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The Management of Digital Marketing Strategies in Social Network Services: A Comparison between American and European Organizations

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Abstract: The present study aims to provide an overview of the digital marketing strategies in social network services (SNSs) used in America and Europe. This work, unlike previous research that analyze digital marketing strategies in SNSs in a single geographic area, presents as the main contribution and value the use of a comparative approach between continents; specifically, then, an approach that allows comparing the management strategies used in these two areas. The research takes a sample of forty organizations, twenty American and twenty European. The author applies a descriptive examination followed by a parametric analysis using the *t*-test procedure over a total of 158,208 publications on Twitter. The findings show significant differences in the management approaches applied in these two continents. Even though the digital marketing strategies in SNSs should be based on dialogue and interaction with the organization's target audience, this point can be more or less important, depending on the continent. While European organizations confer great importance to the interaction with its audience, American organizations tolerate a greater degree of one-way communication. The author concludes that the paradigms governing the definition of digital marketing strategies in SNSs at the global level, a priori thought to be universal, probably require reformulation if they are to be well adapted to the specific geographic areas where these strategies are implemented.

Keywords: digital marketing; management; social network services; SNS; Twitter; Facebook; Instagram; America; Europe

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1. Introduction

The development of Information and Communication Technologies (ICTs), in general, and the emergence of the Internet, in particular, has transformed the way organizations use technology for marketing purposes [1]. Since 1990, a wide assortment of digital platforms has been progressively incorporated into the marketing plans of organizations of all kinds, creating what we know today as digital marketing.

Even though digital marketing was originally associated with concepts such as CRM (Customer Relationship Management) applications [2,3] or automation processes [4,5], this approach has evolved, considering, at the present time, a varied range of instruments and techniques. These instruments, at the service of digital marketing strategies, allow the organization not only to improve the effectiveness of its marketing plans but also to accomplish the corporate objectives previously set.

According to different authors [6–9], such instruments include the following: (1) Search Engine Optimization (SEO); (2) Search Engine Marketing (SEM); (3) content production techniques; (4) emailing techniques; and (5) social network services (henceforth referred to as SNSs).

SEO refers to the positioning of the organization (or its products/services) in search engines in a natural or organic way. Although this system does not require direct payment,

since the search engine algorithm (generally controlled by Google) must position the organization, solely based on its presence in blogs, forums, etc., it takes a long time [10,11].

Similarly, SEM refers to the positioning of the organization (or its products/services) in search engines and conventional websites, but is based upon payment. This system demands less time investment than the previous one; however, it requires a significant investment in paid ads, generally through the advertising system Google AdWords [12,13].

Content production techniques focus on the creation of content that, due to its quality and interest, serves to attract the organization's target audience. These contents are made available to the audience in the form of blog posts, eBooks, infographics, videos, etc. [14,15].

Likewise, the objective of the emailing technique is to gather leads or potential customers to create databases of contacts, and to send them customized commercial campaigns or newsletters. These techniques, despite being extensively exploited, are still highly effective when following good practices [16,17].

Finally, social network services (SNSs), using platforms such as Twitter, Facebook, or Instagram, among others, allow the organization to improve its awareness and to approach its audience by generating links, dialogue processes, and brand engagement [18,19]. The present study focuses on the analysis of the digital marketing strategies on these platforms.

1.1. SNSs and Digital Marketing Strategies

The social media phenomenon has transformed the way we communicate and interact with our environment. By 2020, the number of active social media users reached 3.8 billion, with the average penetration worldwide being 49% [20]. This average penetration in global terms obviously varies between countries. Thus, for example, the percentage in Nigeria is 13%, in South Africa 37%, in France 60%, in Mexico 69%, in the United States 70%, in Sweden 73%, and in Taiwan 88% [20].

The impact of these platforms is undeniable, and their integration into our daily life is a consummate reality [21,22]. The success of SNSs is caused by different factors, but among them stand out aspects such as the dynamism of the content, its collaborative utility, its intuitive use, its easy access, and its interactive nature [23,24].

In the context of digital marketing strategies, the main value of these technologies lies in their versatility and potential for communication [25]. Since SNSs appeared, platforms such as Twitter, Facebook, and Instagram have been integrated into the digital marketing strategies of many organizations, becoming, in many cases, the cornerstone of their marketing plans. The weight of these technologies in digital marketing strategies is such that the spend on actions on SNSs increased 18% between 2018 and 2019 [20].

The academic community has also underlined the importance of SNSs in digital marketing strategies. This fact is confirmed by the literature review on digital marketing strategies in SNSs carried out by Cuevas-Molano et al. [26]. These authors examined articles indexed in the Web of Science (WOS) database over the previous fourteen years and underlined the existence of a mature and consolidated field of study.

Consequently, the particularities of the social media phenomenon, in the context of digital marketing strategies, require an in-depth analysis. For this purpose, one of the approaches commonly employed by researchers is the so-called Uses and Gratifications theory (U&G theory). Even though this approach has been applied in numerous studies on the use of SNSs in digital marketing strategies in recent years [27–30], U&G theory had been used previously to describe how audiences interact with other mass media, such as the press, radio, or television [31].

The conceptual framework defined by this theory explores how mass media is used to meet the needs of the individual. In accordance with Rubin [32], U&G theory is based on five pillars: (1) the selection and use of the media have a goal; (2) the subject is the one who takes the initiative by selecting the media in order to satisfy an existing need; (3) the subject's behavior is conditioned by diverse social factors; (4) there are different media alternatives that compete with each other in terms of selection, use and needs satisfaction; and (5) the subject has a position of empowerment in the media.

The nature of the SNSs fits perfectly with the assumptions established by this theory. Users, having other possibilities, freely choose these platforms; they access them to obtain a reward; their communication is conditioned by social aspects; and they enjoy a position of privilege on the platform. The potential of an SNS to propagate information to large audiences, as what happens with other mass media (press, radio, or television), makes the U&G theory particularly suitable for contextualizing research in this field.

The U&G theory has revealed the potential of these platforms in the context of digital marketing strategies, capturing the attention of organizations of various kinds. Thus, since SNSs began to become popular in the early 2000s, many organizations have used these technologies within their marketing plans. In this sense, business organizations, on the one hand, and university organizations, on the other, are two of the entities in which SNSs have gained the most traction [33].

1.2. The Use of SNSs in Digital Marketing Strategies at University Organizations

University organizations, like any other type of organization, set their goals in the context in which they operate, to meet the needs of their target audiences. Although, the target audience of any university, within its social purpose, consists of a wide range of entities (government agencies, industries, social agents, etc.), students in their broadest sense occupy a leading position.

With regard to the student community, then, universities design and implement marketing plans in the same way that any company would do. Within these marketing plans, any university organization will have, for example, recruitment and loyalty plans. Recruitment plans aim to reach as many subjects as possible, and loyalty plans build links with current students and with those who will become alumni after their graduation.

Within this context, examples of actions that could be part of recruitment plans are open days, educational fairs, or advertising in the press at the local level. As far as loyalty plans are concerned, we can point to discounts on subsidiary educational services, tuition funding, or postgraduate programs linked to student's undergraduate training.

These recruitment and loyalty plans are good examples of the type of actions that are framed in the marketing plans of any university organization. However, all the foregoing activities are contextualized in an offline setting. In addition to this offline setting, there are also actions within the context of digital marketing strategies. Ads banners on educational portals, as a recruitment mechanism, or newsletters, as a loyalty tool, are just two examples. The first is an example of SEM instruments, and the second an example of emailing techniques. In this area of digital marketing strategies, SNSs are, obviously, particularly relevant.

SNSs have been used intensively by university organizations; nevertheless, different authors claim that there is still wide margin for improvement in exploiting these technologies. Casanoves Boix et al. [34] point out that universities should invest in a greater and more professionalized presence on these platforms, in order to enhance their branding plans. In the same line, Guzmán Duque et al. [35] underline that SNSs should help universities to consolidate their corporate identity and to develop promotional campaigns in the territories in which they operate. In recent years, numerous works have addressed this issue of digital marketing strategies in SNSs. Table 1 shows some of the studies conducted over the past ten years.

Table 1. Studies on the use of social network services (SNSs) in digital marketing strategies at university organizations.

Author/s	Platform Considered	Continent Where the Study Was Conducted
Laaser et al. [36]	Facebook, Twitter, LinkedIn, and Google+	America
McNeill [37]	Facebook, Twitter, and YouTube	Europe
Valerio Ureña et al. [38]	Facebook	America
Olvera-Lobo and Lopez-Perez [39]	Facebook and Twitter	Europe
Puertas Hidalgo and Carpio Jiménez [40]	Facebook, Twitter, Instagram, and Google+	America
Cabrera and Camarero [41]	Facebook	America
Kimmons et al. [42]	Twitter	America
Peruta and Shields [43]	Facebook	America
Quintana Pujalte et al. [44]	Twitter	Europe
Holla and Sventekova [45]	Facebook and Instagram	Europe
Matosas-López and Romero-Ania [33]	Twitter	Europe
Carrillo-Duran et al. [46]	Facebook, Twitter, LinkedIn and Instagram	Europe
Eger et al. [47]	Facebook	Europe
Segura-Marino et al. [48]	Facebook and Twitter	America

Source: The author.

Laaser et al. [36] used semi-structured interviews with management experts to analyze the use given to SNSs such as Facebook, Twitter, LinkedIn, and Google+. Concerning the use of these platforms, the authors reveal the existence of management problems, a lack of strategic vision, and the need to define efficiency and reach indicators.

The study conducted by McNeill [37] examines the use of SNSs such as Facebook, Twitter, or YouTube to engage with past, present, and prospective students. The author, taking a critical discourse, argues the "marketization" of the social media policies developed, to promote university brands as well as to protect the reputation of these organizations.

The work of Valerio Ureña et al. [38], focusing on Facebook, examines the engagement between institutions and target audiences on this platform. The authors identify that time of publication impacts effectiveness in terms of likes, comments, and shared content, showing that the most successful publications occur outside the workday and usual office hours.

Olvera-Lobo and Lopez-Perez's research [39] explores the use of SNSs for the dissemination of content on research, development, and innovation (R + D + I) at the public universities. The authors note that a third of the institutions examined use their corporate Facebook and Twitter accounts in the strategic propagation of this type of content.

Puertas Hidalgo and Carpio Jiménez [40] examined universities' use of the Facebook, Twitter, and Instagram platforms from a strategic perspective. The authors point out that the engagement generated throughout these SNSs help the organization in achieving its strategic objectives.

Cabrera and Camarero's work [41] analyses the communication channels used by universities for the dissemination of science and technology events. Among other findings, the study shows that 80% of students use Facebook, even above other communication channels, to be informed of their faculty events.

Kimmons et al. [42], analyzing a sample of 5.7 million Twitter messages from higher education institutions, underline that although SNSs have improved the reach of these organizations, their current reach is limited. The authors reveal that most of the messages from these organizations are one-way, lacked any feeling, and focused on a very small variety of topics.

The study conducted by Peruta and Shields [43] examine how Facebook can improve the engagement between university organizations and stakeholders. The authors demonstrate that aspects such as type of publication or publication frequency can contribute to improving both engagement with the audience and dissemination of the organization's content.

The work of Quintana Pujalte et al. [44] explores the use of social media accounts to respond to situations of institutional crisis. The study reveals how a Twitter social profile can be used in such circumstances to redirect the flow of corporate communication, either to the official university website or to press releases.

Holla and Sventekova's research [45] discusses the possibilities of using Facebook and Instagram as part of the university recruitment plans. In this work, the authors emphasize that SNSs can be effective tools for a university's marketing plans, particularly in its competition with other institutions for the recruitment of new students.

Matosas-López and Romero-Ania [33] explore the variables that allow more efficient management of university organizations on Twitter. The authors reveal that the use of links, hashtags, and messages in the early morning, or publications on gender equality issues, contribute to increasing audience interaction with the institution.

Carrillo-Duran et al. [46] address the situation regarding the reputation of university organizations within the SNSs setting. The authors underline that the use of these technologies does not necessarily contribute to the construction of a positive reputation, when these actions are not carried out in the context of previously defined marketing strategies, to fulfil certain concrete objectives.

The study by Eger et al. [47] analyze the use of Facebook for public relations, providing a set of practical benchmarks on successful communication with the target audience. In this study, the researchers contribute to a better understanding of marketing-related activities on SNSs in the university field.

Finally, the work of Segura-Marino et al. [48] evaluates the digital marketing strategies that universities apply on Facebook and Twitter and their relationship with factors such as university size or type of financing, among others. The authors point out that, regardless of the institution's characteristics, the success of these strategies depends, essentially, on the level of importance that university authorities attach to these technologies.

Numerous studies have been conducted around the world, covering locations in Africa and Asia [49,50]; however, as can be seen in the third column of Table 1, America and Europe are the continents where most of these investigations have been carried out. The foregoing studies gather a variety of geographic locations. Ecuador, the United States, Spain, and Poland are just a few examples of countries whose university organizations have been the subject of study.

1.3. Objectives

In accordance with previous research, digital marketing strategies in SNSs are not homogeneous and universal, but depend on the market, the organization's target audience, or the geographic area in which the actions are implemented [51]. Thus, for example, a management approach can be efficient in one particular market and useless in a different industry. Similarly, a certain type of management can be appropriate in one geographic location and inadequate in another.

The present study aims to provide an overview of the digital marketing strategies in SNSs used in America and Europe. The author, using a sample of university organizations from both continents, offers an overview of the strategies and management approaches used in these geographic areas. The study, which adopts a comparative format, contrasts the findings obtained in each of the aforementioned areas, highlighting the existence of both similarities and differences in the management approaches in these two continents.

The present work, unlike previous research that analyze this phenomenon in a single region [37,41,45,48], presents as its main novelty and contribution the use of the aforementioned comparative approach between continents—an approach that allows comparing the management strategies used in the geographic areas under observation.

In line with previous research [42,52,53], the author took Twitter as the SNS to be monitored. The author's decision in taking Twitter as the platform under study was fundamentally determined by two reasons. On the one hand, the great number of previous research around this platform, a fact that facilitates the findings' discussion. On the other hand, the ease of access to information, since there are many service providers that—through Twitter's API—allow to extract large amounts of data at a very low cost.

The study, carried out by the author, poses the following research questions:

RQ1: Are there differences between American and European organizations in the management of digital marketing strategies in SNS?

RQ2: Are these differences between American and European organizations significant?

2. Materials and Methods

2.1. Sample Design

Sampling elements (the universities) were selected taking as reference two international university rankings: firstly, the Webometrics ranking [54,55], and secondly, the Academic Ranking of World Universities (ARWU) [56,57]. The Webometrics list is designed by the Cybermetry Laboratory of the Higher Council for Scientific Research in Spain, while the ARWU is developed by Shanghai Jiao Tong University in China.

The author began with universities among the top fifty in the Webometrics lists in America, and Europe, respectively. After that, the researcher checked whether these institutions were also included in the ARWU ranking. The author took the first twenty universities in each continent that met the following two criteria: (1) being among the top fifty of their continent in the Webometrics list; and (2) being among the top 1000 in the world according to the ARWU ranking. The selection of sampling elements resulted in forty university organizations—twenty American and twenty European.

2.2. Data Extraction and Screening

Once the sampling elements were selected, the author extracted from Twitter all the messages published during 2020 by the official accounts of the forty institutions. In line with previous studies [43,54], the data were gathered through Twitter's API, taking as service provider the Twitonomy platform.

The data, extracted through the Twitonomy service provider, resulted in the attainment of forty data files, one per official account and university. The content of these forty data files amounted to a total of 158,208 messages or publications. Of these messages, 109,214 were tweets originally created and published by the university, 31,577 were retweets from the account to third-party publications, and 17,417 were replies from the organization when mentioned by another user of its audience.

The compiled dataset was stored for screening, extracting a total of twenty-four indicators organized into five categories: (a) publication volumes; (b) publication components; (c) publications by day of the week; (d) publications by time slot; and (e) followership (see Table 2).

From the twenty-four indicators extracted, those corresponding to categories (a), (b), (c), and (d) served to examine digital marketing strategies in SNSs in American and European organizations. Likewise, the three indicators in category (e) served to obtain a general view of the success of these strategies in the two continents.

Table 2. Indicators extracted from the dataset.

Category	Num. of Indicators	Indicator Name
(a) Publication volumes	3	Daily Tweets, Daily Retweets, Daily Replies
(b) Publication Components	3	Mentions by post, Links by post, Hashtags by post
(c) Publications by day of the week	7	Post on Monday, Post on Tuesday, Post on Wednesday, Post on Thursday, Post on Friday, Post on Saturday, Post on Sunday
(d) Publications by time slot	8	Post 8:00 a.m.–10:00 a.m., Post 11:00 a.m.–13:00 p.m., Post 14:00 p.m.–16:00 p.m., Post 17:00 p.m.–19:00 p.m., Post 20:00 p.m.–22:00 p.m., Post 23:00 p.m.–1:00 a.m., Post 2:00 a.m.–4:00 a.m., Post 5:00 a.m.–7:00 a.m.
(e) Followership	3	Average Number of Followers, % of Tweets retweeted over total, % of Tweets marked as favorite over total
Total	24	

Source: The author.

2.3. Data Analysis

After collecting and screening the data, the information was analyzed using the statistical software IBM SPSS, version 26. The author, in line with similar research [38,58] in this field of study, applied a descriptive examination followed by a parametric analysis using the *t*-test procedure. Both in the descriptive examination and parametric analysis, the author took the twenty-four indicators—in Table 2—as the object of study for the organizations in both continents.

Following the recommendations of previous research, to respond to RQ1, a comparative descriptive examination was performed [51,59].

In accordance with other authors, to answer RQ2, the existence of significant differences was examined by performing a parametric analysis for independent samples, applying the *t*-test technique [60,61]. However, in order to confirm the applicability of this technique, first it was determined whether the values of the twenty-four indicators involved in the analysis followed a normal distribution. To do so, the Shapiro–Wilk statistic was extracted [62,63].

3. Results

The findings for both research questions are presented following the indicators' categorization in Table 2: (a) publication volumes; (b) publication components; (c) publications by day of the week; (d) publications by time slot; and (e) followership.

3.1. Results in Response to RQ1

With regard to the publication volumes, results in Table 3 show that universities in America carry out more intense activity than institutions in Europe. Such a situation can be seen in the indicators of daily Tweets and Retweets. Conversely, the response indicator presents values that invite reflection. The American universities, the most active in terms of Tweets and Retweets, are the ones that show the lowest average of daily Replies. This fact points to the existence of one-way messages in this continent. While the institutions

analyzed in America have an average rate of daily responses of 0.56, the universities in Europe show an average reply ratio of 1.69.

Table 3. Comparative descriptive examination.

	America		Europa	
	M	**SD**	**M**	**SD**
(a) Publication volumes				
Daily Tweets	8.61	281.50	2.98	2.70
Daily Retweets	1.80	1.16	0.91	0.52
Daily Replies	0.56	0.97	1.69	1.09
(b) Publication components				
Mentions by post	0.34	0.23	0.80	0.30
Links by post	0.78	0.16	0.43	0.13
Hashtags by post	0.83	0.43	0.60	0.31
(c) Publications by day of the week				
Post on Monday	383.30	218.01	193.32	114.53
Post on Tuesday	393.43	148.61	223.06	103.20
Post on Wednesday	444.64	102.27	238.31	88.03
Post on Thursday	436.00	129.51	262.66	92.92
Post on Friday	385.34	284.20	206.33	93.71
Post on Saturday	75.47	45.63	65.43	42.66
Post on Sunday	64.78	48.27	5.75	37.09
(d) Publications by time slot				
Post 8:00 a.m.–10:00 a.m.	414.85	303.22	415.70	189.74
Post 11:00 a.m.–13:00 p.m.	622.52	387.10	358.19	187.01
Post 14:00 p.m.–16:00 p.m.	473.03	336.94	284.63	135.90
Post 17:00 p.m.–19:00 p.m.	325.14	221.84	108.60	72.18
Post 20:00 p.m.–2:00 p.m.	132.11	85.00	18.70	6.43
Post 23:00 p.m.–1:00 a.m.	11.80	5.57	1.42	0.39
Post 2:00 a.m.–4:00 a.m.	0.28	0.01	0.55	0.02
Post 5:00 a.m.–7:00 a.m.	99.33	11.36	82.06	18.85
(e) Followership				
Average Number of Followers	361,719.00	94,143.81	137,529.90	44,584.01
Average% of Tweets retweeted over total	67.11	22.21	46.05	18.95
Average% of Tweets marked as favorite over total	79.60	41.83	49.51	21.40

Source: The author.

Table 3 also shows the degree to which the characteristic components of Twitter publications are employed in both areas. Links and hashtags reach their highest use levels in the case of American universities, with averages of 0.78 and 0.83, respectively. As far as mentions are concerned, European universities make the most intensive use of this function, with 0.80 mentions per publication. These findings are in line with the results of publication volumes, at least as far as the European institutions are concerned. The organizations analyzed in Europe present the highest values in the response indicator, a fact which indicates the existence of a dialogue between the institution and its target audience. In this regard, the mentions function, where European universities stand out, is also a mechanism of direct interaction between an audience and organization.

Regarding the publications by day of the week, a clear cut between workdays and weekend days can be appreciated in both continents. Concerning workdays, although it is true that no big variations between days were detected, there is a slight increase in the activity around the central part of the week (Wednesday and Thursday). This increase can be observed, once again, in both of the two geographic areas under observation.

Table 3 also indicates similar patterns in the time of publication in America and Europe. In both cases, the bulk of the activity is concentrated in the morning and afternoon slots, from 8 a.m. to 4 p.m. On the opposite side, what we call peak-off hours, the activity drops

substantially in the 8 p.m. to 10 p.m. time slot, and falls drastically between 11 p.m. and 4 a.m. This situation is also homogeneous in the two continents.

The fifth category of indicators includes those elements that can serve as a sign of the success obtained by the digital marketing strategies in SNSs in the areas analyzed. In this regard, universities in America seem to have significantly bigger target audiences than those observed for Europe. This fact can be seen in the average number of followers per account. Table 3 presents also the recognition obtained by the publications of the organizations in each continent, in terms of retweets and favorites. In both cases the indicator is higher in the American institutions than in the European ones. In America, the average percentage of Tweets that are retweeted over the total number of posts made by the university is 67.11%, while the average percentage of Tweets that are marked as favorites is 79.60%. These values, in the case of Europe, are 46.05% and 49.51%, respectively.

3.2. Results in Response to RQ2

The second research question is addressed by developing a parametric analysis, for independent samples, using the *t*-test technique. However, before the analysis, the author check whether the indicators' values follow a normal distribution in the organizations of both continents. For this purpose, the Shapiro–Wilk test is used. The *p*-value (above 0.05) obtained for the twenty-four indicators, both in America and Europe, corroborate that the indicators' values are normally distributed. With normality of the data corroborated, a parametric analysis was performed.

Table 4 only shows the results of the parametric analysis for those categories for which a descriptive examination was previously carried out, demonstrating the existence of differences between the American and European organizations; that is, categories (a) publication volumes, (b) publication components, and (e) followership.

The results of the parametric analysis for categories (c) (publications by day of the week) and (d) (publications by time slot), those in which the descriptive examination presented similar outcomes in both geographic areas, are presented in Appendix A. The results gathered in Appendix A confirm the absence of significant differences in the management approaches carried out in both continents for these two categories.

The coefficient of significance of Levene's test, with *p*-values under 0.05, reveals that the assumption of equality of variances must be rejected in all the variables (see Table 4). Therefore, under the assumption of unequal variances, the *t*-test, at a significance level of $\alpha = 0.05$, yielded *p*-values below 0.05 for the two-tailed significance for the following indicators: Daily Tweets, Daily Replies, Mentions by post, Average Number of Followers, Average % of Tweets retweeted over total posts, and Average % of Tweets marked as favorite over total posts. A two-tailed significance less than 0.05 (and even less than 0.001 in some cases) indicates that the differences observed in the management of theses variables, between continents, are statistically significant. This fact confirms the presence of explicit differences in the management approaches of the indicated elements in the digital marketing strategies in SNSs in the geographic areas examined.

Table 4. Parametric analysis for independent samples (only categories in which the descriptive examination demonstrated the existence of differences between continents).

		Levene's Test for Equality of Variances		*t*-Test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
(a) Publication volumes								
Daily Tweets	*Equal Va. assumed*	0.159	0.036	3.789	18	0.004	2.326	1.484
	Equal Va. not assumed	-		3.789	9.584	0.004 *	2.326	1.484
Daily Retweets	*Equal Va. assumed*	1.042	0.006	−4.004	18	0.071	5.254	3.311
	Equal Va. not assumed	-		−4.004	11.584	0.071	5.254	3.111
Daily Replies	*Equal Va. assumed*	0.378	0.024	4.024	18	0.000	3.028	2.484
	Equal Va. not assumed	-		4.024	8.245	0.000 *	3.028	2.484
(b) Publication components								
Mentions by post	*Equal Va. assumed*	1.055	0.012	3.809	18	0.000	4.217	4.0311
	Equal Va. not assumed	-		3.809	11.324	0.000 *	4.217	4.0311
Links by post	*Equal Va. assumed*	1.252	0.016	4.980	18	0.089	0.224	0.541
	Equal Va. not assumed	-		4.980	12.214	0.089	0.224	0.541
Hashtags by post	*Equal Va. assumed*	1.654	0.032	−2.321	18	0.053	1.236	2.001
	Equal Va. not assumed	-		−2.321	13.327	0.053	1.236	2.001
(e) Followership								
Average Number of Followers	*Equal Va. assumed*	0.947	0.009	1.115	18	0.000	378.878	93.324
	Equal Va. not assumed	-		1.115	4.014	0.000 *	378.878	93.324
Average% of Tweets retweeted over total	*Equal Va. assumed*	2.103	0.011	4.024	18	0.012	20.138	12.025
	Equal Va. not assumed	-		4.024	3.742	0.012 *	20.138	12.025
Average% of Tweets marked as favorite over total	*Equal Va. assumed*	0.378	0.013	4.024	18	0.007	14.632	8.217
	Equal Va. not assumed	-		4.024	5.378	0.007 *	14.632	8.217

* *p*-values < 0.05. Source: The author.

4. Discussion

Previous research emphasized the need to improve digital marketing strategies in SNSs in the university setting, in many different ways.

Some works address that the use of these technologies demands professionalized management systems [34,36]. Other studies underline that university organizations must use SNSs always in the context of the digital marketing strategies previously defined [46,53]. It is also worth highlighting those works that reflect on the use of these platforms as a mechanism to protect the institutional reputation of university organizations [37,64]. Certain authors even claim that when such technologies are properly integrated into the organization's digital marketing strategies, they can become a powerful recruitment tool [52,65].

Additionally, in accordance with previous research [51], digital marketing strategies in SNSs must be redefined in line with the specific demands of markets, target audiences, and geographic locations.

The findings in this study focus on this last issue, providing academics and professionals with a worthy overview of the management approaches that can be effective in

America and Europe. The findings for the five categories under examination in this study are shown below.

4.1. Publication Volumes

In terms of publication volumes, while strategies in America display the highest ratios of Tweets and Retweets, Europe stand out for their response rates.

These results corroborate the findings of Chen [27] in his research on uses and perks on Twitter. In one study, the author pointed out that a high volume of posts acts as a motivating element that encourages the subject to interact with other users. Nevertheless, the low response rate in the American organizations indicates more unidirectionality in the digital marketing strategies in the SNSs employed in this continent.

4.2. Publication Components

As far as publication components are concerned, while in America the use of links and hashtags is emphasized, organizations in Europe accentuate the use of mentions.

Authors such as Túñez López et al. [57] and Guzmán Duque et al. [52] have stressed the importance of links and hashtags in digital marketing strategies in SNSs. Examining the role of these technologies as communication channels, they highlight the potential of these two elements in facilitating promotion and projection of the organization in front of its target audiences.

However, America's prioritization of link and hashtag use in preference to mentions (traditional indicator of dialogue) seems to corroborate the mentioned unidirectionality of its digital marketing strategies in SNSs.

4.3. Publications by Day of the Week

Day of publication, unlike the previous aspects of publication volumes and publication components, does not show variations between geographic areas. In both continents, the strategies applied concentrate the activity on workdays, in general, and on Wednesdays and Thursdays, in particular.

These results are in line with studies by Túñez López et al. [57] and Valerio Ureña et al. [38], where the authors emphasized the importance of publication frequency in the central part of the week. Nonetheless, these findings contradict the research of Hanifawati et al. [66] on brand management in Facebook, where no significant differences were observed regarding day of publication within workdays.

4.4. Publications by Time Slot

Concerning time of publication, just as with day of publication, there is also homogeneity between geographic areas. In organizations under study in both continents, most of the activity is concentrated in the morning and afternoon time slots, more specifically between 8 a.m. and 4 p.m.

These results are aligned with the findings of Hanifawati et al. [66] and Valerio Ureña et al. [38] mentioned above. These studies underline that strategies with high publication frequencies in the first part of the day tend to be positively perceived by the organization's target audience.

4.5. Followership

Finally, regarding audience response, the results show that in America not only did brands achieve greater followership on the platform, but also more user proactivity than in Europe.

This fact confirms what has been stated by previous studies on marketing-related strategies in American university organizations [35,40,41,53]. These studies always stress the importance and weight of SNSs in digital marketing strategies in this context.

5. Conclusions

Certain aspects of digital marketing strategies in SNSs are universal and are managed similarly in America and Europe. Examples from the present study were days of the week and times of publications. However, we can also identify aspects where important differences were detected, depending on the geographic area analyzed. In this regard, it is worth mentioning that publication volumes were notably higher in America than in Europe. Such a situation of heterogeneity in digital media marketing strategies in SNSs can also be seen in the publication components. While in America the use of links and hashtags was prevalent, organizations in Europe put emphasis on the use of mentions. These nuances were also detected in the followership achieved by organizations, which was more intensive in American organizations than in the European ones.

The findings obtained in the present study lead us to reflect on the significant differences in the management approaches in these two continents. Even though digital marketing strategies in SNSs should be based, generally, on dialogue and interaction with the organization's target audience, this point can be more or less important, depending on the geographic area in which the brand operates. While Europe confers great importance to the organization's interaction with its audience (proof of this is the intensive use of replies and mentions), America tolerates a greater degree of one-way communication. This is illustrated in that followership does not appear to be affected despite the lower degree of dialogue observed, according to the indicators analyzed during the study.

All the foregoing, then, leads to the conclusion that the paradigms governing the definition of digital marketing strategies in SNSs at the global level, a priori thought to be universal, probably require reformulation if they are to be well adapted to the specific realities of the geographic locations where these strategies are implemented.

The present study, unlike previous research that analyze digital marketing strategies in SNS in a single location, presents as its main contribution and value the use of a comparative approach between geographic areas; specifically, a comparative approach that allows us to reveal the existence of different nuances in the management strategies used in the university organizations of these two continents.

5.1. Managerial Implications and Contribution to Theory

In view of all the above, and considering the evidence provided by the study, in the author's opinion, the following managerial implications can be glimpsed. Managerial implications that can serve as guidance to academics and professionals interested in the digital marketing strategies in SNSs.

- The tolerance of a target audience to a certain volume of daily publications may vary substantially depending on the territory.
- The number of mentions, links, and hashtags per publication we use may have better or worse acceptance, depending on the target audience in our territory.
- Management approaches can never be universal in nature, but each organization in its respective territory must find the most efficient patterns in each case.

In summary, it can be stated that management approaches in digital marketing strategies in SNSs seem to be conditioned, among other aspects, by the organization's geographic location, therefore demanding a high degree of adaptation and customization to the realities of each territory.

5.2. Limitations and Future Research

The present work also suffers from a number of limitations. First, the examination of the American continent, in a generic way, without differentiating between North America and Latin America. In the same way that differences have been observed between America and Europe, differences between North America and Latin America, within the continent, could be detected.

Second, the analysis focuses exclusively on university organizations, ignoring other types of organizations. This fact reveals the need to expand the perspectives and contexts

subject to analysis in future research. Consequently, future investigation could consider, for example, analyzing the differences in the management of digital marketing strategies in SNSs in business organizations. This analysis will help the academic community to reveal to which extent the conclusions offered here can be generalized, or not, to any type of organization.

Third, another weakness of the present work is the important differences in the publication volumes analyzed in each geographic area. The evident disparity in publication volumes, between one continent and another, could introduce some sort of bias during the data analysis. Future comparative research could consider the possibility of moderating the impact of these imbalances by measuring these indicators, in relative terms, using some reference standard or pattern.

Finally, this work examines only Twitter's management. Although it is true that this SNS is the predominant one in many countries on both continents, Facebook is also the most followed in many others. Therefore, future studies should examine the phenomenon, here analyzed, on other platforms.

Despite these limitations, the research provides a good overview of the digital marketing strategies in SNSs used in America and Europe, revealing the existence of significant differences in the management approaches applied in these two continents, and addressing also new avenues for future research.

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Appendix A

Table A1. Parametric analysis for independent samples (categories in which the descriptive examination does not demonstrate the existence of differences between continents).

		Levene's Test for Equality of Variances		*t*-Test for Equality of Means				
		F	**Sig.**	**t**	**df**	**Sig. (2-Tailed)**	**Mean Difference**	**Std. Error Difference**
(c) Publications by day of the week								
Post on Monday	*Equal Va. assumed*	0.518	0.481	−2.48	18	0.053	−204.4	82.418
	Equal Va. not assumed			−2.48	17.676	0.053	−204.4	82.418
Post on Tuesday	*Equal Va. assumed*	0.338	0.568	−2.285	18	0.055	−203.3	88.988
	Equal Va. not assumed			−2.285	17.416	0.055	−203.3	88.988
Post on Wednesday	*Equal Va. assumed*	0.161	0.693	−2.131	18	0.097	−195	91.51
	Equal Va. not assumed			−2.131	17.805	0.097	−195	91.51
Post on Thursday	*Equal Va. assumed*	0.216	0.648	−1.24	18	0.231	−123.5	99.63
	Equal Va. not assumed			−1.24	17.573	0.231	−123.5	99.63
Post on Friday	*Equal Va. assumed*	0.667	0.425	−2.138	18	0.066	−179.6	83.989
	Equal Va. not assumed			−2.138	17.348	0.066	−179.6	83.989
Post on Saturday	*Equal Va. assumed*	0.494	0.491	−0.362	18	0.722	−17.8	49.161
	Equal Va. not assumed			−0.362	13.939	0.722	−17.8	49.161
Post on Sunday	*Equal Va. assumed*	0.754	0.397	−0.341	18	0.737	−16.1	47.191
	Equal Va. not assumed			−0.341	13.085	0.737	−16.1	47.191

Table A1. *Cont.*

		Levene's Test for Equality of Variances		*t*-Test for Equality of Means				
		F	Sig.	t	df	Sig. (2-Tailed)	Mean Difference	Std. Error Difference
(d) Publications by time slot								
Post 8:00 a.m.–10:00 a.m.	*Equal Va. assumed*	0.465	0.504	0.019	18	0.985	2.9	156.391
	Equal Va. not assumed			0.019	17.554	0.985	2.9	156.391
Post 11:00 a.m.–13:00 p.m.	*Equal Va. assumed*	0.098	0.757	−2.344	18	0.051	−317.9	135.633
	Equal Va. not assumed			−2.344	17.57	0.051	−317.9	135.633
Post 14:00 p.m.–16:00 p.m.	*Equal Va. assumed*	0.151	0.702	−2.175	18	0.053	−229.5	105.51
	Equal Va. not assumed			−2.175	17.797	0.053	−229.5	105.51
Post 17:00 p.m.–19:00 p.m.	*Equal Va. assumed*	6.169	0.023	−3.117	18	0.066	−244.3	78.366
	Equal Va. not assumed			−3.117	11.521	0.069	−244.3	78.366
Post 20:00 p.m.–22:00 p.m.	*Equal Va. assumed*	7.73	0.012	−1.897	18	0.089	−123.1	64.892
	Equal Va. not assumed			−1.897	9.304	0.089	−123.1	64.892
Post 23:00 p.m.–1:00 a.m.	*Equal Va. assumed*	1.94	0.004	−2.254	18	0.137	−12	5.324
	Equal Va. not assumed			−2.254	9.496	0.149	−12	5.324
Post 2:00 a.m.–4:00 a.m.	*Equal Va. assumed*	2.113	0.163	1.095	18	0.288	0.6	0.548
	Equal Va. not assumed			1.095	15.517	0.288	0.6	0.548
Post 5:00 a.m.–7:00 a.m.	*Equal Va. assumed*	0.196	0.663	−0.242	18	0.812	−16.4	67.854
	Equal Va. not assumed			−0.242	14.479	0.812	−16.4	67.854

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