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Interactivity strategies and engagement in universities' social media communication: insights from Latin America, Europe and the United States

Estrategias de interactividad y compromiso en la comunicación de las universidades en redes sociales: perspectivas de América Latina, Europa y Estados Unidos

Estratégias de interatividade e engajamento na comunicação de mídia sociais das universidades: perspectivas da América Latina, Europa e Estados Unidos

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ABSTRACT | This article examines whether the interactivity strategies used by universities from Latin America, Europe and the United States in their social networks influence the level of engagement of their stakeholders. We applied a content analysis to 90,241 posts on institutional profiles on X/Twitter, Facebook and LinkedIn from 70 universities. The results show that Latin American institutions do not follow a significantly different interactivity strategy than European and US institutions. The interaction rates achieved are very low compared to other sectors and those recommended by experts. The interactivity strategy of universities is not sufficient, since the communication approach of publications in all social networks is very informative and the communication resources are mainly expository, although they are increasingly combined with interactive resources. This study proposes a framework to measure and evaluate the interactivity strategy of organizations in social networks by identifying and analyzing the main dimensions.

KEYWORDS: interactivity, social media, digital communication, institutional communication, universities.

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RESUMEN | *Este artículo busca analizar si las estrategias de interactividad implementadas por universidades de América Latina, Europa y Estados Unidos en sus redes sociales influyen en el grado de participación de los usuarios. Se realizó un análisis de contenido de 90.241 publicaciones en perfiles institucionales de X/Twitter, Facebook y LinkedIn de 70 universidades. Los resultados muestran que las instituciones latinoamericanas no tienen una estrategia de interactividad notoriamente diferente de las europeas y estadounidenses. Las tasas de interacción logradas son muy bajas en relación con otros sectores y aquellas recomendadas por expertos. La estrategia de interactividad de las universidades no es lo suficientemente adecuada, pues el enfoque de comunicación de las publicaciones es altamente informativo en todas las redes sociales y los recursos de comunicación son principalmente expositivos, aunque cada vez se combinan más con recursos interactivos. Esta investigación propone un marco para medir y evaluar la estrategia de interactividad de las organizaciones en las redes sociales, identificando y analizando sus dimensiones clave.*

PALABRAS CLAVE: *interactividad, redes sociales, comunicación digital, comunicación institucional, universidades.*

RESUMO | Este artigo visa analisar se as estratégias de interatividade implementadas por universidades da América Latina, Europa e Estados Unidos nas suas redes sociais influenciam o grau de participação dos usuários. Uma análise de conteúdo foi aplicada a 90 241 postagens em perfis institucionais no X/Twitter, Facebook e LinkedIn de 70 universidades. Os resultados indicam que as instituições latino-americanas não têm uma estratégia de interatividade notavelmente diferente das europeias e das norte-americanas. As taxas de interação alcançadas são muito baixas em relação a outros setores e às recomendadas por especialistas. A estratégia de interatividade não é adequada, uma vez que a abordagem de comunicação das publicações das universidades é altamente informativa em todas as redes sociais, e os recursos de comunicação são principalmente expositivos, embora cada vez mais estejam combinados com recursos interativos. Esta pesquisa propõe um quadro para medir e avaliar a estratégia de interatividade das organizações em redes sociais, identificando e analisando suas dimensões-chave.

PALAVRAS-CHAVE: interatividade, mídias sociais, comunicação digital, comunicação institucional, universidades.

INTRODUCTION

In the current context of volatility, complexity and uncertainty, the development of appropriate institutional communication strategies has become a key issue for universities (Kisiolek et al., 2020) as they enable the management of relationships with actors in the social, cultural, political and economic environment. Digital communication allows universities to implement strategies to promote and differentiate their brand identity while building and developing a solid, distinctive and differentiated reputation (Fähnrich et al., 2020).

Social media platforms play a prominent role in the way organizations communicate with their publics, as they are optimal spaces for connection between digital users (Van Wissen, 2017). Studies show that online tools are becoming increasingly important in universities' institutional communication (Arevalo et al., 2018; Brech et al., 2017; Guzmán Duque & Del Moral, 2013; Peruta & Shields, 2016) although they still lag behind more traditional channels. Recent literature indicates that the Covid-19 pandemic has led to a significant increase in the use of social media as an institutional communication tool by universities (Sharma et al., 2022).

A review of the literature on universities' digital communication (over 30 years) by Zeler and colleagues (2023) has shown that the interactivity strategy developed by institutions is still an under-researched topic, focusing on the analysis of university activities and content. Analyzing the different aspects in isolation does not allow to investigate the strategies developed by universities in their social networks. The literature review also shows that most studies examine a single social network (Fähnrich et al., 2020; Kimmons et al., 2017; Peruta & Shields, 2016) and focus on small samples of universities (Alonso-Flores et al., 2020) and countries (Eger et al., 2020).

Thus, the main purpose of this article is to analyze whether the interactivity strategy implemented by universities in their social networks (through the general approach and the communication resources used in their posts) influences the level of engagement (reaction, virality and conversation) of their audience, examining the communication activities of Latin American institutions in comparison with those in Europe and the United States (US). Properly managing institutional communication on social media through dialog and interaction helps to create a fluid exchange with the public (Agyemang et al., 2015; Canelón, 2013; Marino & Lo Presti, 2018). This contributes to a dynamic and open university in terms of the production, development, dissemination and consumption of scientific knowledge (Alonso-Flores et al., 2020; Guzmán Duque & Del Moral, 2013), bringing universities closer to society.

Furthermore, this study makes a fundamental contribution to the digital communication of organizations. It helps to describe and recognize a key aspect of

their management –the interactivity strategy developed in social networks –and its impact on interaction with stakeholders. At the same time, it indirectly contributes to the management of integral institutional communication of organizations. Interaction with the public is a fundamental factor and digital communication is gaining more and more presence and importance in strategic communication plans (Zerfass et al., 2019).

THEORETICAL FRAMEWORK

Latin American universities are rooted in their own specific institutional, cultural, social, economic, and political context (Atarama-Rojas & Vega-Foelsche, 2020; Canelón, 2013; Guzmán Duque & Del Moral, 2013; Soares et al., 2019), which differs significantly from that of European and North American institutions. Consequently, this context entails a distinct approach to communication management in these institutions, both in general and specifically in the area of digital communication.

Social media have become strategic tools for the institutional communication management of universities, as they promote dialog with their publics (Agyemang et al., 2015; Atarama-Rojas & Vega-Foelsche, 2020; Eger et al., 2020; Guzmán Duque & Del Moral, 2013; Kimmons et al., 2017) in communication management as they have moved from an informational mainstream approach to a more dialogic communication framework (Capriotti, Zeler, & Camilleri, 2021).

Universities should take advantage of digital platforms to promote their public participation (Marino & Lo Presti, 2018). Social media offer institutions more flexibility, personalization and time savings. Several authors agree that social networks are configured as an optimal space for creating a university community and as an ideal framework for social interactions (Agyemang et al, 2015; Atarama-Rojas & Vega-Foelsche, 2020; Kimmons et al, 2017; Marino & Lo Presti, 2018). But to ensure effective relationships, organizations should be willing to interact and have conversations with their stakeholders (Taylor & Kent, 2014).

The concept of interactivity, which is linked to communication strategy (Taylor & Kent, 2014; Theunissen & Wan Noordin, 2012), is explored in studies on corporate communication and public relations with a focus on websites (Agyemang et al., 2015; Capriotti et al., 2016; Meza-Orellana, 2015) and social media (Capriotti, Zeler, & Camilleri, 2021; Capriotti, Zeler, & Oliveira, 2021; Eger et al., 2020; Losada Díaz & Capriotti, 2015) These studies focus on understanding the approach that organizations take in the digital sphere to facilitate interaction and dialog with their stakeholders, and incorporate insights from engagement (Dhanesh, 2017; Jelen-Sanchez, 2017) to propose the concept of interactivity strategy.

Interactivity strategy thus implies the underlying intention and proactive action of organizations to promote the continuous exchange of information, opinions, assessments and experiences with their publics via Internet tools (Theunissen & Wan Noordin, 2012). In other words, the interactivity strategy is the cornerstone on which dialogic communication stands, as organizations use it to establish and develop an appropriate dialog with their stakeholders (Capriotti, Zeler, & Camilleri, 2021; Taylor & Kent, 2014).

Universities can foster (or not) active relationships with their audiences by properly managing the two key components of their social media interactivity strategy: the general communication approach defined for their posts and the communication tools resources applied in each individual post.

The general communication approach refers to the general way in which the content disseminated on social networks is prepared and expressed. Several authors (Guzmán Duque & Del Moral, 2013; Kisiolek et al., 2020) maintain that effective relationships in social media are created mainly when the content stimulates interaction with users. There are two general focuses: informational and conversational (Capriotti, Zeler, & Oliveira, 2021). The informational approach mainly refers to one-page posts where the level of interaction is low. It aims to disseminate information in order to influence the reputation of the institution. The conversational approach refers to bidirectional posts where the level of interactivity is high. It aims to build and maintain relationships by enabling dialog and interaction between the organization and its stakeholders. Several studies suggest that there are differences in the communication approach of higher education institutions. While studies referring to Ibero-American universities indicate that a more interactive approach (Canelón, 2013; Guzmán Duque & Del Moral, 2013) prevails other studies show that digital communication takes a purely informational approach (Kimmons et al., 2017).

Communication resources are elements (textual, graphic, etc.) included in the content disseminated via social networks (Stsiampkouskaya et al., 2021). By combining multiple tools, organizations can use different communication resources to convey information and effectively engage with users on social media. There are two main types of resources: expositive and interactive (Capriotti, Zeler, & Oliveira, 2021). The expositive resources are one-way tools that help disseminate information (i.e., text, images, videos, GIFs, etc.). Interactive resources often require interaction with the user and facilitate information sharing and/or information enhancement expansion (i.e., links, hashtags, questionnaires, etc.). The results of several studies at universities (Brech et al., 2017; Ebrahim & Seo, 2019; Peruta & Shields, 2016) show that expositive (mainly textual and graphic) resources

are utilized far more than interactive resources. Thus, these institutions do not efficiently use the resources available in digital communication to engage in a dialog with their public.

Effective communicative exchange requires continuous interactions between the organizations and their stakeholders within social networks (Anderson et al., 2016; Capriotti, Zeler, & Oliveira, 2021). In this communicational exchange, users have three main forms of interaction with organizations: likes, shares and comments. They are commonly referred to as elements of engagement on social media (Fähnrich et al., 2020).

Likes indicate that people respond to the content posted (on social media), albeit in a simple or minimalay (Abitbol & Lee, 2017). This form of communication does not involve verbal expressions from social media users. They clearly show the reaction of online users to the posted content (Anderson et al., 2016; Macnamara, 2014).

Shares allow followers (or third parties) to become voluntary spokespersons when they share the entities' content (Abitbol & Lee, 2017). They demonstrate the virality achieved by the digital content of institutional communication (Anderson et al., 2016; Macnamara, 2014) on social networks.

Comments are the most authentic expression of online user interaction on social networks (Abitbol & Lee, 2017). They require much more engagement than likes and shares. The conversation on social networks usually manifests itself through comments (Anderson et al., 2016; Macnamara, 2014).

The integration of these three forms of engagement represents an institution's general engagement in social networks (Ballesteros Herencia, 2018; Voorveld et al., 2018). Several studies point to differences in the recommended level of engagement on social networks ("Your guide…", 2022; Feehan, 2022; Martinez, 2023), indicating that the optimal level of engagement should be equal to or greater than 1% on Facebook, equal to or greater than 0.5% on X (Twitter), and equal to or greater than 2% on LinkedIn. Nevertheless, the mean social media engagement is still slightly lower: on Facebook the overall mean is between 0.06% and 0.18%; on X (Twitter), it is between 0.04% and 0.07%; and on LinkedIn between 0.25% and 0.5% ("Your guide…",; Feehan, 2022; Martinez, 2023).

Interaction (likes, shares and comments) in the field of universities on social networks has been investigated in various studies (Atarama-Rojas & Vega-Foelsche, 2020; Eger et al., 2020; Fähnrich et al., 2020; Soares et al., 2019) by analyzing the engagement rate. Several authors have found a significant positive relationship between the interactivity implemented and the attitude and behavior of users on digital platforms (Eger et al., 2020; Soares et al., 2019).

The interactivity strategy of universities on social media is determined by the type of general communication approach as well as the means of communication resources applied in social network posts. All of these can encourage greater or lesser engagement with their audience (figure 1).

On the one hand, a general conversational approach to social media communication would generate greater public engagement (Abitbol & Lee, 2017; Guzmán Duque & Del Moral, 2013; Kisiolek et al., 2020). It would be an important aspect of the communication management of universities' social networks to encourage interaction with their communities. Therefore, an initial research question can be posed (figure 1):

> *RQ1.* Does the type of general communication approach influence the level of user engagement in universities' social networks? Are there significant differences between Latin American institutions and those from the other two regions?

On the other hand, the appropriate combination of different communication tools would boost interaction with users (Brubaker & Wilson, 2018). According to Theunissen and Wan Noordin (2012), successful dialogic environments could be fostered by organizations that provide the resources to create such an environment. A second research question can be derived from this (figure 1):

> *RQ2.* Does the type of communicative resources influence the level of user engagement in universities' social networks? Are there significant differences between Latin American institutions and those from the other two regions?

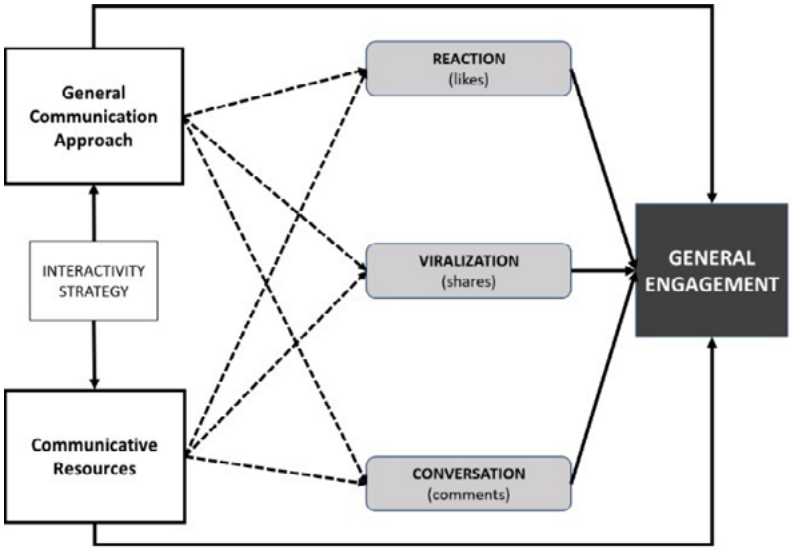

Figure 1. Influence of the social media interactivity strategy on engagement

Source: Own elaboration.

METHODOLOGY

The selection of universities focused on three geographic regions: the US, due to its large number of universities and its predominance in the rankings, Europe as an international benchmark for higher education, and Latin America due to its great potential and its level of university development. The selection of institutions from three major regions makes it possible to compare the results and assess whether there are significant differences between them. The institutions were selected based on their position in the three international rankings: ARWU Ranking of World Universities, THE TIMES Higher Education Rankings and QS World University Rankings. For European and US universities, their position among the top 100 institutions was considered. As Latin American universities are not among the top 100, so they were selected according to their global position and region. In Europe and Latin America, geographical diversity was prioritized in order to achieve a greater representation of different countries. A total of 70 universities were selected: 25 from Latin America, 25 from Europe and 20 from the US (appendix 1).

The social networks were selected based on their popularity and relevance to universities' digital institutional communication (Kemp, 2022): Facebook, as it is the social platform with the most monthly active users worldwide; X (Twitter), due to its important role in the dissemination of information; and LinkedIn, as a reference platform for professional and work-related activities. The official institutional profiles of each university were identified in the selected social networks. All profiles that could not be located or verified by the institutions themselves were discarded.

To answer the research questions, a content analysis of the universities' posts on their institutional profiles on social networks was conducted. Three categories of analysis were: approach, resources and level of engagement. They were developed and tested in previous studies (Capriotti, Zeler, & Oliveira, 2021; Losada Díaz & Capriotti, 2015).

The approach category analyzes the general communication approach used by the institutions on their profiles. Two main types of general approaches were identified (Capriotti, Zeler, & Oliveira, 2021). First, the informational approach: informative and descriptive posts about activities, events or aspects of the institutions, with the aim of disseminating information to the public. Second, the conversational approach: posts that promote or encourage public participation and clearly contain elements that call for action (to participate, share, subscribe to an activity, give an opinion, answer questions, etc.).

The resources category includes the elements used in the posts to facilitate the dissemination of information and/or promote interaction. Two main types of resources have been defined: expositive and interactive (Losada Díaz & Capriotti, 2015). Three types of expositive resources were distinguished: text (the plain text contained in the posts is the basic type of informational resource); graphic (the fixed images, photos and emojis that promote the dissemination of information in a mainly monologic way), and audiovisual (videos, audios and gifs are expositive resources that require more attention from the users). The interactive resources were divided into three types: referential (mentions and hashtags to link the post to other subjects and topics), hypertextual (links to link the post to other information), and participatory (surveys, questions, votes, and other elements to express opinions and assessments).

The level of engagement category determines the degree of interaction of users with the posts on social media (Capriotti, Zeler, & Oliveira, 2021) and analyzes the number of likes, shares and comments received by the institutions for their posts in relation to the number of posts and followers. Four types of engagement outcomes were defined: reaction rate (RR), virality rate (VR), conversation rate (CR) and general engagement rate (GER). They are measured as follows:

- Reaction rate (RR): the total number of likes divided by the total number of posts/tweets, divided by the number of followers, and multiplied by 1000.
- Virality rate (VR): the total number of shares divided by the total number of posts/tweets, divided by the number of followers, and multiplied by 1000.
- Conversation rate (CR): the total number of comments divided by the total number of posts/tweets, divided by the number of followers, and multiplied by 1000.
- General engagement rate (GER): the sum of the three previous rates.

The defined unit of analysis are the posts of the universities in their profiles on the three social media. All posts were recorded during a six-month period in 2021: from March 15 to June 14 and from September 15 to December 14. A total of 26 weeks and 183 days. The number of followers was collected for six months: the number of followers was recorded each month to obtain the average total number of followers. A broad observation period was defined in order to obtain a large amount of information and to avoid possible distortions due to certain situations or actions. To obtain complete and reliable data on the scope and intensity of the universities' communicative activities, all posts were analyzed, not just a selected sample: a total of 90,241 posts (53,446 on X (Twitter), 27,356 on Facebook, and 9,439 on LinkedIn).

The information was collected and processed through the platform and system for the collection and management of mass data and information of the company Noticias Perú (www.noticiasperu.pe). The search and retrieval of the posts was carried out by the research team using the API of X (Twitter) and Facebook and manually in LinkedIn.

To evaluate the intercoder reliability, two analysts tested 300 randomly selected posts. The high agreement of 91% for the general approach (Cohen's Kappa = .82) and 90% for the communication resources (Cohen's Kappa= .93) indicates substantial agreement. This confirms the appropriateness of the measurement method.

After recording in an Excel template, the data was transferred to the IBM SPSS Statistics 25 program for statistical processing and to determine the results. The statistical tests used are non-parametric. The Mann-Whitney U and Kruskal-Wallis H tests were selected to compare the mean engagement rates. A bivariate correlation analysis (Spearman's Rho) was chosen to determine the ratio between the number of resources used and the engagement rates achieved. Two multivariate factorial techniques were used to determine the effects of the types of general approach and types of resources used on engagement rates: correspondence analysis and principal categorical component analysis. The statistical tests used in the analysis are non-parametric in nature, as the Kolmogorov-Sminor test for normality, using the Lilliefors significance correction, resulted in the rejection of the null hypothesis (.000) for the four dependent variables analyzed.

RESULTS

The 70 universities disseminated 90,241 posts on their three social networks. X (Twitter) is the most used platform (52.1%), followed by Facebook (36.0%), and LinkedIn (11.9%). The volume varies between the regions analyzed, with Latin America having almost half of the total posts (48.7%), while Europe (23.9%) and the US (27.4%) are below a third. Latin America has a fairly high level of activity (9.61 posts per day, 2.57 points above the total average). The US achieves a reasonable daily average of publications (6.76 posts per day, 0.28 points below the overall average) with a medium but somewhat low level. Europe has a low overall level of activity (4.71 posts per day, 2.33 percentage points below the daily average of posts).

The overall engagement rate (GER) of universities is .318, but with a high dispersion due to the breadth of the ranges observed (minimum=.001; maximum=2.99). The reaction rate (RR) achieves considerably high results (.262) compared to the virality rate (VR) and the conversation rate (CR), which have very low mean values (<.10). Thus, the RR conditions the results of the general engagement rate (GER).

A contrast analysis of the mean values of the interaction rates (table 1) reveals statistically significant differences. By region, European universities perform better on RR and GER; European and Latin American universities significantly outperform North American universities on VR, and European and North American universities have a higher mean score than Latin American universities on CR. In terms of social networks, LinkedIn has the highest level of interaction for RR and GER, X (Twitter) achieves the best results for VR, and Facebook reaches the highest mean for CR. In general, Latin American universities have a lower interaction rate than institutions in Europe and the US.

Rates	Regions	$\bar{x}$	σ	H*	Social media	$\bar{x}$	σ	H*
RR	EUR	.331	.418	3,320.8	X (Twitter)	.186	.303	6,347.5
	US	.288	.432		Facebook	.301	.426	
	LAT	.228	.376		LinkedIn	.483	.561	
	Total	.262	.400		Total	.262	.400	
VR	EUR	.052	.102	425.7	X (Twitter)	.056	.097	19,005.1
	US	.028	.052		Facebook	.045	.099	
	LAT	.051	.103		LinkedIn	.000	.010	
	Total	.045	.093		Total	.045	.093	
CR	EUR	.012	.040	1977.4	X (Twitter)	.005	.025	6,361.5
	US	.011	.045		Facebook	.016	.056	
	LAT	.008	.036		LinkedIn	.012	.026	
	Total	.010	.039		Total	.010	.039	
GER	EUR	.395	.481	2857.3	X (Twitter)	.247	.387	3,841.4
	US	.328	.473		Facebook	.362	.509	
	LAT	.287	.458		LinkedIn	.496	.575	
	Total	.318	.466		Total	.318	.466	

H=Kruskal-Wallis H:Sig.<.001
RR=Likes/Followers/Posts*1,000;
VR=Shares/Followers/Posts*1,000;
CR=Comments/Followers/Posts*1,000;
GER=∑likes,shares,comments/∑followers/∑posts*1,000

Table 1. Contrast analysis of the means of interaction rates by regions and social networks

Source: Own elaboration.

Influence of types of approach on engagement rates

The descriptive analysis of the type of general approach shows a striking disproportion of posts between the informational (90.8%) and the conversational approach (9.2%). Internally, however, some differences (X^2=539.338; sig. .000) can be observed in the distribution by social network. On X (Twitter), the informational posts clearly predominate, while on Facebook the conversational posts have significantly more weight than the informational ones. On LinkedIn, both types of posts balance each other out, with a slight difference in favor of conversational posts. Universities predominantly pursue a clearly informational approach (90.8%) in their posts on social media posts. The difference between geographical regions is significant, with Latin American institutions showing a strong inclination towards a conversational approach (12.1%). Compared to European universities (8.7%) and almost three times as high among US universities (4.4%).

In the contrasting analysis of mean interaction rates by type of general approach (table 2), informational posts receive a higher mean score than conversational posts for all rates, except CR, where there are no statistically significant differences.

For social media, there are statistically significant differences in all rates except X (Twitter), where engagement is lower, and the means are smoothed and balanced regardless of the approach used. The dispersion matrix of the 70 universities (figure 2) shows that engagement on LinkedIn is the highest of all three social networks and that informational posts have a slightly higher interaction than conversational posts. On Facebook, the biggest difference in engagement can be observed between the two types of general approach.

To analyze the impact of the general approach used in a greater or lesser level of engagement (RQ1), the analysis of the main categorical components was used. For this purpose, a new categorical variable was constructed: the combined interaction rate (CIR) with five homogeneous categories with closed intervals of mean rates: low (.0029 - .048); moderate-low (.049 - .091); moderate (.092 -.195); moderate-high (.196 -.440), and high (.441- and above).

	RR		VR		CR		GER	
	$\bar{x}$	σ	$\bar{x}$	σ	$\bar{x}$	σ	$\bar{x}$	σ
Informational	.389*	2.399	.068*	.597	.014	.108	.471*	2.908
Conversational	.281	1.029	.051	.210	.017	.153	.349	1.241

*Mann-Whitney U Sig.< .001

Table 2. Comparison of means of engagement rates by type of approach and resources

Source: Own elaboration.

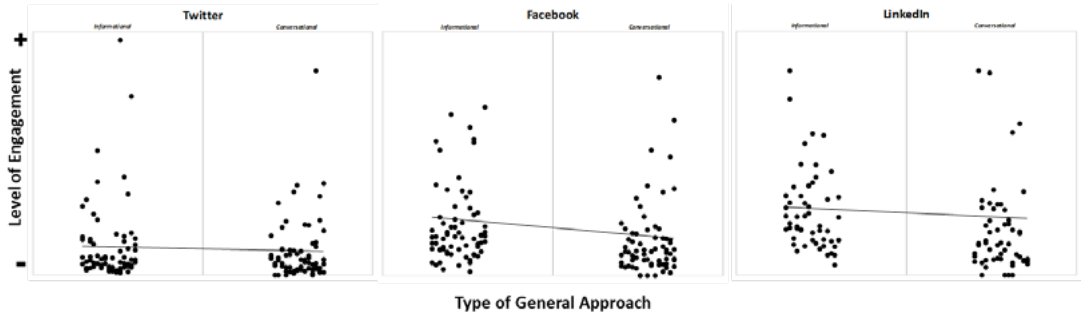

Figure 2. General level of engagement by type of general approach, by social network

Source: Own elaboration.

Impact of types of resource on engagement rates

The descriptive analysis shows that textual resources are the most used by universities (82.8%), followed by hypertextual resources (67.1%), referential resources (60.0%), and graphic resources (52.5%). Audiovisual resources (8.8%) reach less than 10%. Participatory resources (0.7%) are testimonial. A heterogeneous distribution by social network is observed (X^2=539.338; sig. .000). X (Twitter) predominates in textual, graphic, referential and hypertextual resources (between 50% and 55%), followed by Facebook (between 30 and 35%) and finally, at some distance, LinkedIn (between 10 and 15%). In terms of audiovisual resources, Facebook (45.9%) and X (Twitter) (40.8%) have a similar weight. As for the use of participatory resources, Facebook stands out clearly with 77.8%, while it is much lower for X (Twitter) and LinkedIn (between 8% and 12%). Regarding geographical regions, Latin American universities stand out for their extensive use of communication resources (more than 90% of posts). In contrast, European institutions use them in only 23.1% of their publications and US institutions in 24.8%.

In general, the distribution matrix (figure 3) shows that the different types of resources generate a low level of interaction in most universities, and no significant differences are found either by social network or by region.

Regarding the dichotomization (contains the resource or not) (table 3) of each resource, the probability of a higher interaction rate (in general) is observed for posts that contain textual ($\overline{x}$=.550), graphic ($\overline{x}$=.543) and referential ($\overline{x}$=.527) resources. In the case of participatory resources, not including them generates a higher rate ($\overline{x}$=.461). For audiovisual and hypertextual resources, no statistically significant differences are found between their inclusion and non-inclusion.

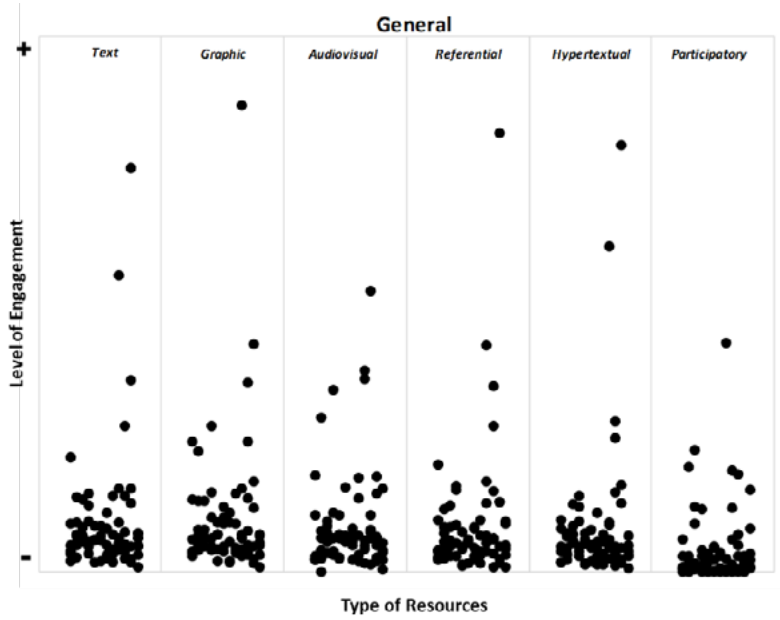

Figure 3. General level of engagement by type of resources

Source: Own elaboration.

Resources		RR		VR		CR		GER	
		$\bar{x}$	σ	$\bar{x}$	σ	$\bar{x}$	σ	$\bar{x}$	σ
Textual	No	.022	0.347	.003	.067	.001	.018	.026	.414
	Yes	.453*	2.524	.079*	.627	.017*	.124	.550*	3.060
Graphic	No	.311	1.688	.045	.489	.013	.109	.369	2.104
	Yes	.441*	2.749	.085*	.638	.016*	.116	.543*	3.300
Audiovisual	No	.379	2.368	.065	.511	.014	.108	.458	2.827
	Yes	.378	1.546	.075	1.007	.025*	.157	.479	2.476
Referential	No	.301	1.570	.046	.560	.013	.118	.360	1.995
	Yes	.432*	2.688	.079*	.580	.016*	.110	.527*	3.222
Hypertextual	No	.383	3.300	.068	.833	.015	.110	.466	3.988
	Yes	.378	1.613	.065	.385	.014	.114	.457	1.968
Participatory	No	.380*	2.315	.066*	.574	.015*	.113	.461*	2.806
	Yes	.225	0.713	.024	.193	.009	.030	.258	0.879

*Mann-Whitney U Sig.< .001

Table 3. Contrast analysis of means of engagement rates by type of resources

Source: Own elaboration.

However, universities tend to combine the number and type of resources used. On average, each university uses 3.74 resources in their posts, with statistically significant differences observed by both region and social network (table 4). Latin America has a greater combination of resources than the US and Europe, both at a general level and in each of the social media analyzed. On the other hand, 95.0% of posts combine both expositive and interactive resources: only 2.3% resort exclusively to expositive resources and 2.7% only to interactive resources. Thus, when correlating the number of resources with interaction rates, a greater number of resources has no influence on higher engagement rates, and there are even negative correlations, albeit with a low strength of relationship, in all regions and social networks. In this way, Latin American universities have negative correlations with almost all social media and types of engagement.

Social network	Region	Resources		Resources-rates correlation			
		$\bar{x}$	σ	RR	VR	CR	GER
X (Twitter)	EUR	3.95	1.169	.066**	.151**	.016	.095**
	US	3.43	1.001	.091**	.096**	-.076**	.096**
	LAT	4.13	1.242	-.268**	-.137**	.011	-.258**
Facebook	EUR	3.42	1.315	-.082**	.024	-.028*	-.071**
	US	3.10	.984	.092**	.046**	.010	.088**
	LAT	3.80	1.145	-.122**	-.024**	-.048**	-.116**
LinkedIn	EUR	3.67	1.193	-.026	.033	-.064**	-.025
	US	3.02	.872	.008	.016	-.015	.008
	LAT	3.81	1.033	-.209**	.028	-.232**	-.215**
X (Twitter)		3.88	1.200	-.105**	-.001	-.057**	-.086**
Facebook		3.62	1.188	-.155**	.008	-.109**	-.143**
LinkedIn		3.51	1.107	-.114**	.033**	-.153**	-.115**
EUR		3.72	1.244	-.023**	.134**	-.055**	.009
USA		3.29	.994	-.026**	.130**	-.123**	-.015
LAT		3.96	1.198	-.214**	-.047**	-.065**	-.203**
Total		3.74	1.194	-.146**	.054**	-.118**	-.128**

** Correlation is significant at the 0.01 level (bilateral).
* Correlation is significant at the 0.05 level (bilateral.

Table 4. Bivariate correlation analysis (Spearman's Rho) between resources and engagement rates

Source: Own elaboration.

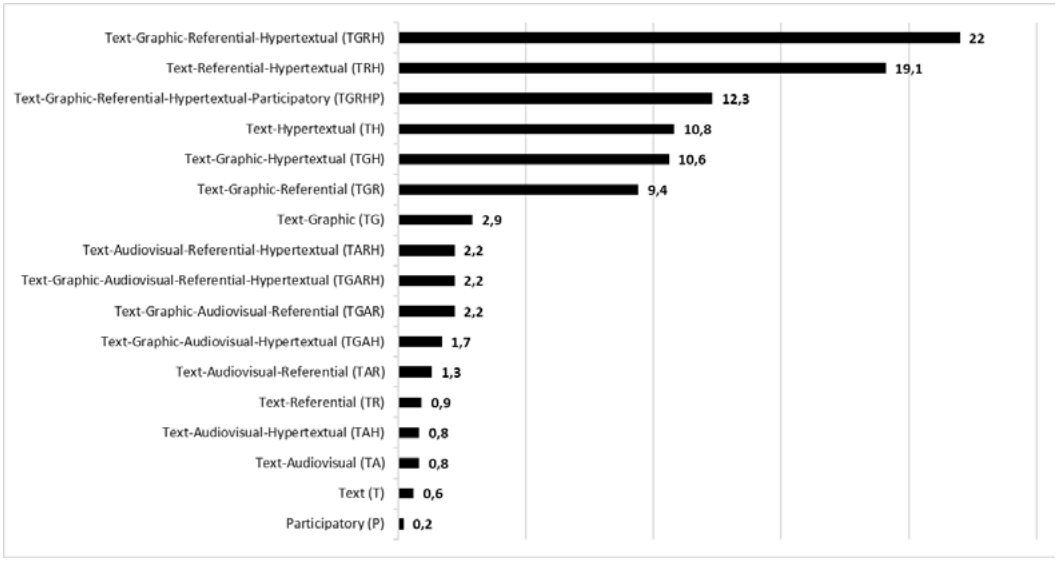

Figure 4. Distribution of posts by types of combined resources (%)

Source: Own elaboration.

Two multivariate factorial techniques were used to assess the effect of the type of resources used in the posts on greater or lesser engagement (RQ2): correspondence analysis and categorical principal components analysis. In this way, two new categorical variables were constructed: types of combined resources (CR), with 17 categories of resource combinations that enjoyed presence (figure 4), and combined interaction rate (CIR), with five homogeneous closed-interval categories: low (.0029 - .048); moderate-low (.049 - .091); moderate (.092 - .195); moderate-high (.196 - .440) and high (.441 and above).

DISCUSSION

Based on the results obtained, several considerations are made to analyze the impact of the type of general approach and the type of resources on the level of engagement of universities' social network users.

In terms of engagement, all interaction rates are very low compared to the averages recommended by experts and to other areas of activity ("Your guide...", 2022 Feehan, 2022; Martinez, 2023), suggesting that universities are not making sufficient use of the interactive possibilities of social networks or are not generating content of interest to their audiences. There is high dispersion due to the breadth of the ranges observed, with a few institutions developing a more efficient strategy for interactivity on social media and a large number of institutions showing low levels of interaction. Latin American universities are very active, but their level of engagement is significantly lower than that of European and US institutions.

In terms of the type of general communication approach taken by universities, there is a clear disparity between the volume of posts of each type (nine out of ten posts have an informational approach). The results show that posts with an informational approach tend to achieve higher engagement rates than conversational posts, which is also confirmed in the regions and social networks, with hardly any significant differences. Universities are therefore resorting to the general approach that achieves the best interaction results with their followers. However, this contrasts with the statements of various studies (Agyemang et al., 2015; Atarama-Rojas & Vega-Foelsche, 2020; Eger et al., 2020; Guzmán Duque & Del Moral, 2013; Kimmons et al., 2017; Marino & Lo Presti, 2018) concerning the importance of a fluid, stable and continuous dialog between institutions and their public through interactive tools on social networks. Latin American institutions have a stronger focus on conversation, but this does not result in higher levels of engagement than universities in Europe and the US.

So, in relation to RQ1, the data obtained clearly shows that posts with an informational approach achieve greater engagement than those aimed at conversational. These findings are consistent with some previous research on the informative purpose of digital communication (Kimmons et al., 2017), but differ from what several previous studies (Abitbol & Lee, 2017; Eger et al., 2020; Guzmán Duque & Del Moral, 2013; Kisiolek et al., 2020; Soares et al., 2019) have suggested about the importance of the conversational approach in favoring user engagement to promote or improve the dialog and relationship between institutions and their publics.

The type of communicative resources applied by universities in their posts on social networks shows that universities mainly rely on some expositive resources (textual and graphic) and to a lesser extent on interactive resources (hypertextual and referential). The data shows that expositive resources achieve a higher level of interaction. The universities' communication strategies combine the various resources: in 95% of posts, universities combine expositive and interactive resources, and the combinations of resources are more likely to result in higher levels of engagement. In this context, in line with the conclusions of other studies (Brech et al., 2017; Ebrahim & Seo, 2019; Peruta & Shields, 2016), it can be confirmed that universities mainly use expositive resources (texts and graphics), which generate greater interaction in their social networks. Latin American institutions use a greater number of interactive resources, but their level of engagement is still lower than that of US and European institutions.

Based on these results, the data for RQ2 show that the expositive resources have a higher level of interaction, as do combinations of two expositive resources (TG

and TA) and the combinations that have a higher number of expositive resources (TGR and TAR). In this sense, these results confirm the conclusions of some studies (Brech et al., 2017; Ebrahim & Seo, 2019; Peruta & Shields, 2016) on the majority use of expositive resources in digital communication. In turn, some differences with other previous studies (Brubaker & Wilson, 2018; Eger et al., 2020; Soares et al., 2019; Theunissen & Wan Noordin, 2012) are also noted regarding the impact that interactive resources can have in improving the interaction and dialog of institutions with their publics.

CONCLUSIONS

This study proposes a framework to measure and evaluate the interactivity strategy of universities in social media by identifying and analyzing its dimensions and key aspects. The results show the interactivity strategy of institutions in social networks: the communication approach of university publications is highly informative and the communication resources are mainly expository, even if they are more and more combined with interactive resources.

This suggests that universities are gradually changing their approach to social media management. While they continue to prioritize information dissemination (informational approach), there is a shift towards a more comprehensive use and integration of different communication resources (expositive + interactive). These strategies aim to increase the attractiveness of content and encourage interaction with stakeholders. In this context, universities' overarching institutional communication is increasingly moving towards a more dialogic global approach with their stakeholders (Taylor & Kent, 2014; Theunissen & Wan Noordin, 2012).

Compared to their counterparts in the other two regions, Latin American universities use more dialogic interactivity strategies. Latin American universities are much more active on social networks than those in Europe and the US. While all regions take an informational approach to communication, Latin American institutions place a greater emphasis on conversation compared to European and US institutions. They also use a greater variety of interactive resources in their posts. However, their interaction rate is below the general average and well below that of institutions in Europe and the US. Consequently, despite their efforts to manage their social networks in a more dialogic way, they do not achieve satisfactory interaction rates compared to the other regions.

This could perhaps be due to the fact that Latin American universities are more inclined (or interested) in facilitating the connection between them and their stakeholders and promoting dialog by encouraging interaction (Guzmán Duque &

Del Moral, 2013; Kang & Norton, 2006; Kisiolek et al., 2020). Nevertheless, the low engagement could be due to the fact that the content disseminated and shared by Latin American universities is not interesting or relevant enough for their followers.

The results will help determine which dimensions of social media interactivity strategy influence follower interaction. They enrich the field of institutional communication by deepening the knowledge of strategic social media management and integrating the key dimensions (as these have usually been studied separately). They can provide practitioners with relevant results that help them to manage the communication resources (what kind of elements should be included in the posts) and the communicative approach (the recommended interactivity orientation that should be applied in the posts) of their strategic communication via social media. This allows higher education institutions to decide whether they want to have a more interactive or informational profile on their social networks.

This study also enhances communication scholarship by expanding the understanding of strategic social media management based on the dialogic communication framework for creating connections and relationships between institutions and their stakeholders via the Internet (Kent & Taylor, 1998) and Internet-based communication strategies (Wirtz & Zimbres, 2018). This will enable other researchers to apply this methodology to other sectors and other social networks to confirm and extend knowledge about digital communication in social networks. In turn, it will also be a useful tool for digital communication professionals as it will help to improve the management of their social media strategy.

As for the limitations of the study, it analyzes only one sector and one type of institution (universities). As an important institution in society, the university is being redefined by the irruption of the social web. It must adapt to technological advances and utilize the potential of the digital sphere to manage its relationships with its stakeholders. In addition, the research was applied to specific social networks: Facebook, X (Twitter), and LinkedIn. For future research, it would be interesting to apply the methodology to other increasingly consolidated social networks (i.e., Instagram or TikTok), as well as to other institutions or organizations in order to comparatively study the interactive strategy in social media. Other aspects that might influence or be relevant to interaction are not examined in this work, such as the level of activity on the social networks or the type of post content disseminated (Fähnrich et al., 2020; Peruta & Shields, 2016). Thus, in the future, this methodology could therefore be complemented by an analysis of companies' posting strategy and their content strategy in order to obtain a more holistic and integral perspective. Likewise, it would be useful to investigate how the combination of multiple strategies influences the level of interaction of users

(Brubaker & Wilson, 2018) to find out what impact the communication strategy on social media has on the relationship between the organization and stakeholders.

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REFERENCES

Abitbol, A. & Lee, S. Y. (2017). Messages on CSR-dedicated Facebook pages: What works and what doesn't. *Public Relations Review, 43*(4), 796–808. https://doi.org/10.1016/j.pubrev.2017.05.002

Agyemang, F. G., Boateng, H., & Dzandu, M. D. D. (2015). Dialogic communication on universities in Ghana libraries' websites. *The Electronic Library, 343*(4), 684–697. https://doi.org/10.1108/EL-02-2014-0041

Alonso-Flores, F.-J., De-Filippo, D., Serrano-López, A.-E., & Moreno-Castro, C. (2020). Contribución de la comunicación institucional de la investigación a su impacto y visibilidad. Caso de la Universidad Carlos III de Madrid (Contribution of the institutional communication of research to its impact and visibility: the case of the Universidad Carlos III de Madrid). *Profesional De La Información, 29*(6). https://doi.org/10.3145/epi.2020.nov.33

Anderson, B. D., Swenson, R., & Gilkerson, N. D. (2016). Understanding Dialogue and Engagement Through Communication Experts' Use of Interactive Writing to Build Relationships. *International Journal of Communication, 10*, 4095-4118. http://ijoc.org/index.php/ijoc/article/view/4569/1759

Arevalo, R. M., Bon, M. V. P., & Pizarro, S. K. L. (2018). Comunicación digital integral en las instituciones educativas con el uso de linkedin: estudio comparativo América Latina-Europa (Integral Digital Communication in Educational Institutions With the Use of Linkedin: Comparative Study Latin America-Europe). *Revista Latinoamericana de Ciencias de La Comunicación, 14*(27), 233–245. http://revista.pubalaic.org/index.php/alaic/article/view/445

Atarama-Rojas, T. & Vega-Foelsche, D. (2020). Comunicación corporativa y branded content en Facebook: un estudio de las cuentas oficiales de las universidades peruanas (Corporate communications and branded content on Facebook: A study of the official accounts of Peruvian universities). *Revista de Comunicación, 19*(1), 37–53. https://doi.org/10.26441/rc19.1-2020-a3

Ballesteros Herencia, C. A. (2018). El índice de engagement en redes sociales, una medición emergente en la Comunicación académica y organizacional (The engagement index in social networks, an emerging measure in academic and organizational communication). *Razón y Palabra, 29*(3), 96–124. https://www.revistarazonypalabra.org/index.php/ryp/article/view/1261/1280

Brech, F. M., Messer, U., Vander Schee, B. A., Rauschnabel, P. A., & Ivens, B. S. (2017). Engaging fans and the community in social media: interaction with institutions of higher education on Facebook. *Journal of Marketing for Higher Education, 27*(1), 112–130. https://doi.org/10.1080/08841241.2016.1219803

Brubaker, P. J. & Wilson, C. (2018). Let's give them something to talk about: Global brands' use of visual content to drive engagement and build relationships. *Public Relations Review, 44*(3), 342–352. https://doi.org/10.1016/j.pubrev.2018.04.010

Canelón, A. R. (2013). Responsabilidad Social Universitaria 2.0. Análisis de las páginas web de universidades de AUSJAL (University SocialResponsibility2.0.Analysis of thewebsitesofuniversitiesAUSJAL). *Revista Internacional de Relaciones Públicas, 3*(5), 27–48. https://doi.org/10.5783/RIRP-5-2013-03-27-48

Capriotti, P., Carretón, C., & Castillo, A. (2016). Testing the level of interactivity of institutional websites: From museums 1.0 to museums 2.0. *International Journal of Information Management, 36*(1), 97–104. https://doi.org/10.1016/j.ijinfomgt.2015.10.003

Capriotti, P., Zeler, I., & Camilleri, M. A. (2021). Corporate Communication Through Social Networks: The Identification of the Key Dimensions for Dialogic Communication. In M. A. Camilleri (Ed.), *Strategic Corporate Communication in the Digital Age* (pp. 33–51). Emerald Publishing Limited. https://doi.org/10.1108/978-1-80071-264-520211003

Capriotti, P., Zeler, I., & Oliveira, A. (2021). Assessing dialogic features of corporate pages on Facebook in Latin American companies. *Corporate Communications: An International Journal, 26*(5), 16–30. https://doi.org/10.1108/CCIJ-10-2020-0149

Dhanesh, G. S. (2017). Putting engagement in its PRoper place: State of the field, definition and model of engagement in public relations. *Public Relations Review, 43*(5), 925–933. https://doi.org/10.1016/j.pubrev.2017.04.001

Ebrahim, H. & Seo, H. (2019). Visual Public Relations in Middle Eastern Higher Education: Content Analysis of Twitter Images. *Media Watch, 10*(1), 41–53. https://doi.org/10.15655/mw/2019/v10i1/49563

Eger, L., Egerová, D., Tomczyk, L., Krystoň, M., & Czeglédi, C. (2020). Facebook for Public Relations in the higher education field: a study from four countries Czechia, Slovakia, Poland and Hungary. *Journal of Marketing for Higher Education, 31*(2), 240-260. https://doi.org/10.1080/08841241.2020.1781737

Fähnrich, B., Vogelgesang, J., & Scharkow, M. (2020). Evaluating universities' strategic online communication: how do Shanghai Ranking's top 50 universities grow stakeholder engagement with Facebook posts? *Journal of Communication Management, 24*(3), 265–283. https://doi.org/10.1108/JCOM-06-2019-0090

Feehan, B. (2022, February 28). *2022 Social Media Industry Benchmark Report*. RivalIQ. https://www.rivaliq.com/blog/social-media-industry-benchmark-report/

Guzmán Duque, A. P. & Del Moral, M. E. (2013). Twitter's contribution to improving strategic communication in Latin American universities. RUSC. *Universities and Knowledge Society Journal, 10*(2). https://doi.org/10.7238/rusc.v10i2.1744

Jelen-Sanchez, A. (2017). Engagement in public relations discipline: Themes, theoretical perspectives and methodological approaches. *Public Relations Review, 43*(5), 934–944. https://doi.org/10.1016/j.pubrev.2017.04.002

Kang, S. & Norton, H. E. (2006). Colleges and universities' use of the World Wide Web: A public relations tool for the digital age. *Public Relations Review, 32*(4), 426–428. https://doi.org/10.1016/j.pubrev.2006.08.003

Kemp, S. (2022, January 26). Digital 2022: Global Overview Report. *We Are Social & Hootsuite*. https://datareportal.com/reports/digital-2022-global-overview-report

Kent, M. L. & Taylor, M. (1998). Building dialogic relationships through the world wide web. *Public Relations Review, 24*(3), 321–334. https://doi.org/10.1016/S0363-8111(99)80143-X

Kimmons, R., Veletsianos, G., & Woodward, S. (2017). Institutional Uses of Twitter in U.S. Higher Education. *Innovative Higher Education, 42*, 97–111. https://doi.org/10.1007/s10755-016-9375-6

Kisiolek, A., Karyy, O., & Halkiv, L. (2020). Comparative Analysis of the Practice of Internet Use in the Marketing Activities of Higher Education Institutions in Poland and Ukraine. Comparative Economic Research. *Central and Eastern Europe, 23*(2), 87–102. https://doi.org/10.18778/1508-2008.23.14

Losada Díaz, J. C. & Capriotti, P. (2015). La comunicación de los museos de arte en Facebook: comparación entre las principales instituciones internacionales y españolas (The Communication of Art Museums in Facebook: Comparison of Key International and Spanish Institutions). *Palabra Clave, 18*(3), 889–904. https://doi.org/10.5294/pacla.2015.18.3.11

Macnamara, J. (2014). Emerging international standards for measurement and evaluation of public relations: A critical analysis. *Public Relations Inquiry, 3*(1), 7–29. https://doi.org/10.1177/2046147X14521199

Marino, V. & Lo Presti, L. (2018). Approaches to university public engagement in the online environment: Insights from Anglo-Saxon higher education. *International Journal of Educational Management, 32*(5), 734–748. https://doi.org/10.1108/IJEM-10-2016-0215

Martinez, C. (2023, April 5). What is A Good Engagement Rate for the Different social Networks? *Cyberclick*. https://www.cyberclick.net/numericalblogen/what-is-a-good-engagement-rate-for-the-different-social-networks

Meza-Orellana, J. L. (2015). Sitios web internacionales como herramientas de internacionalización: un análisis de las universidades chilenas y españolas (International web sites as an internationalization tools: an analysis of Chilean and Spanish Universities). *Revista Internacional de Relaciones Públicas, 5*(9), 47–66. https://doi.org/10.5783/revrrpp.v5i9.325

Peruta, A. & Shields, A. B. (2016). Social media in higher education: understanding how colleges and universities use Facebook. *Journal of Marketing for Higher Education, 27*(1), 1–13. https://doi.org/10.1080/08841241.2016.1212451

Sharma, H., Jain, V., & Mogaji, E. (2022). *Usage of Social Media Channels by Higher Education Leaders*. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.4025759

Soares, J. C., Sarquis, A. B., Cohen, E. D., & Soares, C. T. (2019). Social Media Marketing Communication: Effect of interactivity and vividness on user engagement. *Brazilian Journal Of Marketing, 18*(4), 244–268. https://doi.org/10.5585/remark.v18i4.14321

Stsiampkouskaya, K., Joinson, A., Piwek, L., & Stevens, L. (2021). Imagined Audiences, Emotions, and Feedback Expectations in Social Media Photo Sharing. *Social Media and Society, 7*(3). https://doi.org/10.1177/20563051211035692

Taylor, M. & Kent, M. L. (2014). Dialogic Engagement: Clarifying Foundational Concepts. *Journal of Public Relations Research, 26*(5), 384–398. https://doi.org/10.1080/1062726X.2014.956106

Theunissen, P. & Wan Noordin, W. N. (2012). Revisiting the concept 'dialogue' in public relations. *Public Relations Review, 38*(1), 5–13. https://doi.org/10.1016/j.pubrev.2011.09.006

Van Wissen, N. (2017). Building Stakeholder Relations Online: How Nonprofit Organizations Use Dialogic and Relational Maintenance Strategies on Facebook. *Communication Management Review, 2,* 54–74. https://doi.org/10.22522/cmr20170119

Voorveld, H. A. M., van Noort, G., Muntinga, D. G., & Bronner, F. (2018). Engagement with Social Media and Social Media Advertising: The Differentiating Role of Platform Type. *Journal of Advertising, 47*(1), 38–54. https://doi.org/10.1080/00913367.2017.1405754

Wirtz, J. G. & Zimbres, T. M. (2018). A systematic analysis of research applying 'principles of dialogic communication' to organizational websites, blogs, and social media: Implications for theory and practice. *Journal of Public Relations Research, 30*(1–2), 5–34. https://doi.org/10.1080/1062726X.2018.1455146

Your guide to social media engagement rates. Learn target engagement rates for Facebook, LinkedIn, Instagram, and Twitter. (2022, May 8). www.Adobe.Com. https://www.adobe.com/express/learn/blog/what-is-a-good-social-media-engagement-rate#what-is-a-good-social-media-engagement-rate

Zeler, I., Capriotti, P., & Oliveira, A. (2023). 30 años de producción científica sobre comunicación institucional de las universidades: evolución histórica del 1990 al 2020 (30 Years of Scientific Production on Institutional Communication of Universities: Historical Evolution from 1990 to 2020). *Estudios Sobre El Mensaje Periodistico, 29*(1), 235–246. https://doi.org/10.5209/esmp.80639

Zerfass, A., Verčič, D., Verhoeven, P., Moreno, A., & Tench, R. (2019). *European Communication Monitor 2019. Exploring trust in the profession, transparency, artificial intelligence and new content strategies*. Results of a survey in 46 countries. EACD/EUPRERA.

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