., 2020), but extending the current research using audience reach and the impact on engagement rates could provide a new perspective for marketers on the use of differing levels of influencers.

Additional findings from this study revealed that the absence of sponsorship promotional banners set by the influencer for brief display at the beginning of a YouTube video had a strong positive relationship and medium effect on the engagement rates. This may lead to more SMIs structuring contracts and agreements to enable them to meet the voluntary compliance with the FTC guidelines without concern for declining engagement rates. Boerman et al. (2017) discovered an important yet unanticipated finding in their study, revealing that 56% of all participants exposed to a disclosure did not recognize the disclosure. Conversely, without the presence of a clear non-sponsorship disclosure, consumers may recognize the posted content as advertising, which may result in mistrust and negative results for both the influencer and the brand (De Veirman & Hudders, 2020). Future research could connect disclosure recognition and varying sponsorship disclosure categories with the current research on influencer types and their effect on engagement rates. Detailed testing of various wording and disclosure noticeability techniques to measure the effect on engagement rates could

provide helpful insights for marketers and influencers as they carefully navigate compliance and engagement.

Conclusion

Influencer marketing continues to be a key element for marketers connecting audiences with their brands. Various influencer types have been documented to further segment SMIs, which is particularly helpful for marketing professionals trying to efficiently and effectively select the right influencers to address their specific needs. The credibility of these influencers is built upon the trust transfer theory, where trust is established through information exchanges and self-disclosure. However, sponsorship disclosure cues can affect the audience's behavioral intentions and change the perception of the influencer's credibility.

This study provides a baseline for further understanding of the effect varying forms of sponsorship disclosures have on engagement rates for different influencer types in a complex T&M industry. The study found a significant correlation with engagement rate for Impartial and Implied sponsorship disclosures but an insignificant correlation for Explicit sponsorship disclosures. Additionally, the study found that engagement rates increased during the COVID-19 pandemic and continued to increase as audiences moved toward online interactions. Furthermore, the absence of sponsorship promotional banners positively correlates with engagement, encouraging SMIs to structure contracts and agreements accordingly to encourage voluntary compliance with the FTC guidelines. This research aims to bridge the gap in the literature and improve the alignment of SMI types with specific disclosures to enable marketers to more efficiently increase audience engagement with a brand.

Social media and influencer marketing is a rapidly growing and ever-evolving approach for marketers to reach their target customers. Platforms, regulations, and customer needs are constantly changing. As a result, the early literature on these topics may become less relevant to today's environment. However, this study benefits from connecting new SMI classifications with traditional trust transfer theory to create new insights into SM effectiveness which is currently shifting to tangible metrics surrounding audience engagement. Marketing investments in influencer marketing continue to rise, but it is essential to continue developing a better understanding of how to effectively utilize those resources to grow the company's top line.

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