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Factors Increasing Consumer Engagement of Branded Content in Instagram

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ABSTRACT Companies use social media to foster ongoing relationships with customers. One specific way companies do this is by fostering brand communities through fan pages on social networking sites. These virtual platforms allow consumers to become brand advocates. It also allows brands to generate and increase direct engagement with consumers, which is a key metric to assess brand performance. However, little is known about how different post criteria influences distinct levels of social media engagement. To explore this further, we developed a model to analyze the impact of 31 structural, semantic, and morphological content factors over consumer engagement, measured by the number of likes and comments on 680 brand posts from 14 Instagram fan pages across ten sectors. The results revealed a solid model, with an explanatory power of 73.1% (R2) for likes and 47.5% (R2) for comments. The results also established how content factors influenced different engagement levels; i.e. videos with sound, carousel posts with multiple photos, and posts with hashtags achieved higher engagement levels in terms of likes. Contrarily, graphics, interactive content that involved voting, contests, and questions reached higher engagement with regard to comments. We contribute to academic and practical research this new model to study and implement social media solutions that improve customer engagement as part of an organizations' marketing and branding strategies. The limitations of this paper relate to the size of the sample and the scope of the reviewed literature.

INDEX TERMS Consumer engagement, consumer relationship management, Instagram, relationship marketing, social networking sites.

I. INTRODUCTION

There are 5.6 billion internet users worldwide [1] and 4.3 billion are connected to social media, which is approximately 54.9% of the global population [2]. A total of 47% of users follow their favorite brands on social networking sites (SNS) [3]. This percentage is higher when countries are analyzed separately. For example, in Spain, 48% of internet users follow brands on SNS [4]. Internet has reconfigured the human socialization processes and empowered consumers in brand relationships [5], [6]. In this context, there is a greater number of consumers connected with brands on social media. This is attractive for companies who identify social media's potential to foster relationships with consumers and further build brand awareness. One specific way to address this challenge is to use social media strategies. One such strategy is to group consumers in virtual communities (VBCs) through brand pages [7] where consumers can interact with a company by liking or commenting on the brand's posts [8], [9], thereby increasing engagement [10]– [13]. Thus, the term ''engagement'' is growing in relevance with implications for academics and practitioners as a key factor for creating and maintaining intensive relationships between organizations and consumers.

The study of consumer engagement (CE) and its effects on consumers and organizations is a growing topic of investigation in marketing and academics, which has led the Marketing Science Institute to reinstate CE as a key research priority for the period 2020-2022 [14]. However, the CE literature is limited in several ways that might be explained as follows:

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a) Much of the earlier research was largely conceptual [15]–[18].
b) Few empirical studies have considered the empirical evidence of the CE construct in the context of brand fan pages [7], [19], [20] which are new and crucial social media phenomena to investigate over this term.
c) Most empirical works provided little insights as to which brand-generated content factors drives CE. This is because authors mainly analyzed structural characteristics or hard criteria of branded posts, such as vividness, interactivity, message type, post timing, message length and context to predict the level of CE that brand content may achieve.
d) The knowledge about CE in different industries is also limited because most of the studies focused on a singular sector [21], [22].
e) The understanding of CE across different social networks is also limited, as preliminary research is limited to either Facebook or Twitter [23], [24] or specific post formats from these two networks exclusively [20]. But little is known about CE on Instagram, which is the leading social network in engagement rate globally.

In response to these research gaps, this work contributes to the field by bridging the knowledge gap concerning social media engagement with practical and empirical evidence. First, we draw on the engagement and social media literature examining the influence of content factors over CE within 14 brand fan pages on Instagram and distributed across different 10 product categories to provide a deeper understanding of CE in SNS. In this sense, we seek to answer the research question of which characteristics of branded content create value for consumers to foster their engagement levels through their interactions with the brand's posts. This question is important because it is a crucial part of the company's social media marketing (SMM) strategy. Second, we study CE behavior on Instagram by analyzing new specific content formats of this social network, based on the content gratification segments of the U&G theory, including graphic, gif, photography with filter, carousel, and video with and without sound. Third, we examine the most current and novel qualitative and semantic characteristics of brand posts not studied previously; e.g., hashtags (#) and user mentions (@). Fourth, we contribute to the social media literature by analyzing the engagement effect of new morphological posts characteristics such as the type of camera angle used in brand post based on the Parasocial Interaction (PSI) theory applied to social networks. Finally, we respond to SMM practice and analyze the influence of community size on consumers' engagement with a brand's post.

The remainder of the paper is structured as follows. In Section II, we describe the theoretical foundations and antecedents of CE term. In Section III, we clarify the underlying theories and our research model. This is followed by Section IV where we explain the methodology to test our research hypotheses. In Section V, we present our results, while in Section VI, recent findings are discussed providing new insights with managerial value. Finally, in Section VII we outline our main conclusions with theoretical contributions and practical implications.

II. PRIOR WORK

A. THEORETICAL FOUNDATIONS OF CONSUMER ENGAGEMENT

The theoretical roots of CE lie within the relationship marketing domain [25], [26]. In the late 1990s and the early 2000s, CE management evolved from a transactional perspective into relationship marketing [27], [28]. This perspective considers the importance of establishing, maintaining, and enduring, value-laden interactive customer relationships [27], [29] and creating exchanges through a co-creation process [30], [31]. These ''interactive consumer experiences'' co-created with other actors can be interpreted as the act of ''engaging'' [32]. Similarly, Vivek *et al.* posited CE ''centers on specific interactive consumer experiences'' [25].

Contemporary marketing has changed. Both marketing practitioners and scholars are not only interested in its increased benefits, but also the focus on establishing strong relationships with consumers beyond the simple one-time purchase as was the case through the previously-mentioned relationship marketing and mindful marketing (MM). This last approach is based on optimally fulfilling consumers through ''relational solutions'' and marketing functions that ''fully tune in to their interests and avoid wasteful and unethical consequences as happened with previous marketing approaches'' [33]. In addition, Van Doorn *et al.* defined CE as ''customers' behavioral manifestations that have a brand or firm focus, beyond purchase, resulting from motivational drivers.'' Authors included as motivational drives examples word-of-mouth activity, customer-to-customer (C2C) interactions and/or blogging activity [15]. Consequently, marketing goals have evolved and now try to engage customers in all possible ways. This fact increased the research interest in CE among marketing academia and practitioners. As research addressing CE among marketing academia and practitioners has increased, this issue is still scarce. This paper aims to provide insights into firm's processes, whereby brand managers can improve CE in light of the importance of establishing interactive customer relationships.

B. CONSUMER ENGAGEMENT CONCEPTUALIZATIONS IN SOCIAL SCIENCE, MANAGEMENT AND PRACTITIONER LITERATURE

In the last two decades, consumer/customer engagement (CE) has been the focus of a significant amount of research within the academic marketing and service literature. The most comprehensive definitions of CE acknowledges it as a multidimensional concept [34]–[36]. For example, Hollebeek, Mollen, and Wilson suggested CE extend beyond involvement in that it encompasses a proactive, interactive customer relationship with a specific engagement object

(e.g., a brand) [35], [36]. Hollebeek conceptualized ''customer brand engagement (CBE)'' to define ''the level of a customer's motivational, brand-related, and context-dependent state of mind characterized by specific levels of cognitive, emotional, and behavioral activity in brand interactions'' [35]. We draw on the behavioral dimension of the engagement construct since present work addresses interactive and consumer experience with brands in Instagram brand pages, in a business relationships context.

Most authors concluded CE transcends beyond the mere cognition and, ''unlike involvement, requires the satisfying of experiential value, as well as instrumental value''. Concurring with this distinction, most empirical works defined CE as a motivational or psychological state that drives voluntary interactions of consumers with brand that go beyond the core transaction [15], [17], [37].

Further, in the research addressing specific business-to-consumer (B2C) relationships, ''the terms ''engage'' and/or ''engagement'' are also linked to customer and/or brand experience, emotion, creativity, collaboration, learning, and/or (brand) community interactions'' [37]. This change will be significantly accentuated with the advent of SNS and the development of virtual communities that enable companies to transform passive observers into active participants with brands. In this context, consumers often achieve the companies' marketing goals through their own interactions with others [38], [39]. This led to the rise of the CBE term to refers to the process that evolves with intensity based on the ability of the brand to intercept the desires and expectations of its consumers [40]. In addition, other authors postulated that CBE represents brand performance [41], [42] and associated outcomes such as brand referrals, sales growth, customer co-creation, and profitability [38], [43].

This study builds on the significant body of work on CE [19], [25], [37] and CBE [40], [41] to investigate consumer behavior in the recent brand fan pages within SNS. In this environment, the community members or brand followers interact with firms through the brand's posts. Accordingly, academics posited consumers' engagement with brand content is an essential metric to assess the performance of brands' social media activities such as satisfaction [7] and brand usage [44]. It also provides a consistent competitive advantage [19], [45]. Therefore, this study examines the consumers' engagement with brand posts by providing a model that explains the factors that enhance CE on brand fan pages.

C. CONSUMER ENGAGEMENT IN VIRTUAL BRAND COMMUNITIES

Since brand fan pages are organized around a single brand, product, or company, they represent a special kind of virtual brand community [46]. Therefore, the research on brand communities within the marketing area has increased in over last two decades [8], [9], [47], [48].

On the one hand, Muniz and O'Guinn defined a brand community as a: ''specialized, non-geographically bound community, based on a structured set of social relationships among admires of a brand'' [9]. On the other hand, De Valck *et al.* explained a virtual brand community as ''a specialized, non-geographically bound, online community, based on social communications and relationships among a brand's consumers'' [48].

Although brand fan pages on SNS and traditional online brand communities are sometimes used interchangeably, there are important differences between them. For instance, brand fan pages differ from brand communities in that they grew organically and are not a brand-related network. Thus, members of a brand fan page are also connected within the social network site to so-called ''followers'' or ''friends'' but might be not in-person brand ''fans'' nor real offline connections [49]. Further, in a classical brand community, the brand is the center of the community, and this is ''based on a structured set of social relationships among admires of a brand'' [9]. In contrast, a brand fan page is supposed to be primarily a communication and interaction channel between the consumer and the brand. Thus, fan-page engagement motivations might differ from traditional brand communities [46].

We found empirical research studies that considered brand fan pages in a branding context. For example, De Vries *et al.* and Sabate *et al.* addressed how brand factors on Facebook and Twitter fan page might affect branded content popularity [50], [51] and Cvijikj and Michahelles examined CE with brand posts [52]. The findings support the idea that the branded content is the instrument that stimulates interactions. As such, content characteristics may influence content popularity and CE. Thus, the brand publication activity within the fan pages is useful for deepening CE in terms of relationship with the brand. However, it is still not clear what is happening inside the brand pages of recent networks like Instagram. We have limited knowledge regarding the crucial constructs for managing these brand's communities and improving CE within SNS.

In today's Internet environment, there is a growing number of consumers participating actively with brands in SNS and being involved in the creation of virtual communities. These communities offer the opportunity to develop meaningful emotional bonds with brands by providing a place for consumers to establish relationships with them. This social interaction creates a multitude of useful data for each company's marketing goals. Therefore, we introduce in the next section the theoretical background and our conceptual model to investigate the motivational drivers of consumers' engagement on a brand fan page.

III. CURRENT WORK

A. THEORETICAL BACKGROUND

We propose that the factors that drive consumers' engagement with brands on SNS are contingent on their gratifications with brand generated content. As a novel approach, we studied social media audience behavior based on two media theories: Uses and Gratifications (U&G) theory and Parasocial Interaction (PSI) theory.

First, we drew on the U&G theory, a socio-psychological approach to understanding people's motivations to actively seek and use specific media to satisfy specific needs [53], [54]. The U&G perspective has been applied to understand how and why audiences engage with a wide spectrum of mass media forms such as the gratification of listening to radio programs [55], the motivations of reading newspapers [56], the viewing patterns on television [57], or the reading of electronic bulletins [58]. More recently, authors have found U&G theory to be a suitable frame to develop their studies on the Internet media in general [59], social media [60], [61], and online brand virtual communities [62].

The underlying assumption of U&G is people are actively involved in media usage. This makes the theory approach especially appropriate for this research on social media since these channels enhance consumer interaction [60]. In terms of mass media gratification, [63] conceptualizes two main categories: content gratifications and mean gratification. While in the first one, the individual obtains the gratification from the message value, the second one varies in that the individual gains that gratification by participating in the communicational experience within media.

We draw this study on the content gratification perspective examining the active user behaviors and the content factors that motivate and engage people to interact with different forms of brand content on Instagram brand pages.

Additionally, early media research revealed audiences seek and find different gratifications within content, affecting its consumption. For instance, entertainment and information gratifications, derived through television content, increases with television viewing levels [64]. In social media, a brand's overt goal is to attract an audience by providing value, or gratification, through its content [65]. Based on these theoretical underpinnings of U&G, recent research has identified key consumer motivations for engagement with brand content in social media. These include the need for social interaction, the need for entertainment, information seeking and sharing needs, and the desire for reward or remuneration [18]. Other motivations are gaining a sense of belonging by connecting with friends, family, and society and pursuing entertainment or information by interacting with a brand [10], [18], [66].

In summary, social interaction, social identity and information and entertainment seeking are motivations commonly addressed in both general social media and consumers' online brand-related motivations literature. In the context of fan pages, the audience interacts with the brand content and may add value by sharing their thoughts with others. Within Instagram, the interaction with the branded content or posts can be achieved by liking, sharing, or commenting. Each of these interactions represent the CE with the branded post. Thus, we used the U&G theoretical framework to develop a conceptual model to test the research hypotheses about the possible impact of novel categories of the branded content that may act as motivations on CE in social media. We posit the possible impact of different levels of content vividness (e.g., graphic, gif, photo, carousel, video, etc.), verbal interactivity (e.g., sweepstakes, voting, contests, etc.) and entertaining versus informational content value over consumers' motivations to participate with brand. This classification of content characteristics is based on established norms in social media literature [50], [52].

On the second hand, we based on the PSI theory [67] to understand image influence on consumers' engagement and can analyze new content variables that have not been examined previously in the virtual brand communities' research. This theory explains how people interact with traditional media such as television, where several resources are used to intensify perceived interactivity, including the use of subjective camera angle and the fixation of visual and verbal directions toward viewers [68]. Within different mass media contexts, previous studies revealed that the audiovisual techniques helped the audience feel as if they were being approached directly, which intensified feelings of PSI [56], [69] and viewer's interactivity perception with the mediated person [64], [70], [71]. We originally adopted this theoretical background from a traditional media context to the new context of social media to help scholars and practitioners to find out the potential impact of perceived interactivity expressed by different camera angles of branded content over CE (i.e., subjective and front camera angle) on brand fan pages.

B. CONCEPTUAL MODEL

We draw on the aforementioned theories to outline a series of hypotheses about the potential impact of vividness, verbal interactivity, perceived interactivity, and entertaining and informational value of branded content on CE, adding brand sector, timing and message length as control variables. The model and hypotheses are discussed and implications for both research and practice are outlined.

1) VIVIDNESS RICHNESS

Within the digital marketing and advertising fields, there is a consensus among researchers about different level of media richness, also known as media vividness, that can impact CE [50]–[52], [72]. The vividness of the content, in the field of online adverting, was defined as characteristics aimed at stimulating different senses of the audience, such as images, dynamic animations or color contrasts [73], [74]. Furthermore, content formats have differently vividness degrees [50], [52]. Hence, formats that could stimulate more than one sense have a high vividness degree, such as video and carousel posts. There is a consensus among authors who studied online engagement that video content has the highest degree of richness, because it provides a large amount of information that helps reduce uncertainty and equivocality to recipients [72]. Video also provides a greater social presence, which is defined as the amount of visual, acoustic, or physical contact that the medium allows [75].

However, previous research on drivers of social media engagement was limited either to one platform (e.g., Facebook and Twitter) or restricted range of content

formats such as video and photo mainly. In this study, we broaden our knowledge of the different ways and formats in which social media content can be delivered to brand followers. To address this, we examined the latest Instagram-specific formats that may stimulate different senses of consumers, including carousel (multiple photos and videos with sound), gifs (animation without sound), graphics, and filter photography. In addition, based on established norms in the literature, we categorized these formats by the extent to which a brand post stimulates the different senses in three interactivity degrees (low, medium, and high) which may enhance CE [50], [52]. As a novelty, we included new specific Instagram content types, compared to previous studies, and classify them as follows: i) photography, gif and graphic images as low vividness factors because they only stimulated the sight sense; ii) video without sound or contents that communicated an offline event were classified as a medium vividness degree since they do not stimulate the hearing sense; and iii) carousel and video with sound as a high vividness degree as these stimulate sight and hearing senses (see Table 1). We propose that if the brand content on Instagram provides a higher level of vividness the motivations for CE will be met. Thus, we hypothesize the following:

H1a. Higher levels of vividness in a brand post would result in more likes.

H1b. Higher levels of vividness in a brand post would result in more comments.

2) VERBAL INTERACTIVITY

Another way of increasing CE with branded content is interactivity, proactively expressed in the content itself. Liu and Shrum defined interactivity as "the degree to which two or more communication parties can act on each other, on the communication medium, and on the messages and the degree to which such influences are synchronized" [76]. Customers with high interaction motivations are more likely to engage in human-to-human conversation whether in an offline or online context. This interaction includes behaviors such as providing comments, feedback, personal information and participating in online discussion [77]. This interactivity in social networks allows the community to become participants and protagonists of the brand interaction. Notwithstanding, previous studies on social media engagement have provided little insights into the important role of different content traits that may increase proactively brand followers' interactions on social media. For example, De Vries *et al.* explored the influence of brand post interactive characteristics over engagement, including links, voting, call to act, contest, question, and quiz [50]. In this line, Muntinga *et al.* found out that remuneration through sweepstakes and contests was an important motivation for consumers' engagement. Based on this reasoning, we included the study of the impact of voting and contest formats on engagement behavior [78].

The present work also innovates by exploring the influence of current features embedded into messaging that are used by brands to drive engagement by facilitating content diffusion and reaching a broad audience in the social media landscape. First, we analyze the effect of hashtags (e.g., #LoveSeries), that are designated to increase visibility and interactivity with consumers and are created by placing a (#) symbol in front of a word or phrase. Furthermore, "it is used to index expressions into a searchable link, helping organize content and track discussions based on keywords" [79]. Second, we examine the influence of consumer mentions (e.g., @ PaulaGonu), that are applied by brand managers to directly appeal and ask questions to brand followers by including their users in the content and allowing them to easily join the conversation [79].

Moreover, according to Cvijikj and Michahelles and De Vries *et al.*, we consider that content factors are indexed differently based on the interactivity degree [50], [52]. For this reason, we also classify the interactivity features of the brand message in different degrees, i.e., low, medium, and high (see Table 1) and formulate the following hypotheses:

H2a. Higher levels of verbal interactivity in a brand post would result in more likes.

H2b. Higher levels of verbal interactivity in a brand post would result in more comments.

3) PERCEIVED INTERACTIVITY

We used on the principles of the PSI theory to examine CE with branded content on brand fan pages. This theory was applied to social media research by Labrecque who explained the impact of Parasocial Interaction feelings on the perceived interactivity of the consumers and their openness in communication with the brand [80]. Hence, this perceived interactivity of brand content, in conjunction with 24-h access of the Internet, makes SNS even richer channels for building and strengthening consumer-brand relationships and the most influential outlets for online branding [81]. However, previous research on CE on social media underestimated the important of these morphological characteristics of brand content on consumers' participation. Consequently, we used these theoretical lenses and analyzed the influence of the front and subjective camera angle on CE and proposed the following hypotheses:

H3a. More perceived interactivity in a brand post would result in more likes.

H3b. More perceived interactivity in a brand post would result in more comments.

4) INFORMATIONAL AND ENTERTAINING CONTENT

Previous applications of U&G theory over brand communities and social media revealed that consuming entertaining and informative content are important motivations for brand followers to use social media and participate with brand [82], [83]. Information seeking is driven by the utilitarian goal to acquire relevant information to the purchase decision and consumption experience, whereas entertainment seeking refers to a hedonic motivation of fun, playfulness,

TABLE 1. Variables definitions.

Id	Type of variable	Level	Variable	Codification
			Independent and control variables	
1	Vividness	Low	Photo	Nominal-dichotomic. 0: "no photo" and 1: "1 or more photos"
2	Vividness	Low	Graphic	Nominal-dichotomic. 0: "no graphic" and 1: "1 or more graphics"
3	Vividness	Low	Gif	Nominal-dichotomic. 0: "no gif" and 1: "1 or more gifs"
4	Vividness	Low	Edited photo	Nominal-dichotomic. 0: "no edited photo" and 1: "1 or more edited photos"
5	Vividness	Medium	Video	Nominal-dichotomic. 0: "no video without sound" and 1: "1 or more videos without sound"
6	Vividness	Medium	Event	Nominal-dichotomic. 0: "no event" and 1: "1 or more events"
7	Vividness	High	Carousel	Nominal-dichotomic. 0: "no carousel" and 1: "1 or more carousel"
8	Vividness	High	Video with sound	Nominal-dichotomic. 0: "no video with sound" and 1: "1 or more videos with sound"
9	Verbal interactivity	Low	Voting	Nominal-dichotomic. 0: "no voting" and 1: "1 or more "voting"
10	Verbal interactivity	Medium	Hashtag	Nominal-dichotomic. 0: "no hashtag" and 1: "1 or more hashtags"
11	Verbal interactivity	Medium	Contest	Nominal-dichotomic. 0: "no contest" and 1: "1 or more contests"
12	Verbal interactivity	Medium	Call to act	Nominal-dichotomic. 0: "no call to act message" and 1: "1 or more call to act messages"
13	Verbal interactivity	High	Mention	Nominal-dichotomic. 0: "no mention" and 1: "1 or more mentions"
14	Verbal interactivity	High	Question	Nominal-dichotomic. 0: "no question" and 1: "1 or more questions"
15	Perceived Interactivity	-	Subjective camera	Nominal-dichotomic. 0: "no subjective camera angle" and 1: otherwise
16	Perceived Interactivity	-	Front camera	Nominal-dichotomic. 0: "no subjective camera angle" and 1: otherwise
17	Content type	-	Information	Nominal-dichotomic. 0: "no informational" brand post and 1: otherwise
18	Content type	-	Entertainment	Nominal-dichotomic. 0: "no entertaining" brand post and 1: otherwise
19	Publication schedule	-	Time of the post	Nominal-dichotomic. 0: "non-business hours" (0:00–8:59, 14:00–16:00 and 18:00–23:59 on Monday to Friday; Saturday and Sunday at all hours); 1: "business hours" (9:00–14:00 and 16:00–18:00 on Monday to Friday)
20	Publication schedule	-	Day of post	Nominal-dichotomic. 0: "weekend" (Friday at 18:00 - Sunday at 23:59); 1: "weekday" (the remaining time)
21	Post length	-	Nº of characters	Numerical ≥ 0. Nº of characters on brand post.
22	Brand sector	-	Financial	Nominal-dichotomic. 0: Brand does not belong to "financial sector" and 1: otherwise
23	Brand sector	-	Retail	Nominal-dichotomic. 0: Brand does not belong to "retail sector" and 1: otherwise
24	Brand sector	-	Travel	Nominal-dichotomic. 0: Brand does not belong to "travel sector" and 1: otherwise
25	Brand sector	-	Cosmetics	Nominal-dichotomic. 0: Brand does not belong to "cosmetics sector" and 1: otherwise
26	Brand sector	-	Gambling	Nominal-dichotomic. 0: Brand does not belong to "gambling sector" and 1: otherwise
27	Brand sector	-	Telecoms	Nominal-dichotomic. 0: Brand does not belong to "telecommunications sector" and 1: otherwise
28	Brand sector	-	Technological	Nominal-dichotomic. 0: Brand does not belong to "technological sector" and 1: otherwise

TABLE 1. ***(Continued.)*** **Variables definitions.**

Id	Type of variable	Level	Variable	Codification
29	Brand sector	-	Automotive	Nominal-dichotomic. 0: Brand does not belong to "automotive sector" and 1: otherwise
30	Brand sector	-	Energy	Nominal-dichotomic. 0: Brand does not belong to "energy sector" and 1: otherwise
31	Brand sector	-	Government	Nominal-dichotomic. 0: Brand does not belong to "government sector" and 1: otherwise
			Dependent variables	
1	Likes	-	Likes rate	Numerical ≥ 0. Nº of likes that the brand post received divided by number of followers. It has been transformed using Ln to better fit a normal distribution and improve the explanatory power of the model.
2	Comments	-	Comments rate	Numerical ≥ 0. Nº of comments that the brand post received divided by number of followers. It has been transformed using Ln to better fit a normal distribution and improve the explanatory power of the model.
3	Followers	-	Number	Numerical ≥ 0. Nº of brand followers in Instagram CVB. It has been transformed using Ln to better fit a normal distribution and improve the explanatory power of the model.

and enjoyment [10]. Other studies have defined informative content as publications that contain data about the brand or specific products and services of a company [84]. Informational content has been also termed as rational content since this provides functional and educational values [20]. Empirical studies revealed that the influence of informative value of social media content on CE is mixed. Results by Dolan *et al.*supported the idea that consumer informational goals cause higher levels of engagement [82]. Conversely, in social media, it was found that providing information did not increase CE [50]. Hence, we hypothesize the following:

H4a. Informative brand posts would obtain more likes than noninformative brand posts.

H4b. Informative brand posts would obtain more comments than noninformative brand posts.

Another important value in online brand pages is entertaining its members [55] because it leads people to consume, create and contribute brand-related content online [78]. To identify entertaining content we based on Cvijikj and Michahelles, we considered posts that did not refer to a brand and/or a particular product, such as messages that were written in a form of joke, slogan or play on word [52]. Based on the findings of Taylor *et al.* within digital advertising field, entertainment messages also had positive effects on the audience attitude toward ads because these messages ''are perceived to be fun, exciting, cool, and flashy'' [85]. Hence, consumers may be more likely to participate in the brand posts via entertaining messages than other types of content. However, De Vries *et al.* did not confirm a significant effect of entertaining value of brand posts on CE [50]. We, therefore, proposed the following hypotheses:

H5a. Entertaining brand posts cause more likes than non-entertaining brand posts.

H5b. Entertaining brand posts cause more comments than non-entertaining brand posts.

IV. METHODOLOGY

A. CONTENT ANALYSIS

In the last two decades, content analysis has been widely used to analyze branded messages displayed to large audiences [86], where the most frequent analysis units are blog posts, website publications and branded posts on SNS [62]. This methodology is adequate to quantify exhaustively the cognitive consequences of communication through mass media on consumer behavior [87]. For these reasons, we applied a quantitative content analysis to investigate consumer engagement behavior with branded content on Instagram.

B. SAMPLE AND DATA

To test the hypotheses, we applied quantitative content analysis of 680 posts, 764,199 followers' likes and 42,702 comments, from 14 Spanish Instagram brand pages over a period of two months (December 2019 - January 2020). The justification of the scope considered was three-fold. First, we expanded the units of analysis and exceeded the average of brands studied in previous studies [20], [50], [51]; and examining 10 different sectors. Second, we analyzed Spanish communities because it is a market with a remarkable percentage of brand followers on SNS [4] and where, Instagram presented 78% of engagement rate during 2019-2020, exceeding the average of engagement share of the SNS with the highest penetration [88]. Third, we delimited the study on Instagram because this social platform leads in engagement rate internationally.

The fourteen communities examined were extracted from the ranking of the brands with the greatest interaction on Spanish social networks [88] and the highest advertising investment [89]. The final sample was composed of the following brand fan pages: Caixabank, DGT, El Corte Inglés, Garnier, Ikea, Lidl, Mapfre, Nautalia Viajes, Seat, ONCE,

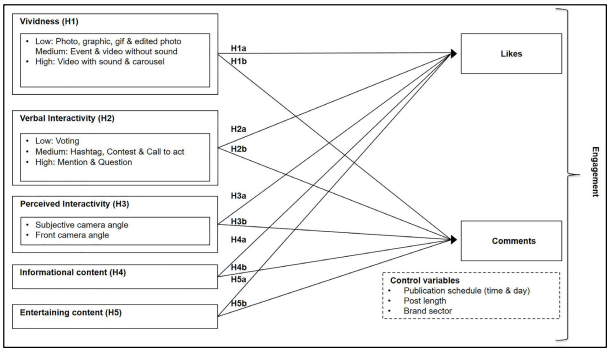

FIGURE 1. Structural model.

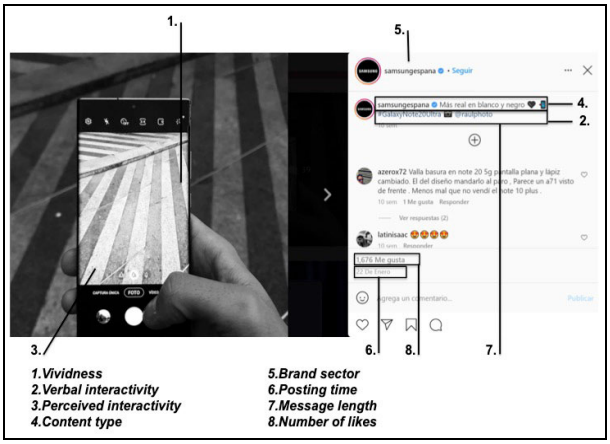

FIGURE 2. Type of variables' categories collected from Instagram.

Orange, Repsol, Samsung, and Vodafone. The data collected for the analyses were gathered from each brand post (N = 680) and divided into quantitative data extracted from the Instagram API by using Icarus®Analytics tool [90] and qualitative data collected manually by the researchers. Both data types were extracted from December 1, 2019 to January 31, 2020 because this timeframe is sufficient to capture the way in which consumers interact with content [91]. Regarding the followers' number of each fan page. This was obtained retroactively by using Social Blade LLC platform [92]. Subsequently, all the data were coded and analyzed using the statistical program SPSS (Version 25).

C. OPERATIONALIZATION OF VARIABLES

Based on the existing literature, we classified variables distinguishing between brand created content, under the company's control (independent and control variables), and user generated communication, not controlled by the company (dependent variables) [93]. This classification is consistent with work by Hoffman and Fodor [94] and Shahbaznezhad *et al.* who categorized these two variables into firm-centric and user-centric [20]. Based on this classification, we proposed the structural model illustrated in Fig. 1 to examine the possible influencing relationship of 31 branded content factors (independent variables) on CE (dependent variable). We included additional factors (control variables), such as publication time (day and time), message length and brand sector, analyzing their effects on CE.

Fig. 2 shows the seven types of variables' categories that group the 31 content factors extracted from each post (N = 680) and the consumer engagement metric of users' likes. These content factors are classified by hard or structural criteria such as vividness, brand sector, posting time and message length and soft or semantic and morphological criteria including verbal interactivity of the text, perceived interactivity of the image, and message type, i.e., informational or entertaining.

1) INDEPENDENT VARIABLES

To operationalize the independent variables (branded content factors) we relied on quantitative content analysis of the impact of these factors on engagement. These independent variables were encoded to be relevant to the research hypotheses and based on the previous literature [95]. Table 1 summarizes the details of all variables that were coded as dichotomous or dummies and numerical to fit a linear regression model, as applied in previous studies [20], [96]. Where a factor type appeared in the post, it was coded as 1, while its absence was record as 0, except for the variables of likes, comments, followers, hashtag, and post length that were encoded with a numeric value.

2) DEPENDENT VARIABLES

To analyze CE on Instagram brand pages, we started from the academic consensus on its interactive nature, which was measured using the number of likes and comments received by brand posts [20], [50]–[52] and we considered the community size of each fan page according to the formula applied in professional practice to measure social engagement [88]. In addition, we based on the study of Parent *et al.* who reported that audiences exhibited different degrees of engagement with a brand by their participation level with its publications [97]. Empirical studies results are consistent with this conceptualization. For example, *Sabate et al.* found that not all the branded content factors equally impacted likes and comments because liking action suggests greater involvement than visualizing and commenting requires greater involvement than liking because consumers dedicate their time to share opinions and thoughts on the post [51]. In line with this, Muntinga *et al.* and the recent studies of Shahbaznezhad *et al.* defined two different levels of social media engagement including passive behavior (liking) and active behavior (commenting) [20], [78]. Based on these works, we divided the dependent variable CE into likes and comments to maintain the explanatory power of the possible relationship between the content factors and the engagement by using two models: one model to explain the factors that may influence likes, and a second model to explain the comments.

3) CONTROL VARIABLES

This study also considers additional factors that may affect to the possible influencing relationship of the branded content factors on CE. First, following the recommendations of Shahbaznezhad *et al.* [20], we broaden the range of industries investigated in this study to provide more insights

on how social media content should be used to generate higher engagement. Previous research on CE in brand fan pages investigated the product category influence on engagement [20], [50], [52] and the branded content popularity [51], both generated by consumers' interactions with this content. De Vries *et al.* obtained that some sectors influenced negatively on post popularity such as accessories, leisure wear, alcoholic beverages and cosmetics [50], whereas Cvijikj and Michahelles confirmed different influences on CE with brand posts by two sub-categories (product and retailer) within the food and beverages industry [52]. Albeit little empirical research has focused on exploring the impact of brand sector over engagement. Consequently, we controlled the influence of brand sector on CE, which was determined by the product or service type offered by the firm. Second, we also investigated the impact of posting time and message length over CE, since previous research on digital marketing found that temporary programming of brand post might increase company revenue [98].

Additionally, previous work on digital advertising and marketing revealed how the percentage of consumers who clicked on a content link decreased significantly during the weekend [99]. However, extant studies on digital marketing have offered contradicting results. For example, De Vries *et al.* obtained that posting on weekdays decreased consumers likes and comments [50]. Conversely, Cvijikj and Michahelles found that weekdays increased comments, but brand posts published during the peak hours of consumer activity decreased consumers likes [52]. Therefore, we investigated whether brand posting time may influence engagement behavior. To do so, we distinguished between posts published on weekdays and weekends and posts published during and outside of business hours. We utilized dummy coding for post scheduling (day and hour) based on previously established norms in the literature [20], [51]. Thus, the day of publication was assigned a value 1 for business days and 0 for other days. Finally, with regard to hour, we also differentiated between publications during the traditional Spanish workday (9:00-14:00 and 16:00-18:00), which were coded as 1, and hours outside of the traditional workday, which were coded as 0 (see Table 1).

Concerning the brand post length, previous works has reported mixed results for its effect on engagement. For example, the advertising efficiency studies suggested that the number of characters in ads affected the click-through rate [100], [101], whereas in the social media marketing field De Vries *et al.* found that message length impacts negatively on consumer likes [50]. On the contrary, Sabate *et al.* revealed that the brand post length increased consumer likes, since ''a longer text may suggest a post offering more detailed information'' [51]. The caption limit on Instagram is 2,200 characters. However, social media marketers recommend a maximum caption of 138-150 characters to maximize participation and give greater prominence to the published image [102]. Consequently, we analyzed whether messages length had a negative effect on engagement.

D. ANALYSIS

The empirical and quantitative analyses were based on two multiple OLS linear regressions for each dependent variable, using the stepwise method with the criteria ''Probability of $F \geq 0.050$'' for introducing variables in the regression model and ''Probability of $F \leq 0.100$'' for removing variables. In addition, to better understand online engagement, we studied brand post factors impact (independent variables) on consumers' likes and comments separately (dependent variables). Therefore, for the calculations of dependent variables, we used Napierian logarithms to achieve homoscedasticity and guarantee a normal distribution of the residuals.

It is important to clarify that our dependent variables included the community size of each brand fan page for two main reasons. First, it is the formula used to measure engagement in social networks in professional practice [88], which is calculated with the following formula (1):

$$Engagement = Interactions/Followers \tag{1}$$

Second, according to this formula, CE decreases as the followers' number of each VBC grows. Consequently, to ensure a rigorous analysis of the engagement metric, we considered the number of brand followers in the specific period in which brand posts were published. The model to explain the engagement effects of independent and control variables is expressed in (2):

$$\begin{aligned} LnYij = \alpha + f = 18\beta f^{*} Vividness \\ + g = 16\beta g^{*} VerballnteractivityInteractivity \\ + h = 12\beta h^{*} PerceivedInteractivity + \beta k^{*} Info \\ + \beta l^{*} Entertaining + n = 110\beta n^{*} BrandSector \\ + \beta^{*} day + \beta p^{*} h\ our + \beta r^{*} lnlength + \varepsilon ij \end{aligned} \tag{2}$$

where Yij are the dependent variables, the subscript i represents the dependent variable of the two models Y1j or Y2j (likes and comments) and the subscript j indicates the observations' number (N = 680 posts).

V. RESULTS

A. MODEL VALIDITY CHECK

Before presenting results, we tested the validity of the two models: Likes and Comments model. Figure 3 and 4 report the behavior of the residuals' analysis for each model.

1) LIKES MODEL

Using the aforementioned method, we tested all hypotheses via OLS linear regression to study the relationship between the dependent variable, i.e., likes expressed by the formula Ln [(Likes + 1)/(Followers)] and the different independent variable groupings. The explanatory power of Likes model (R-square) was 73.1%. ANOVA calculated a value of 112.85 ($p < 0.001$) for F(K-1; Nk), specifically F (16; 663), which showed a significant and positive linear effect (p-value < 0.001) of the included factors over the likes. The formulation of the resulting model is expressed in the

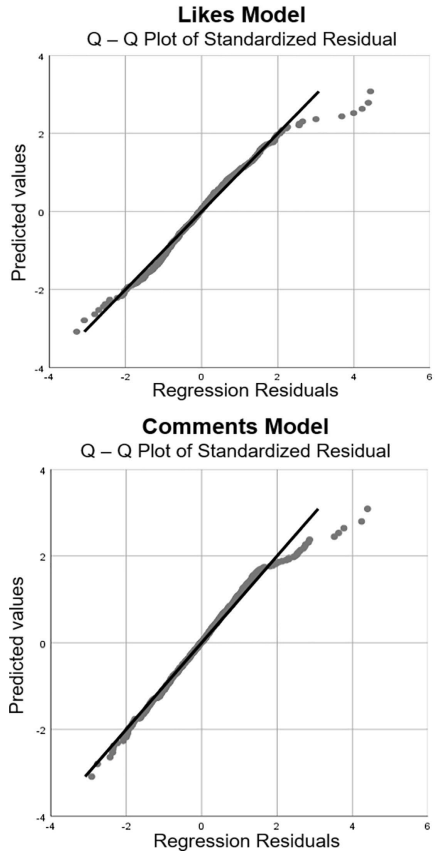

FIGURE 3. Q–Q Plots of Standardized Residual.

following (2.1).

$$\begin{aligned} Ln[(Likes+1)/(Followers)] &= -0.695^{*}Gif \\ &-0.614^{*}Video + 0.301^{*}Carousel \\ &-0.361^{*}Event + 0.364^{*}VideoSound + 0.057^{*}Hashtag \\ &-0.220^{*}FrontCamera - 0.221^{*}Info \\ &+0.631^{*}Financial + 2.164^{*}Travel + 0.434^{*}Cosmetics \\ &+3.466^{*}Gambling + 0.728^{*}Technological \\ &+1.440^{*}Automotive + 1.595^{*}Energy \\ &+3.624^{*}Government + \varepsilon \end{aligned} \tag{2.1}$$

To guarantee the statistical correctness of the model, we checked the behavior of the residuals in normality, independence, homoscedasticity, and multicollinearity assumptions (Greene, 2003). The normal Q–Q plot of standardized residuals (see Figure 3) indicated that we could not refuse the hypothesis of normality. The independence assumption was examined using the Durbin–Watson test, which calculated a value of 1.735 within the interval [1.5, 2.5]. This value indicated that the results were not auto correlated. In addition, the errors obtained for the different regression models are normally distributed (see Figure 4), which confirmed the validity of this approach. No problems of collinearity were observed because the maximum variance inflation factor (VIF) index calculated was 1.876 for the variable of Vividness Medium Video [103], [104].

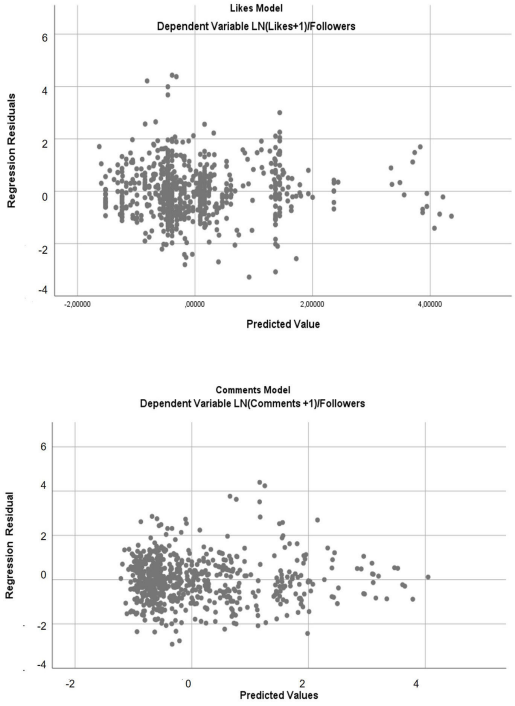

FIGURE 4. XY Plots of Predicted value and Residual.

Other assumptions of the regression model were also confirmed: i) the expected value of the residuals was 0; ii) there was no significant correlation between the residuals and the independent variables; iii) there were no outliers because the standardized residue interval was [-1.5821, 2.1381]; and iv) the maximum value of the Cook's distance of the residuals was less than 1 (0.065).

All these characteristics corroborated the robustness and adequacy of the model checked, where the independent variables explained 73.1% of the Likes variable, which showed a very high explanatory power of the correlation between the independent variables and the dependent variable.

2) COMMENTS MODEL

All the hypotheses were tested via OLS linear regression using the same independent variables as the previous model but with the dependent variable of comments, which was expressed by the formula Ln [(Comments + 1)/(Followers)]. The resulting model explained 47.5% (R-squared) of the variance. ANOVA calculated a value of 50.28 (p-value < 0.001) for F (12.667), which confirmed a moderate linear relationship between the examined variables and represented a high explanatory power of the existing correlation between them. The formula for this model is expressed in the following Equation (2.2).

$$\begin{aligned} Ln[(Comments+1/(Followers)] &= 0.441^{*}Graphic \\ &+1.148^{*}Voting + 1.318^{*}Contest \\ &+0.350^{*}Question + 0.288^{*}Length - 0.835^{*}Retail \\ &+2.519^{*}Travel - 1.091^{*}Cosmetics + 2.670^{*}Gambling \\ &+1.312^{*}Telecommunications + 1.243^{*}Energy \\ &+3.431^{*}Government + \varepsilon\_ \end{aligned} \tag{2.2}$$

TABLE 2. Results overview.

Type of variable	Level	Name	Likes model		Comments Model	
			β Coefficient	p-value	β Coefficient	p-value
Vividness	Low	Graphic			0.441	0.039
		Gif	-0.695	0.000		
		Video	-0.614	0.000		
	Medium	Event	-0.361	0.000		
	High	Carousel	0.301	0.003		
		Video with sound	0.364	0.000		
Verbal Interactivity	Low	Voting			1.148	0.018
	Medium	Hashtag	0.057	0.000		
		Contest			1.318	0.000
	High	Question			0.350	0.000
Perceived Interactivity		Front camera	-0.220	0.000		
Content type		Informational	-0.221	0.000		
Post length		Length			0.288	0.001
Brand Sector		Financial	2.164	0.000		
		Retail			0.835	0.001
		Travel	2.164	0.000	2.519	0.000
Brand Sector		Cosmetics	0.434	0.000	-1.091	0.000
		Gambling	3.466	0.000	2.670	0.000
		Telecoms			1.312	0.000
		Technological	0.728	0.000		
		Automotive	1.440	0.000		
		Energy	1.595	0.000	1.243	0.002
		Government	3.624	0.000	3.431	0.000
Model Check						
		R[a]		0.855		0.689
		R square		0.731		0.475
		Adj. R square		0.725		0.465

NOTE: [a] Codification for R Very low [.0, .2); Low [.2, .4); Moderate [.4, .6); High [.6, .8); Very High [.8, 1].

The statistical accuracy of Comments model was also demonstrated following the same procedure as Likes model. We observed that the normal Q-Q plot of the standardized residual (see Figure 3) confirmed the normal distribution of the residuals. The assumption of independence was also confirmed with a value of 1.918 within the interval [1.5, 2.5] using the Durbin-Watson test. However, for the Comments model is not as definitive as the Likes model (see Figure 4). There was no multicollinearity because the maximum VIF index calculated was 1.582 for the variable of Brand Sector Cosmetics. We also did not find outliers and obtained an interval for the standardized residuals of [−3.1072, 4.6860]. All Cook's distances for the residuals were less than 1 (0.062). The result of the residuals analysis was 0, and there was no significant correlation between the residuals and the independent variables. Therefore, these results further support the validity of the model.

3) RESEARCH HYPOTHESES TESTING

We assessed the plausibility of each proposed research hypotheses by looking at the results of applying the two regression models, which analyzed the possible correlations between the content factors (independent and control variables) and the two levels of consumers' engagement, i.e., likes and comments (dependent variables). An overview of results is presented in Table 2.

We first looked at the effect of vividness content on CE. The positive coefficients of carousel ($\beta = 0{,}301$, p-valor < 0.003) and video with sound ($\beta = 0{,}364$, p-valor < 0.000), both within high vividness category, indicating an increase in followers' likes. This output provides strong evidence to support hypothesis H1a. In contrast, these formats did not present positive coefficients in their relationship analysis with consumers' comments. Only graphics (low vividness) had a positive impact on comments ($\beta = 0.441$, p-valor < 0.039). Therefore, we were unable to provide sufficient evidence to support hypothesis H1b. Thus, for the SMM practitioners the findings related to vividness suggest that the higher media richness of the video in a brand post achieves more engagement in terms of likes.

Second, we looked at the effect of content interactivity traits on CE, contrary to what we expected, results revealed that only the use of hashtags (medium interactivity) impacted on followers' likes ($\beta = 0.057$, p-valor < 0.000) but not the other interactivity features. Therefore, we find no support for H2a. Conversely, we obtained a positive influence of voting (low interactivity) ($\beta = 1.148$, p-valor < 0.018), contests (medium interactivity) ($\beta = 1.318$, p-valor < 0.000) and questions (high interactivity) ($\beta = 0.350$, p-valor < 0.000) on brand followers' comments. Thus, we find full supporting evidence to confirm H2b. Consequently, for marketing managers, our findings related to verbal interactivity suggest that

TABLE 3. Hyphotheses testing overview.

Hypotheses	Expected	Likes Model$_a$	Comments Model$_b$
H1a and H2b: Vividness	(+)	Supported	Not supported
H2a and H2b: Verbal Interactivity	(+)	Not supported	Supported
H3a and H3b: Perceived Interactivity	(+)	Not supported	Not supported
H4a and H4b: Informational	(+)	Not supported	Not supported
H5a and H5b: Entertaining	(+)	Not supported	Not supported

NOTE: a Codification for the subordinate hypotheses of Likes model and b subordinate hypotheses of Comments model

the higher levels of verbal interactivity in the branded post results in higher levels of engagement in terms of comments.

Third, looking at the perceived interactivity impact (e.g., camera angles) on CE, contrary to the PSI postulates, our results showed that subjective camera angle in posts do not influence followers' likes and front camera angle negatively influence followers' likes ($\beta = -0.220$, p-valor < 0.000). Consequently, H3a was rejected. The same occurs with H3b, which is also not supported since results did not confirm any significant relationship between use of subjective and front camera angles on followers' comments.

Fourth, we tested H4 and H5 which investigate the relationship between different content types (e.g., informational, and entertaining) and CE. Our findings showed that informational message had a negative influence on consumers' likes ($\beta = -0,221$, p-valor < 0.000) but did not influence on their comments. Therefore, H4a and H4b were refuted. In line with H5a and H5b, which were also rejected because entertaining content did not correlate with a higher number of comments.

For the control variables, first, our model revealed no significant relationship between followers' likes and time, i.e., publication time (day and time) and message length, whereas surprisingly the number of characters had a positive effect on followers' comments. Second, as shown in Table 2 there was a positive relationship between the different brand sectors and CE. In addition, there was also a positive influence on message length on comments. However, our results showed no influence of temporal factors (time and day) on engagement. Finally, an overview of results through hypotheses testing is shown in Table 3.

VI. DISCUSION

On a theoretical level, previous literature confirmed engagement as a key metric to assess the brand's performance within the company's SMM strategy. However, to the best of our knowledge, extant studies were restricted to examine the impact of content characteristics on social media engagement addressing advertising and marketing literature [20], [51]. In response, the present research contributes to a more in-depth understanding of the CE within social media, based on the media literature and the U&G and PSI theories. To this end, we investigated the possible influence of the most current content factors on CE. For this purpose we adapt the criteria of extant studies [50]–[52] to the recent Instagram context, examining both hard and soft brand post criteria and including: i) the most current structural content formats derived from their combination of multimedia elements (e.g. photo, graphic, gif, filter photography, carousel, event, and video with and without sound); ii) new semantic content characteristics (e.g. voting, hashtag, contest, call to act, mention and question); and iii) novel morphological factors (e.g., subjective and front camera angle) based on online communities research [69], [80].

Results derived from the hypotheses testing suggest that guidelines for improving likes differs from those suggested to increase comments. First, concerning the vividness of content factors (H1a), our results of the influence of video with sound over likes is consistent with previous studies, framed on U&G theory, focused on engagement and branded content popularity on Facebook [50], [51]. Their authors confirmed that this positive effect on followers' likes occurred because commenting, compared to liking, and required an additional effort from followers. Regarding the novel factors examined in this work, firstly, we obtained that carousel (photos and videos with sound combination) impact on likes positively since multimedia content "can convey greater levels of emotional stimuli such as music and movement" [20].

We also found a positive impact of graphics on comments, analyzed for the first time in this study that may be explained by its level of media richness. This format as in the case of video, provides an additional information with greater detail that helps receiver to resolve possible uncertainties and doubts [78]. Carousels, gifs, videos without sound, and events were also included as new in this research, and our results showed that these factors did not influence comments (H1b). One possible explanation for why carousels did not influenced commenting on this content format lengthened the consumer's viewing time as happens with video. Therefore, for consumer the effort involved in commenting this content is greater than clicking the like button. Another reason for this effect is that videos without sound and gifs have low content richness, i.e., the characteristics of publications that do not stimulate multiple senses [105], making these publications not perceptible to consumers. Finally, our results on events are consistent with De Vries *et al.*, who observed an irregular use of event posts [50]. Thereby, event content did not provide a significant relationship on CE.

Second, regarding the verbal interactivity factors (H2a), highlights the influence on engagement of the novel incorporation of hashtags in this study. This result is consistent with the motivational underpinnings of U&G that posit the goals of social interaction, sharing needs and sense of belonging as

drivers of CE in social media [10]. Furthermore, the impact of the hashtags on consumers' likes may be determined by its strength as a marketing tool because its use improves the visibility and the accessibility of brand posts in SNS. Hashtags also allow brands to establish trending topics and increase the chances of achieving higher interactivity [106]. However, the factors that led to a higher number of comments, in order of greater to lesser influence, were contests, voting, and questions (H2b). These results, in line with the U&G theory, supports that the key consumer motivations of desire for reward or remuneration increase their engagement with brand content in social media [18]. Results of previous studies regarding these verbal interactivity factors were mixed. Our results of the positive effect of remuneration content on consumers' comments is consistent with the work on Instagram by Shahbaznezhad *et al.* [20], but this impact contrasts with the findings of De Vries *et al.*, who stated that on the analogous context of Facebook contests also influenced likes [50]. The reason for this difference may be the platform demarcation in each work. Instagram has the highest engagement rate of the worldwide networks with the highest penetration, which means this achieves higher consumers' participation degree than other SNS. Accordingly, in this study contests and questions increased comments, which belong to a greater follower' involvement. On the other hand, calls to act did not influence engagement, which contrasts with De Vries *et al.* [50]. We believe that this difference occurred because calls to act do not require responses from brand followers in a personalized way in the same manner direct questions and user mentions do.

Furthermore, according to the U&G postulates, the reasons why the use of contests, voting, and questions achieve greater CE are due to the following advantages: i) these activate the utilitarian motivation and gratification of participants because of the remuneration that they receive; ii) these facilitate consumer self-expression, self-fulfillment, and impression management, through user-generated content, which influences the perceptions that other community members develop about them [10]; and iii) these stimulate the individual self-openness based on a willingness to reveal information and share sensations or feelings that are consistent with the image they want to project (i.e., self-image congruity theory – SIC) [107]. Consequently, these feelings increase the participants' involvement and their proactive contribution with brands [108]. Furthermore, all these content factors favor the recent practice of mindful marketing or bidirectional communication with brands, which is based on the conscious attention of companies to consumer opinions emitted on SNS to generate ''targeted marketing actions and personalized solutions'' [109].

Third, regarding the no influence of the perceived interactivity of the content (i.e., subjective and front camera angles) to improve CE (H3a and H3b), our results contradict the postulates of Auter whose study was framed within the U&G and PSI theories. These revealed that feelings of parasocial interaction were developed in consumers via signals of non-verbal interaction, such as the use of different types of media angles [68]. In addition, Labrecque examined the relationship between consumers and brands on SNS [80]. The author also confirmed how consumers showed greater motivation to interact with brands via messages when they perceived the sensation of communicating with a person in an open and bidirectional communication process.

However, our model findings did not confirm these axioms. There are various explanations for these findings. Firstly, according to our results, the primary reason why the consumers' attention is attracted to a brand's post is related to the richness of the content itself and the use of basic interactive features to motive them to interact with the brand proactively. Secondly, these media characteristics in the branded content are studied as a novelty within Instagram context in the present work. Thirdly, while the subjective camera angle and the fixation of visual and verbal directions toward viewers may attract more eyeballs to the content, it is difficult to confirm consumers' perceptions of these images with the content analysis method. Hence, it would be a useful avenue to explore the consumer's subjective experience conducting traditional interviews or empirical experiments.

The fourth point relates to the no impact of the different content types (e.g., informational, and entertaining) to increase CE (H4a, H4b, H5a, and H5b). Our application of U&G theory over brand communities do not show that the consume entertaining and informative content is a crucial factor for social media engagement within Instagram [82], [83]. Our results are contrary to the results of Shahbaznezhad *et al.* who found that informational or rational content on Instagram increased likes [20], and Cvijikj and Michahelles who obtained that informational content on Facebook had a positive statistical correlation on likes and comments [52]. The reason for the negative influence of information content on likes in this study may be because the purpose did not agree with the social networks nature of sharing and conversing between consumers. Our results for the entertaining content showed that this typology did not significantly correlate with likes or comments. However, these results reinforce Cvijikj and Michahelles and may be a consequence of their limited use in the analyzed units, which made it difficult to measure their impact on consumer behavior in a representative manner [52].

Regarding the control variables, the influence of brand sector over CE is consistent with the findings of Cvijikj and Michahelles who indicated that followers from different brand fan pages might have different motivations for participation, resulting in different interactions with the branded content created by the company on Instagram [52]. In the present study, the brand sector influence may be attributed to the notoriety and the reputation of the selected brands, which were included in the brand rankings of IAB Spain and InfoAdex [88], [89].

Finally, concerning the positive influence of message length on comments, which would comply with the Sabate *et al.* finding about longer texts, may offer more

detailed information [51]. Consequently, longer posts capture greater interest and participation from audience.

VII. CONCLUSION

A. THEORETICAL CONTRIBUTIONS AND PRACTICAL IMPLICATIONS

In the Internet era, many businesses are leveraging social media tactics to achieve their branding goals. The growing number of individuals connected to brands in social networking sites create a multitude of social data that is key to understand their consumer behavior. Thus, companies have realized the potential of these SNS as rich channels for building and strengthening consumer-brand relationships. SNS has become the most influential outlet for companies' brand management. In this context, the branded content in SNS helps enhance CE through specific interactions with the brand, as a part of the company's social media marketing strategy. Analysis of social media behavior by companies is key to understanding the consumers' needs and motivations and to elicit their engagement in a global and competitive environment. The large amount of social data implies great challenge for companies in terms of analytical and strategical skills.

The present study conducted a statistical content analysis, to help 14 Spanish brands, belonging to 10 different sectors within Instagram brand pages, to measure and increase their social media engagement. We developed a model to examine the role of branded content over CE on Instagram. This model is based on the theoretical underpinnings of the U&G and PSI theories, such as the individuals' needs for social interaction, sense of belonging need, sharing need, desire for remuneration or gratification and entertainment or information consuming needs that have been explored in online and social media research. Specifically, we identified the influence of vividness of content, verbal and perceived interactivity of content, informational and entertaining content on CE.

Results suggest that our model has very high explanatory power for clarifying the content traits that influenced likes (73.1% (R-squared) and high power for those that influenced comments (47.5% (R-squared). Therefore, we demonstrate the robustness of the proposed model to reveal which factors of brand content increased engagement on SNS.

The findings derived from the research hypotheses testing confirm the U&G principles about the interactive role of consumers with the content and media. The use of U&G theory in this research contributes to the academic and practical research in various ways. Firstly, our model to study CE with brand content reveals new content factors that influence levels of engagement, i.e., likes and comments, differently. Secondly, we provide new relevant concepts to scholars for deepening in CE research. Finally, results help marketing managers with insightful and useful guidelines to operate bran fan pages and decide which content characteristics to place in posts to improve CE on Instagram.

The principles of U&G theory regarding the individual's need for social interaction and their desire for remuneration is verified through the confirmation of the hypotheses H1a and H2b. From a practical perspective, the support for H1a provides valuable managerial insight to content marketing strategists, as it supports that a higher level of vividness in a brand post increases CE level in the form of likes.

In particular, videos and carousel provide more information and content richness than still images that dominate on Instagram. These content formats break the homogeneity of the photographic platform and making this divergence a reason for posts that include these formats to be more attractive for consumer driving more engagement. In addition, the enhanced engagement from the use of video according to the media literature is due to its supremacy in social presence compared to other image formats. This quality of the content increases the information provided, the emotional response, the recall, and the content virality. The authors add that the richness of video with sound and carousel – a mix of up to 10 photos or videos as a single post– allowed brands to narrate real stories that also require a greater investment of consumer's time to visualized it. Moreover, carousel is an excellent resource for attracting public attention and fostering their engagement because consumers must slide images to the left to continue with the brand story that incorporates multiple files in a post. This aspect extents the time consumers viewing the content and as a result remain engaged for longer. Based on marketing practice, this time spent by consumers reproducing the content is a key factor for achieving greater visibility based on the Instagram algorithm operation and this higher visibility enhances the possibility of greater engagement. Our findings add new relevance constructs to the literature by furthering our understanding of the ''time spent'' concept as a key driver of CE.

The confirmation of hypothesis H2b provides marketing managers the evidence that higher levels of verbal interactivity in a brand post results in higher level of engagement (i.e., consumers' comments). To generate more likes, brands must incorporate hashtags in their social media communications with followers. However, to go beyond likes, consistent with the U&G theory they must include content with consumers' remuneration and gratification, such as contests, voting, and questions in their posts. The positive influence of hashtags on likes is due to its great potential as a marketing tool to increase the visibility, accessibility, and dissemination of publications on Instagram (i.e., viral marketing). Moreover, this factor allows companies to create trends and interesting content by converting a word based on a brand or product characteristic into a trending topic, making more possible to capture the attention of new brand followers and increasing their engagement and community size. Hence, we highlight the importance for furthering the study hashtags in literature to understand CE in SNS.

We also emphasize that contests were the verbal interactivity factor, which generated the most comments from brand followers. Previous research suggested that the reason for this effect is that contests motivate consumers who receive gratification from their participation and empowerment through

their shared content, which is recognized by other participants and brand administrators. This recognition also strengthens consumers' motivations postulated by the U&G theory such as sense of belonging, self-expression, impression management, and self-fulfillment.

Additionally, this results in consumers' predisposition to share information and opinions with brands that reinforces their perceptions of a more human brand relationship and recreates the feeling of being talking with a close friend. Consequently, this brand relationship based on an openness in communication, may also contribute to the company's mindful marketing strategy on SNS. This praxis is based on humanizing messages by recreating personal communication, which involves listening and open dialog. We also highlighted the relevance for deepening the study of the possible influence of mindful marketing on CE in the social media literature.

According to our findings, another factor that encourages more human and conscious communication with consumers were questions. Questions are an optimal resource to start a dialog by proactively requesting a response or direct opinion from brand followers. Its use helps companies create to the followers' perception that there is a person behind brand messages, as a part of the mindful marketing strategy. For the reasons mentioned above, contests, voting, and questions help marketing managers increase CE on Instagram.

The rejection of hypotheses H3, H4, and H5 conveys to marketers that perceived interactivity and the message orientation of the brand content do not increase CE within Instagram. Front camera angles and informative content decreased followers' participation, in contrast to the postulates of U&G and PSI theories. Therefore, marketing strategists are advised to reduce their use in brand posts. For the message orientation, marketers should balance the use of informative messages and respect Rule 80/20 of the Pareto Principle to balance messages based on descriptions of their products and messages related to entertainment. We add that informational messages lose their meaning when they require comments to be relevant. Furthermore, most informative posts recreate a company's monologs about their products and services, which helps to achieve the goal of selling more products or services in the future. This is a traditional marketing practice marketers should avoid since it provides little value to brand followers since they could look for rational information about product somewhere more suitable, like the company's website or specialized articles in the industry, than in the brand community. Therefore, this excess of commercial, informational messages does not contribute to the previously mentioned mindful marketing, since it does not help to foster interactive communication with brand followers.

Regarding the additional content factors that may influence on CE, we highlighted the positive influence identified between the brand sector and interactions. These findings provided relevant insights with managerial implications since firms that use Instagram brand pages as a channel for their SMM should monitor consumers' behavior to discover specific contents and interests of their own brand community to build an efficient engagement strategy on Instagram.

Moreover, there was a positive correlation between message length and comments. This influence is consistent with the results of previous studies, which showed that longer messages provided better understanding for the reader. We suggest a relationship between the consumer's time investment in reading a longer publication and their interest in interacting with it and sharing their opinion. Finally, the low influence of temporal factors prevented us from making recommendations related to days and times that could improve CE on Instagram.

In summary, our findings have important theoretical contributions. First, consumers' interactions on SNS such as Instagram can help better understand the nature of CE as a measure to determine the consumer-brand relationship value and their organic connection. Second, the quantitative content analysis methodology and the proposed model in the present study can be meaningfully applied to the analysis of amounts of data from different sources. Third, we identify new relevant concepts to study CE in social media. Fourth, we contribute to the social media and marketing literature with an innovative model with patterns and variables previously unexplored that can be significantly extend to the research of engagement behavior on other social media platforms and sectors.

Finally, our results from applying the model also provide meaningful practical insights for marketing strategists. For example, the importance of increasing the vividness and the verbal interactivity degree in their posts by incorporating factors such as graphics, videos with sound, carousels, contests, questions, voting and hashtags to improve CE. We add that these factors contribute to engaging followers by keeping them connected for longer periods and making them participants in brand stories. We suggest these factors facilitate the recent practice of mindful marketing, which improves engagement thanks to the creation of a personal conversation. Hence, these strategies contribute to build a meaningful connection with consumers and their perception of a valued brand relationship. Consequently, social media managers can take advantage of these research findings to predict and improve CE in an online environment.

B. LIMITATIONS AND FUTURE RESEARCH

Future investigations can apply the model presented in this work for data analysis in different sectors and extend the number of units of analysis, as this is one of the main limitations of the present work ($N = 680$). Machine learning algorithms would enable capturing higher number of publications to analyze in the model tested. Notwithstanding, we are aware of the difficulties in obtaining reliable data, as there are some concerns about the fidelity and consistency of these automatic algorithms when capturing and analyzing image content characteristics such as the ones we have analyzed manually in this study (i.e., the media format, the camera angle, and the message type).

Other fruitful avenues for future research would be to analyze whether our findings concerning the non-influence of

the different image camera angles on CE coincide with consumers' experience by traditional interviews or experiments. Another advisable study would be to investigate whether the fact that brand posts are organic or paid posts influences the consumers' interactions. In addition, research comparing results in different SNS could reveal valuable insights for marketers. Similarly, it would be worthwhile to apply the present research to a new selection of brands, belonging to other countries and business sectors.

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