COMMUNICATION & SOCIETY

Paul Capriotti
https://orcid.org/0000-0002-9398-5886
paul.capriotti@urv.cat
Universitat Rovira i Virgili

Carmen Carretón-Ballester
https://orcid.org/0000-0002-4851-9683
mc.carreton@ua.es
Universidad de Alicante

Jose-Carlos Losada-Díaz
http://orcid.org/0000-0002-3966-837X
jclosada@um.es
Universidad de Murcia

Analysing the influence of Universities' content strategy on the level of engagement on social media

Abstract

Social media have become a key tool in the institutional communication of universities to disseminate content and establish interaction and dialogue with their publics. Content strategy in social networks is a relevant aspect to inform their audiences about their daily activities and position universities in the digital sphere. This article studies the influence of the different types of content posted by universities on their social networks on the level of engagement of their publics. We conducted a content analysis of more than 90,000 posts by 70 universities in three regions (Europe, the United States and Latin America) on their institutional profiles on three social networks (Twitter, Facebook and LinkedIn). The results show that the level of engagement achieved by the universities' posts is very low. Universities clearly prioritize institutional content over functional content, and organizational topics are the most published on social networks. Institutional content achieves a higher level of engagement than functional content, and posts on organizational topics have the best level of engagement. Our study might refute the hypothesis that "functional content will generate a higher level of engagement than institutional content on social networks." Thus, it can be concluded that the combination of content on social networks suggests that universities mainly use social networks to develop an institutional positioning strategy on social media.

Keywords
University, higher education, institutional communication, digital communication, social media, content strategy.

1. Introduction

Universities are decisive social actors and are among the main drivers of progress in their immediate environments (Camilleri, 2019; Kisiołek *et al.*, 2020). To accomplish this task, universities need to maintain close relations with their environment and, to this end, institutional communication is a fundamental tool. Within the realm of institutional communication, much research has highlighted the importance of digital tools and social media (Camilleri, 2019; Ebrahim & Seo, 2019; Gori *et al.*, 2020; Jadrić & Kovačević, 2018; Kisiolek *et al.*, 2020).

Capriotti, P., Carretón-Ballester, C. & Losada-Díaz, J.-C.
**Analysing the influence of Universities' content strategy
on the level of engagement on social media**

This research recognizes the importance of social media content strategy as a key factor for universities to inform their publics about their daily behaviour, by selecting their most relevant information and the appropriate combination of the various content they offer (Bélanger *et al.*, 2014; Brech *et al.*, 2017; Peruta & Shields, 2016). In addition, social media allow universities to establish a fluid exchange with their publics through dialogue, interaction, participation and bonding with them (Albanna *et al.*, 2022; Mesquita *et al.*, 2020; Melewar *et al.*, 2018; Marino & Presti, 2018).

The main aim of this article is to analyse the influence of the different types of content posted by universities in their social networks concerning their followers' degree of engagement (reaction, viralization and conversation). The results will enable assessing the social media content strategy topics that are of greatest interest or relevance to users. This will help universities adjust their digital communication strategy on social platforms to improve their interaction with their publics.

2. Theoretical framework

2.1. *Digital communication of university content*

The digital dimension of institutional communication enables the university community and society as a whole to learn about the different activities of higher education institutions (Camilleri, 2019; Kisiolek *et al.*, 2020; Marino & Lo Presti, 2018). Thus, universities' digital communication contributes to meeting the information needs of their publics (Marino & Lo Presti, 2018; Kimmons *et al.*, 2017) and enables institutions to become a source of information for all those interested in university issues (Fähnrich *et al.*, 2020; Kisiolek *et al.*, 2020; Marino & Lo Presti, 2018; Royo-Vela & Hünermund, 2016; Kimmons *et al.*, 2017), which helps to promote their visibility and differentiate themselves (Jadrić & Kovačević, 2018; Vetrova *et al.*, 2019; Eger *et al.*, 2021). In addition, on the internet and on social networks, universities find suitable channels to disseminate their various activities among their stakeholders (Atarama-Rojas & Vega-Foelsche, 2020; Fähnrich *et al.*, 2020; Ferrer-Serrano *et al.*, 2020; Oliveira, 2020; Peruta & Shields, 2016).

Depending on the activity of the universities, five main types of thematic content can be identified: teaching, research, social commitment, organizational, and context (Oliveira, Capriotti & Zeler, 2022). This content can be grouped into two large blocks of information about universities: Functional and Institutional.

An initial general block of content, fundamental in nature, which we call "**Functional**," refers to all information on the activities carried out related to the three main roles of universities (Atarama-Rojas & Vega-Foelsche, 2020; Di Nauta *et al.*, 2020; Fähnrich *et al.*, 2020; Oliveira, 2020; Marino & Presti, 2018; Simancas-González & García-López, 2017): *teaching*, *research*, and *social commitment*.

- Teaching content: issues dealing with academic life, training programmes and teaching activity (Di Nauta *et al.*, 2020; Ebrahim & Seo, 2019; Fähnrich *et al.*, 2020; Oliveira, 2020). This group would encompass information relating to undergraduate and postgraduate training activities, teacher and student mobility, internationalization, etc.
- Research content: information relating to the university's research projects and activity, as well as the research outcomes themselves (Atarama-Rojas & Vega-Foelsche, 2020; Di Nauta *et al.*, 2020; Ebrahim & Seo, 2019; Fähnrich *et al.*, 2020; Oliveira, 2020). It includes issues related to R&D&I projects, doctorates and publications resulting from research.
- Commitment content: information focusing on the institution's "third mission": its integration, links and social engagement, as well as its USR and sustainability projects and activities (Atarama-Rojas & Vega-Foelsche, 2020; Di Nauta *et al.*, 2020; Ebrahim & Seo, 2019; Gori *et al.*, 2020; Marino & Lo Presti, 2018; Oliveira, 2020).

Capriotti, P., Carretón-Ballester, C. & Losada-Díaz, J.-C.
**Analysing the influence of Universities' content strategy
on the level of engagement on social media**

The second general block of content would be "**Institutional**" in nature, relating to the management and governance of the university itself, as well as on the relevant aspects of its environment (Atarama-Rojas & Vega-Foelsche, 2020; Simancas-González & García-López, 2017; Marino & Presti, 2018; Lee, 2019; Ebrahim & Seo, 2019): it would include *organizational* content and *context* content.

- Organizational content: information that promotes and explains the general running of the university, as well as the daily performance of its managers, to render its administration transparent to its publics (Atarama-Rojas & Vega-Foelsche, 2020; Ebrahim & Seo, 2019; Fähnrich *et al.*, 2020; Jadrić & Kovačević, 2018; Oliveira, 2020).
- Context content: topics on issues or events of the general (social, economic, technological, cultural, etc.) and sectoral environments (educational and university), as well as the university's position with regard to them (Atarama-Rojas & Vega-Foelsche, 2020; Ebrahim & Seo, 2019).

The appropriate selection and combination of each of the different contents will define the universities' **social media content strategy**. This will contribute to strengthening a certain communicative positioning of university institutions, strategically outlining the presence of the issues that will define their particular and differential aspects. This may influence their publics' perceptions of them, improving the universities' reputation.

2.2. *From content dissemination to interaction*

The role of communication in the digital context should seek to promote relations with stakeholders through dialogue. Some authors (Taylor & Kent, 2014; Losada Díaz & Capriotti, 2015; Wang & Yang, 2020; Wissen, 2017) relate the basis of communication management on social networks to the principles of dialogic communication. Social networks provide an appropriate channel to foster interaction to achieve a relationship of mutual benefit between organizations and their publics (Wissen, 2017; Wang & Yang, 2020). Through digital platforms, organizations can better understand their publics, get to know users' opinions and feelings, promote their activities; but also, users are encouraged to communicate with greater proximity, ease, and fluency, and they can engage directly and personally in conversations (Capriotti, Zeler & Camilleri, 2021; Pereira *et al.*, 2014).

Effective exchange of communications within social networks involves interactions between the organizations and the online users to generate reactions, promote content sharing or engage in conversations through comments (Brubaker & Wilson, 2018; Santos *et al.*, 2022). Thus, **Engagement** represents interaction in social networks and it could have significant effects on building relationships between organizations and their publics (Capriotti, Zeler & Oliveira, 2021; Santos *et al.*, 2022). The engagement between the organizations and their publics is based on three forms of interaction: *likes*, *shares* and *comments*. Together, they are commonly referred to as "social media engagement" (Fähnrich *et al.*, 2020).

- Likes suggest that the individuals are (somehow) reacting towards the posted content, albeit in a basic or minimal manner (Abitbol & Lee, 2017; Cho *et al.*, 2014). This also includes other features such as 'love', 'care', 'wow', 'sad', 'celebrate', 'angry', etc. 'Likes' on social media would clearly indicate online users' *reaction* to the posted content (Anderson *et al.*, 2016; Macnamara, 2014).
- Shares allow users (or third parties) to become volunteer spokespeople since they promote the content of organizations (Abitbol & Lee, 2017; Cho *et al.*, 2014). 'Shares' show the *virality* obtained on social networks by the digital content of the institutional communication (Anderson *et al.*, 2016; Macnamara, 2014).
- Comments are the most genuine expression of the online users' interaction on social networks, since organizations and publics may engage in direct conversations (Abitbol & Lee, 2017; Cho *et al.*, 2014). They require far more commitment than likes and shares. The

Capriotti, P., Carretón-Ballester, C. & Losada-Díaz, J.-C.
**Analysing the influence of Universities' content strategy
on the level of engagement on social media**

conversation usually manifests through 'comments' on social networks (Anderson *et al.*, 2016; Macnamara, 2014).

These three forms of interaction, jointly, represent an organization's **General Engagement** in the social networks (Capriotti & Zeler, 2020; Mesquita *et al.*, 2020; Voorveld *et al.*, 2018). Publics may exhibit different levels of interaction towards the organizations' posts through social media platforms (Brech *et al.*, 2017; Guzmán & Del Moral, 2013; Peruta & Shields, 2016). The *level of engagement* allows organizations to evaluate the volume or quantity of effects (likes, shares, comments) achieved on the posts disseminated by entities. According to several recent studies (Dixon, 2022; Feehan, 2022; Martínez, 2022), the average level of engagement on Facebook is between 0.06% and 0.18%, on Twitter it is between 0.04% and 0.07%, and on LinkedIn it is between 0.25% and 0.5%. These results are much lower than the degree of interaction in social networks recommended by the experts (Dixon, 2022; Feehan, 2022; Martínez, 2022), who suggest that the optimal level of engagement on Facebook should be higher than 1%, on Twitter it should be higher than 0.5%, and on LinkedIn it should be above 2%.

One of the main objectives of universities' digital communication through their social networks is to improve their general engagement with the university community (Jadrić & Kovačević, 2018) and with their social surroundings (Fähnrich *et al.*, 2020; Gori *et al.*, 2020; Guzmán *et al.*, 2013), seeking to create a fluid conversation (Atarama-Rojas & Vega-Foelsche, 2020; Eger *et al.*, 2021; Kimmons *et al.*, 2017; Marino & Lo Presti, 2018) and enhancing the construction of solid relationships with them (Gori *et al.*, 2020; Kimmons *et al.*, 2017; Eger *et al.*, 2021; Melewar *et al.*, 2018).

Universities' engagement has been studied by various authors (Atarama-Rojas & Vega-Foelsche, 2020; Eger *et al.*, 2021; Fähnrich *et al.*, 2020; Gori *et al.*, 2020; Soares *et al.*, 2019). The results, with their nuances, indicate that content dealing with academic issues and social aspects generates a high degree of interaction, and so topics related to universities' functional activity (teaching, research and social commitment) would be of greater interest to their publics than issues related to institutional and contextual matters. Based on these approaches, a general hypothesis could be posited: H_1 = functional content (teaching, research and social commitment) generates a higher level of engagement than institutional content (organizational and context) on social networks.

Having a proper social media content strategy can significantly boost universities' engagement with their publics, through the appropriate choice and combination of the content disseminated (Capriotti, Zeler & Oliveira, 2021; Atarama-Rojas & Vega-Foelsche, 2020; Eger *et al.*, 2021; Fähnrich *et al.*, 2020; Gori *et al.*, 2020; Soares *et al.*, 2019; Jadrić & Kovačević, 2018).

3. Methodology

The universities were selected based on their position in the three most prestigious international rankings: the *ARWU Ranking of World Universities*, *THE Times Higher Education Rankings* and *QS World University Rankings*. In order to obtain a broad geographical representation of the universities, the following areas were defined: The United States (due to the number and relevance of its universities in the rankings and its geographical dimension), Europe (because it is a reference on an international level), and Latin America (due to its high university development). The institutions of the United States and Europe were selected from among the top 100 institutions in these rankings. Those of Latin America, as they are not present among the top 100 positions, were chosen based on their general position in the global rankings and by regions. In the case of Latin America and Europe, priority was given to geographical diversity to achieve greater representativeness of the different countries. On this basis, 70 universities were selected: 20 from the United States, 25 from Europe, and 25 from Latin America (Appendix 1).

Capriotti, P., Carretón-Ballester, C. & Losada-Díaz, J.-C.
**Analysing the influence of Universities' content strategy
on the level of engagement on social media**

Three of today's most important social networks were chosen (Kemp, 2022), which are extensively implemented in universities' digital institutional communications: Facebook (with the highest number of active users in the world), Twitter (one of the favourites for the search for and dissemination of information), and LinkedIn (specializing in professional relationships). The official institutional account of each university was identified.

In order to test the general hypothesis posited and to achieve the general objective, the following research questions (RQ) were defined:

RQ1. What types of content do universities disseminate on their social networks?

RQ2. What level of engagement do universities achieve in their social networks?

RQ3. Do the different types of content influence users' Level of Engagement on universities' social networks?

RQ4. Are there significant differences between regions and platforms?

A content analysis of the posts by the universities in their institutional profiles on social networks was conducted. Two categories of analysis were defined: "content type" and "level of engagement," which have already been developed and tested in prior studies (Capriotti, Zeler & Oliveira, 2021; Capriotti & Zeler, 2020; Losada Díaz & Capriotti, 2015).

"**Content Type**" establishes the relevant topics dealt with by universities on their social networks. To this end, five main themes were identified (Oliveira *et al.*, 2022): (1) *Teaching*: information concerning everything related to undergraduate and postgraduate training activity, teaching activities, academic outcomes, teaching methods, evaluations of faculty, teaching publications, etc.; (2) *Research*: information related to the research activity of the university (R&D&I projects, doctorates, research, scientific publications, etc.); (3) *Commitment*: information related to the university's sustainable actions, as well as its social activity and its link with the community; (4) *Organizational*: information on the general running and governance of the university (positions, roles, structure, appointments, etc.); and (5) *Context*: information related to general (social, economic, cultural, etc.) or sectoral (educational and university) issues that are not directly linked to the university. For an example of each type of content, see Appendix 2.

From these five topics, two large groups or blocks of content were defined: The first three (teaching, research and commitment) make up the "*Functional*" block (referring to the three essential functions of the institution), while the last two (organizational and context) constitute the "*Institutional*" block (related to the general management of the entity).

"**Level of Engagement**" determines users' degree of interaction with social media posts (Abitbol & Lee, 2017; Capriotti & Zeler, 2020; Cho *et al.*, 2014), analysing the volume of likes, shares and comments obtained in the posts published by the institutions, in relation to the number of posts published and the volume of followers. Four engagement indicators were developed: the *reaction rate* (RR), the *viralization rate* (VR), the *conversation rate* (CR) and the *general engagement rate* (GER) (Capriotti & Zeler, 2020; Fähnrich *et al.*, 2020), which will allow analysing the Level of Engagement of posts by universities, as well as the influence of content types on engagement. They are measured as follows:

- *Reaction Rate* (RR): the total number of likes divided by the total number of posts; divided by the number of followers; multiplied by 1,000.
- *Viralization Rate* (VR): the total number of shares divided by the total number of posts; divided by the number of followers; multiplied by 1,000.
- *Conversation Rate* (CR): the total number of comments divided by the total number of posts; divided by the number of followers; multiplied by 1,000.
- *General Engagement Rate* (GER): the sum of the three rates.

The study was carried out over six months during 2021. Three months were chosen in the first semester (13 weeks, 91 days, from March 15 to June 14) and three months in the second (13 weeks, 92 days, from September 15 to December 14). The same dates were selected for all universities throughout the entire academic year (to avoid the influence of a specific situation,

Capriotti, P., Carretón-Ballester, C. & Losada-Díaz, J.-C.
**Analysing the influence of Universities' content strategy
on the level of engagement on social media**

such as a special event or date or a specific crisis), trying to exclude possible biases caused by the main public holidays or vacation periods. In total, 26 weeks and 183 days were included. The unit of analysis were the posts by universities in their official profiles on the social networks selected during the established time period. The study sample was made up of all the publications (90,241 in total; 27,356 Facebook posts, 9,439 LinkedIn posts, and 53,446 Twitter tweets), both their own and shared, that the selected universities made on their social media accounts. The total period enabled intensive information gathering to obtain highly reliable data on the volume and intensity of universities' communication activity.

Information was collected and processed via the platform and mass data and information collection and management system of the company Noticias Perú (www.noticiasperu.pe). To this end, a three-member work team was set up (one supervisor and two technicians) to retrieve posts, and another team of three people (one supervisor and two analysts) for the initial data extraction and analysis.

To evaluate intercoder reliability and the agreement of the method used, the two analysts carried out a test on a sample of 300 posts using a random procedure. This sample is highly satisfactory for evaluating agreement and reliability between two analysts (Lombard *et al.*, 2002). Using 2×2 contingency tables as a basis for their statistical analysis and with a 95% confidence interval, the percentage calculation of agreement between the two analysts is established, to find out if both observations obtain similar results. Cohen's kappa coefficient (k) is also calculated to assess the reliability of the categorical variables. To interpret the results of Cohen's kappa coefficient, the measurement ranges proposed by Landis and Koch (1977) are applied. For the interpretation of the results of the level of agreement, the equivalent percentages are applied. A very high degree of agreement was obtained for the criteria of the tool, so it can be concluded that the measurement is valid: the overall agreement between analysts was 90.5%. Each of the posts analysed could be categorized into a maximum of two different topics. 91% agreement (Kappa value of .83) was obtained for "Topic 1," and 90% (Kappa value of .80) for "Topic 2."

The data were recorded in an Excel template specifically designed for this research and subsequently analysed using the IBM SPSS Statistics 25 software package for processing and to obtain the results. The statistical tests used in the analysis are non-parametric. In the case of contrasts on the average engagement rates by type of content, the Mann-Whitney U and Kruskal-Wallis H tests were chosen. To determine the impact on engagement rates by information blocks and content types, a correspondence analysis was used.

4. Results

In the period under analysis, the 70 universities disseminated a total of 90,241 posts via the three social networks studied, but two topics were recorded in 9,765 posts, which leads to an increase in the number of posts analysed to 100,006 units.

4.1. *Types of content posted by universities on their social networks*

Results show that *functional* posts account for 30.7%, and *institutional* posts 69.3%. The higher proportional weight of *institutional* posts at the general level is also observed by regions, although with some differences: in North American universities (78.1%), it is higher than in the rest, above the general average; in European universities (69.6%) it is close to the general average and the score for Latin American universities (64.6%). In this sense, Latin American universities are more predisposed to generate *functional* posts.

By types of thematic content, differences are also observed: *organizational* content is, by far and in all three regions, the most commonly present (66.4%); the North American universities rank first (77.0%), the European universities are close to the average (68.6%), and the Latin American ones fall short of 60%. *Teaching* content accounts for 19.7%, and Latin American universities (24.6%) display comparatively greater activity in respect to the other

Capriotti, P., Carretón-Ballester, C. & Losada-Díaz, J.-C.
**Analysing the influence of Universities' content strategy
on the level of engagement on social media**

two regions. *Research* content is low, and the European (10.9%) and the US (8.6%) institutions almost double the score for Latin America (5.6%). *Commitment* and *context* content have a marginal weight in the North American and European institutions, while in the Latin American ones they reach around 5% in both topics. As for social networks, Twitter is the network most used (52.1%) by universities to disseminate their posts, followed by Facebook (36.0%), and LinkedIn (11.9%).

By content blocks, no major differences are observed in their internal distribution: on Twitter, the weight of *institutional* content (53.3%) exceeds *functional* content (48.5%); on Facebook, the weight of *functional* content (39.9%) is higher than *institutional* content (34.5%), and on LinkedIn, both blocks record practically the same weight of dissemination (*institutional*, 12.2% and *functional*, 11.6%).

By type of content, there is also a homogeneous distribution by social networks: Twitter has more weight in all types of content, followed by Facebook and, at a considerable distance, LinkedIn. The data show that the topics that stand out on Twitter are organizational content (53.4%) and research (52.3%), although there is a significant presence of other topics: context (52%), commitment (49.7%) and teaching (46.5%). On Facebook, commitment (44.8%), teaching (43.3%) and context (43.1%) stand out, with a difference of more than ten percentage points, over the rest of the topics. On LinkedIn, despite their lower activity, research (16.4%) and organization (12.8%) are distanced from the low presence of context (4.9%), commitment (5.4%) and teaching (10.2%).

Thus, it can be seen that *institutional* information predominates over *functional* information. The majority of institutional posts are *organizational* and are more present in universities in the United States, followed by European universities and, lastly, universities in Latin America. By social networks, Twitter stands out for *institutional* posts (with *organizational* content being the most present), while Facebook and LinkedIn are used more for *functional* content, with content on *commitment* (in Facebook) and *research* (in LinkedIn) predominating.

4.2. *Level of Engagement of universities in their social networks*

In the set of data analysed (Table 1), the universities' total *general engagement rate* (GER) is above .300 with high dispersion (above .450) due to the breadth of the ranges observed (minimum = .001; maximum = 2.99). The *reaction rate* (RR) achieves the most prominent averages (above .250) but also with high dispersion (around .399), while for *viralization* (VR) and *conversation* (CR) rates, the averages, below .05, are significantly lower.

In the contrast analysis of the mean of interaction rates by regions and social networks (Table 2), statistically significant differences are found in all of them.

By regions, the European universities have higher average interaction for the *reaction* (.331) and *general engagement* (.395) rates. The *viralization rate* of both European (.052) and Latin American (.051) universities is significantly higher than for the North American (.028) ones. Regarding the *conversation* rate, the European (.012) and North American (.011) institutions record a higher average than the Latin American (.008) ones.

By social networks, LinkedIn records higher average interaction for the *reaction* (.483) and *general engagement* (.496) rates; on Twitter, a higher average is observed for the *viralization* (.056) rate, while on Facebook, higher values are found for the *conversation* (.016) rate.

Capriotti, P., Carretón-Ballester, C. & Losada-Díaz, J.-C.
**Analysing the influence of Universities' content strategy
on the level of engagement on social media**

Table 1. Contrast analysis of averages of engagement rates by regions and social networks.

Rates	Regions	$\bar{x}$	σ	H*	Social networks	$\bar{x}$	σ	H*
RR	EUR	.331	.418		Twitter	.186	.303	
	USA	.288	.432		Facebook	.301	.426	
	LAT	.228	.376	3,320.8	LinkedIn	.483	.561	6,347.5
	Total	.265	.402		Total	.262	.399	
VR	EUR	.052	.102		Twitter	.056	.097	
	USA	.028	.052		Facebook	.045	.099	
	LAT	.051	.103	425.7	LinkedIn	.000	.010	19,005.1
	Total	.045	.093		Total	.046	.093	
CR	EUR	.012	.040		Twitter	.005	.025	
	USA	.011	.045		Facebook	.016	.056	
	LAT	.008	.036	1,977.4	LinkedIn	.012	.026	6,361.5
	Total	.009	.039		Total	.010	.039	
GER	EUR	.395	.481		Twitter	.247	.387	
	USA	.328	.473		Facebook	.362	.509	
	LAT	.287	.458	2,857.3	LinkedIn	.496	.575	3,841.4
	Total	.321	.468		Total	.318	.466	

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

Source: Own elaboration.

Thus, European universities are positioned with better engagement: they have a higher reaction rate (RR), viralization rate (VR) and conversation rate (CR) than the rest of the institutions. By social networks, the reaction rate (RR) and general engagement rate (GER) are higher on LinkedIn, Twitter has a higher viralization rate (VR), and Facebook stands out for the conversation rate (CR).

4.3. *Influence of content types on user interaction levels*

A contrast analysis of the average interaction rates by blocks (*functional* and *institutional*) and content types (*teaching*, *research*, *organizational*, *commitment* and *context*) included in the posts was carried out, attending to their dichotomization (contains content/does not contain content) (Table 2).

Depending on the type of content block, the probability of generating a higher rate is inverse*:* posts that do not contain *functional* content ($\bar{x}$=.348; σ=.496) obtain a higher average value than those that do ($\bar{x}$=.256; σ=.392), compared to *institutional* ones whose posts with this type of content ($\bar{x}$=.337; σ=.485) increase their interaction compared to those that do not ($\bar{x}$=.244; σ=.377).

By content types, the inclusion of *organizational* content increases the average rate, while not including *teaching*, *commitment* and *context* content generates a higher average. In *research* posts, no differences (inclusion or not) are observed in the average value.

Capriotti, P., Carretón-Ballester, C. & Losada-Díaz, J.-C.
**Analysing the influence of Universities' content strategy
on the level of engagement on social media**

Table 2. Contrast analysis of averages of interaction rates by blocks and content types.

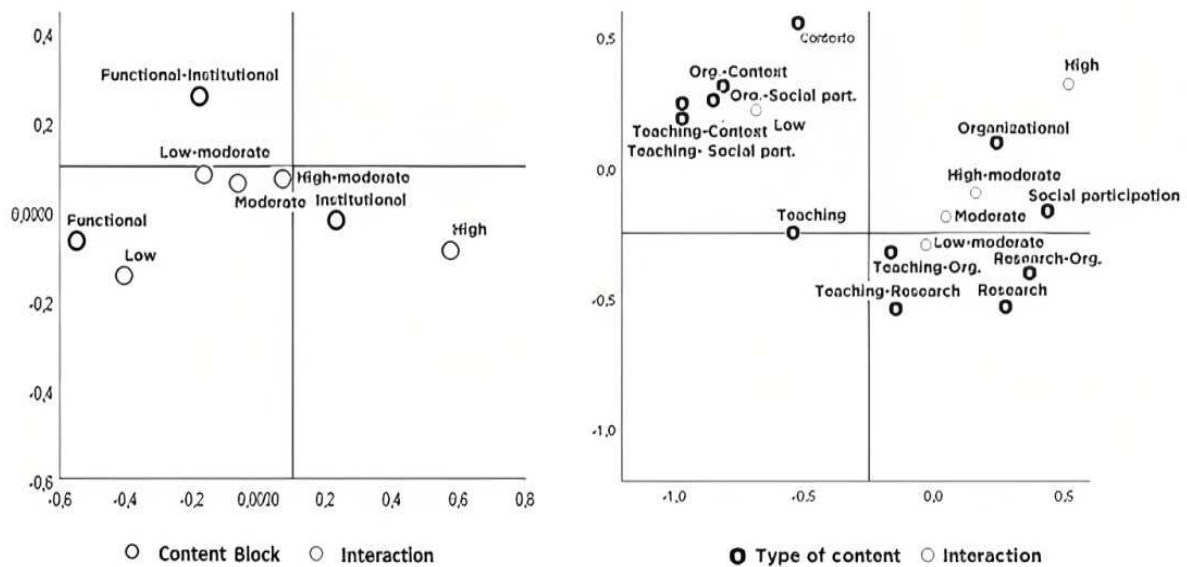| Content types / blocks		RR		VR		CR		GER	
		$\bar{x}$	σ	$\bar{x}$	σ	$\bar{x}$	σ	$\bar{x}$	σ
Teaching	No	.287	.424	.048	.095	.010	.040	.345	.491
	Yes	.183	.298	.039	.089	.009	.038	.232	.366
	*U (sig.)	.001		.001		.001		.001	
Research	No	.262	.402	.046	.093	.010	.040	.318	.469
	Yes	.264	.379	.046	.093	.008	.028	.318	.443
	*U (sig.)	.765		.583		.001		.997	
Commitment	No	.266	.403	.046	.093	.010	.039	.321	.469
	Yes	.183	.307	.047	.102	.008	.040	.237	.391
	*U (sig.)	.001		.637		.001		.001	
Functional	No	.290	.428	.048	.095	.010	.041	.348	.496
	Yes	.206	.326	.041	.090	.009	.036	.256	.392
	*U (sig.)	.001		.001		.001		.001	
Organizational	No	.196	.320	.042	.090	.009	.038	.247	.389
	Yes	.289	.424	.047	.095	.010	.040	.346	.491
	*U (sig.)	.001		.001		.001		.001	
Context	No	.267	.404	.046	.093	.010	.040	.323	.470
	Yes	.199	.337	.048	.100	.007	.037	.254	.420
	*U (sig.)	.001		.063		.001		.001	
Institutional	No	.195	.314	.040	.085	.009	.037	.244	.377
	Yes	.280	.417	.047	.096	.010	.040	.337	.485
	*U (sig.)	.001		.001		.001		.001	

*Mann-Whitney U

Source: Own elaboration.

It should also be noted that in 15.8% of the posts two different types of content were recorded, and in 11.6%, two different types of blocks were recorded. In this sense, to find out the existing relationship and the impact of the blocks and types of content on the interaction rates by regions and social networks, a multivariate factorial technique was used: correspondence analysis. To do so, three new categorical variables were constructed. Two of them were related to the combination of contents: the first one was the *combined blocks* of content, with three categories (Institutional –with 65.6% of the posts–, Functional –22.8%– and Functional-Institutional –11.6%–). The second variable was the *combined types* of content, with twelve categories (Organizational–with 60.1% of the posts–, Teaching –16.5%–, Research-Organizational –5.5%–, Contextual –4.0%–, Research –3.1%–, Teaching-Organizational –3.0%–, Teaching-Contextual –1.7%–, Teaching-Commitment –1.7%–, Organizational-Contextual –1.4%–, Organizational-Commitment –1.4%–, Teaching-Research –1.0%– and Commitment –0.5%–). The third categorial variable was the *combined interaction rate* (CIR) of five homogeneous categories with closed intervals of average rates: Low (0.0029-0.048); Moderate-Low (0.049-0.091); Moderate (0.092-0.195); Moderate-High (0.196-0.440), and High (0.441-and above).

A correspondence analysis between the *combined blocks* and the *combined types* (Figure 1) in relation to the *combined interaction rate* (CIR) reveals the existence of a relationship of each combination between the two variables with a significance value <.001 in all cases.

In the analysis by combined content blocks (X^2 = 837.976), the first dimension records inertia of 0.11 and collects information of 99.2% of the total inertia, with posts concerning the *institutional* field being most strongly related to high rates of combined interaction, *functional-institutional* with moderate-low rates, and *functional* with low rates.

Capriotti, P., Carretón-Ballester, C. & Losada-Díaz, J.-C.
**Analysing the influence of Universities' content strategy
on the level of engagement on social media**

Figure 1. Bispatial dispersion by block and combined content type and combined interaction rate.

Source: Own elaboration.

By content types, the first dimension achieves inertia of 0.24 and collects information of 87.9% of the total inertia. However, when analysing the contributions to the inertia of each of the categories based on average inertia (.083), it is observed that the categories that provide the greatest inertia, as well as their quality of representation, are: *teaching, organizational, teaching-context, teaching-commitment, organizational-context* and *organizational-commitment.* From this perspective, posts with *organizational* content are more strongly related to high and moderate-high interaction rates; *commitment* with moderate rates; *research, research-organizational* and *teaching-organizational* with moderate-low rates and the rest of the categories with low rates.

By social network and region in reference to the *combined blocks* and to the *combined types* of content, the existence of the relationship of each combination between both variables with a significance value <.001 in all cases is also observed, but heterogeneous trends are observed by social network and region.

- On Twitter, the following results were obtained for each of the regions. In Europe, by content blocks (X^2 = 8.357), the first dimension includes 97.5% of the total inertia and *institutional* posts are more strongly related to high and moderate-high interaction rates, *functional-institutional* ones with moderate rates, and *functional* ones with low and moderate-low rates. By content types (X^2 = 171.620), the first dimension includes 62.3% of the total inertia and, taking into account the mass and the distances of the point in the first dimension inertia, posts with *organizational*-type content are more strongly related to high interaction rates, and *research-organizational* and *teaching-organizational* and *teaching-research* with moderate-high rates, *research* and *teaching-organizational* contents with moderate rates, and *teaching* with moderate-low rates. In the United States, by content blocks (X^2 = 174.959), the first dimension includes 80.8% of the total inertia and *institutional* posts are more strongly related to moderate-high interaction rates, *functional-institutional* ones with moderate rates, and *functional* ones with low rates. By content types (X^2 = 245.453), the first dimension includes 70.7% of the total inertia, and *organizational* content is more strongly related to high and moderate-high

Capriotti, P., Carretón-Ballester, C. & Losada-Díaz, J.-C.
**Analysing the influence of Universities' content strategy
on the level of engagement on social media**

interaction rates, *teaching-organizational* and *context* with moderate rates, and *research-organizational* with moderate-low rates. In Latin America, by content blocks ($X^2 = 80.489$), the first dimension includes 90.5% of the total inertia and *institutional* posts are more strongly related to high and moderate interaction rates, *functional* ones with moderate-high rates, and *functional-institutional* ones with low rates. By content types ($X^2 = 439.848$), the first dimension includes 79.5% of the total inertia and *research-organizational* content is more strongly related to high interaction rates, *teaching-organizational* and *organizational* with moderate-high rates, and *research* with moderate rates.

- On Facebook, the results for the regions were as follows. In Europe, by content blocks ($X^2 = 174.474$), the first dimension includes 95.8% of the total inertia and *institutional* posts are more strongly related to high interaction rates, *functional-institutional* ones with moderate-high and moderate rates, and *functional* ones with low and moderate-low rates. By content types ($X^2 = 256.926$), the first dimension includes 82.3% of the total inertia and posts with *organizational* and *organizational-context* content are more strongly related to high interaction rates, *research* and *research-organizational* content with moderate-high rates, and *teaching-research* with moderate rates. In the United States, by content blocks ($X^2 = 120.224$), the first dimension includes 93.3% of the total inertia and *institutional* posts are more strongly related to high and moderate-high interaction rates, *functional* ones with moderate rates, and *functional-institutional* ones with low rates. By content types ($X^2 = 273.910$), the first dimension includes 60.7% of the total inertia and *organizational* content is more strongly related to high interaction rates, *teaching* and *context* with moderate-high rates, *teaching-organizational* with moderate rates, and *research-organizational* with moderate-low rates. In Latin America, by content blocks ($X^2 = 356.207$), the first dimension includes 99.1% of the total inertia and *institutional* posts are more strongly related to high and moderate-high interaction rates, *functional-institutional* ones with moderate-low rates, and *functional* ones with low rates. By content types ($X^2 = 725.318$), the first dimension includes 88.1% of the total inertia and *research* content is more strongly related to high interaction rates, *organizational* with moderate-high rates, and *research-organizational* with moderate rates.

- On LinkedIn, the results were obtained by regions, as presented below. In Europe, by content blocks ($X^2 = 58.507$), the first dimension includes 90.4% of the total inertia and *institutional* posts are more strongly related to high interaction rates, *functional-institutional* ones with moderate-high rates, and *functional* ones with moderate-low rates. By content types ($X^2 = 160.186$), the first dimension includes 81.3% of the total inertia and posts with and *organizational* and *context* content are more strongly related to high interaction rates, *research* and *teaching-research* with moderate-high rates, and *research-organizational* with moderate rates. In the United States, by content blocks ($X^2 = 75.210$), the first dimension includes 95.5% of the total inertia and *institutional* posts are more strongly related to high interaction rates, *functional-institutional* ones with moderate-high rates, and *functional* ones with moderate-low rates. By content types ($X^2 = 186.293$), the first dimension includes 51.3% of the total inertia and *research-organizational* content is more strongly related to high interaction rates, *organizational* with moderate-high rates, and *teaching* with moderate rates. In Latin America, by content blocks ($X^2 = 92.688$), the first dimension includes 97.7% of the total inertia and *institutional* posts are more strongly related to high interaction rates, *functional-institutional* ones with moderate-high rates, and *functional* ones with low rates. By content types ($X^2 = 336.108$), the first dimension includes 64.6% of the total inertia and *research-organizational* and *commitment* content is more strongly related to high interaction rates, *research* and *context* with moderate-high rates, and *teaching-organizational* and *teaching-research* with moderate rates.

Capriotti, P., Carretón-Ballester, C. & Losada-Díaz, J.-C.
**Analysing the influence of Universities' content strategy
on the level of engagement on social media**

Therefore, in relation to the general types of content, *institutional* posts are related to high engagement rates, the combination of *functional-institutional* with moderate-low rates and *functional* ones with low rates. Regarding specific topics, the contents of universities that generate better engagement are *organizational* and *commitment* content, and to a lesser extent, *teaching-organizational* and *research-organizational* combinations. In the three social networks, *institutional* content is related to high interaction rates and *functional* content to moderate-low rates in all regions. *Organizational* topics obtain the highest engagement rates in the three regions on social networks.
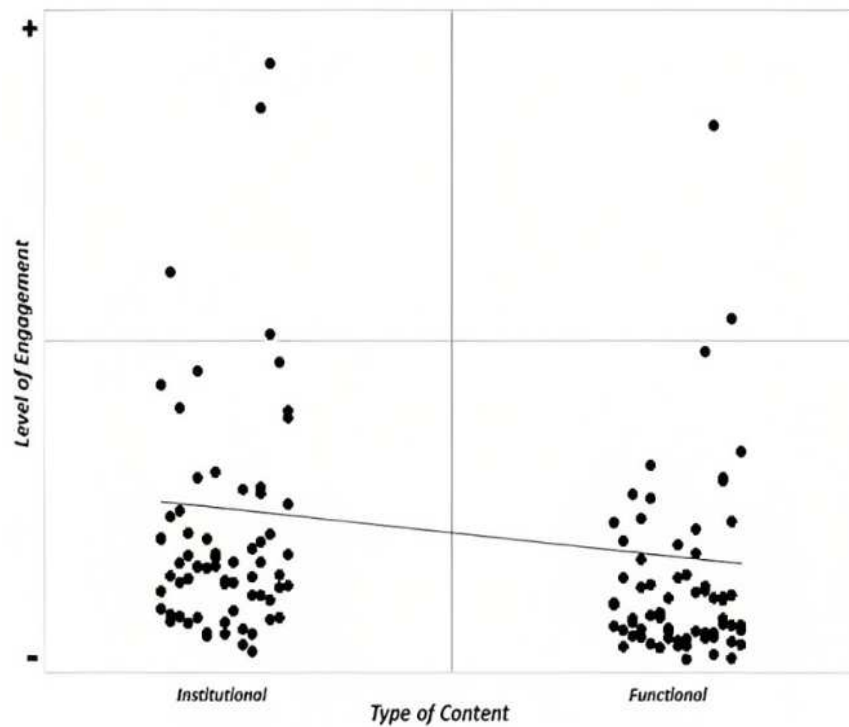
5. Discussion and conclusions

The results obtained allow us to propose a series of reflections and draw some relevant conclusions concerning the content strategy of universities in social media.

Universities prioritize *institutional* content (*organizational* and *context*) over *functional* content (*teaching*, *research*, and *commitment*), which allows us to affirm that universities are developing a social media content strategy aimed at promoting the dissemination of the institutional activity to its publics. The combination of content developed in their profiles suggests that they are using social networks mainly as institutional positioning instruments. *Organizational* topics are, by far, the ones that are most disseminated on social networks, which reaffirms the universities' institutional positioning strategy in social media.

The level of engagement achieved by the posts by universities is very low. By social networks, some significant differences are noted, since LinkedIn and Facebook have a higher level of engagement (with a slight difference in favour of LinkedIn), while Twitter has a clearly lower level. Between regions, there are no very significant differences. Individually, although there are specific cases of entities that have high interaction in their posts, the vast majority of entities have lower average rates than those obtained by other sectors in several studies (Dixon, 2022; Feehan, 2022; Martínez, 2022), and are well below the averages recommended by the experts (Dixon, 2022; Feehan, 2022; Martínez, 2022). Thus, it could be said that, in general, the institutions are not adequately identifying the information that is relevant to the interests of their followers and neither are they taking advantage of the interactive and dialogic resources provided by social networks to promote and enhance interaction with their publics. With reference to content blocks (Figure 2), on a general level, it can be stated that the *institutional* content disseminated by universities has a higher level of engagement than *functional* content, although with no significant differences among regions.
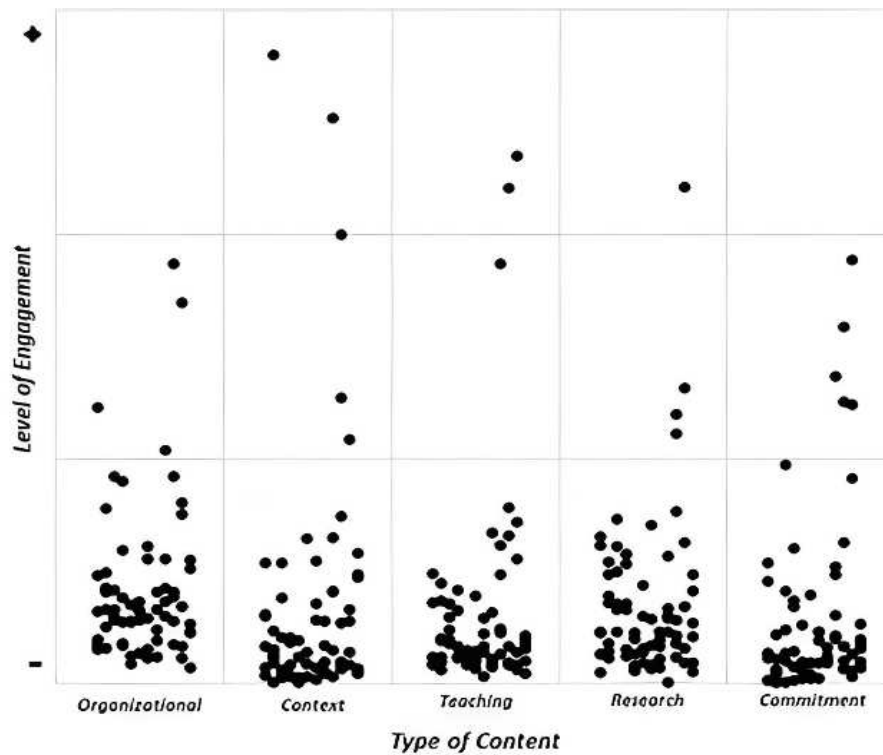
Capriotti, P., Carretón-Ballester, C. & Losada-Díaz, J.-C.
**Analysing the influence of Universities' content strategy
on the level of engagement on social media**

Figure 2. General Level of Engagement by content blocks.

Source: Own elaboration.

In the social networks analysed, some significant differences can be observed. On Twitter, in addition to having the lowest level of engagement of the three networks, it is also where the most balanced situation is observed between the level of engagement of *institutional* and *functional* content (with a slight difference favouring *institutional* content). On Facebook, the level of engagement is better than on Twitter, a more marked difference is seen in the interaction obtained by *institutional* content in relation to *functional* content. LinkedIn shows a very significant difference in interaction in favour of *institutional* content over *functional* content. Thus, the content disseminated (or the way it is disseminated) on LinkedIn and Facebook is more effective at obtaining better user interaction. This may be related to the specific profile of each social network, since LinkedIn and Facebook are more relationship-oriented (professional and social, respectively), whereas Twitter is rather focused on the dissemination and distribution of information (IAB Spain & ELOGIA, 2022).

Capriotti, P., Carretón-Ballester, C. & Losada-Díaz, J.-C.
**Analysing the influence of Universities' content strategy
on the level of engagement on social media**

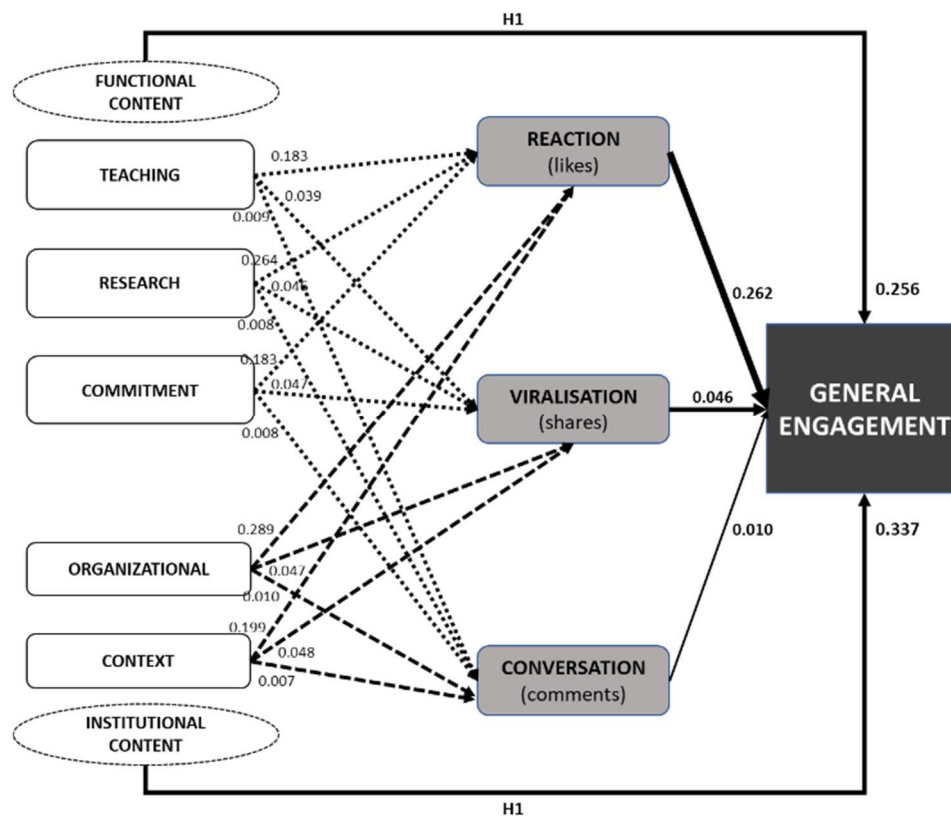**Figure 3**. General Level of Engagement by content types.

Source: Own elaboration.

With regard to the specific types of content (Figure 3), in general terms, posts on *organizational* topics have the best level of engagement, and *research* content obtains better interaction than *context* and *teaching* content. *Commitment* content clearly enjoys the least interaction. Thus, by relating specific topics to content blocks, *organizational* posts contribute most to the engagement of "institutional" content, while *research* posts contribute most to the interaction of "functional" content.

In relation to the social networks analysed, the same trend noted above is observed, where Twitter is the least interactive, while Facebook and LinkedIn have better levels of engagement. Again, *organizational* content achieves the best interaction results. At a lower level are the topics of *research* and *teaching*, which obtain good results mainly on Facebook and LinkedIn. *Context* themes perform well in a small group of universities, although with low interaction in a very broad set of institutions across the three social networks. And *commitment* content has the lowest interaction, mostly on Twitter.

Thus, we can assert that the *institutional* issues disseminated by the universities (*organizational* and *context*) generate a higher level of engagement than *functional* content (*teaching*, *research* and *commitment*). These data can be reaffirmed, considering that the *organizational* content (of the *institutional* block) is also the content to achieve the greatest interaction. Among the *functional* contents, *research* posts have medium-low interaction, *commitment* posts enjoy moderate-low and low interaction, and *teaching* posts achieve low interactivity. Among *institutional* content, *organizational* issues achieve high or moderately high interaction, while *context* issues enjoy moderate-low or low interaction.

Capriotti, P., Carretón-Ballester, C. & Losada-Díaz, J.-C.
**Analysing the influence of Universities' content strategy
on the level of engagement on social media**

Figure 4. Content types and Level of Engagement.

Source: Own elaboration.

On this basis, the hypothesis posited (H1 = *functional content generates a higher level of engagement than institutional content on social networks*) could be refuted (Figure 4). These results differ, in some respects, from previous studies (Atarama-Rojas & Vega-Foelsche, 2020; Eger *et al.*, 2021; Fähnrich *et al.*, 2020; Gori *et al.*, 2020; Soares *et al.*, 2019), mainly in terms of the interaction generated by *social commitment* posts (USR, ESG and sustainability) and, although they reaffirm the importance of teaching and research topics, at the same time they show the growing importance of universities' institutional information.

Hence, it is proved that the universities are disseminating and prioritizing their institutional content over functional content, as well as organizational topics, mainly developing a content strategy of institutional positioning in the social networks, since these topics are the ones that generate the best interaction among their followers. However, the low engagement results achieved allow us to suggest that universities should investigate their online users in more depth to better understand their interests and thus better design their content.

Therefore, this article proposes a model for evaluating the impact of institutions' social media content strategy on the level of engagement. This methodology could be applied by other researchers to analyse other kinds of organizations, sectors and social networks. It could also be used by professionals to measure and improve their communication activity on social platforms. In addition, in future research, it would be advisable to integrate into the evaluation other aspects that may influence or be relevant to interaction, such as the level of activity in profiles (Jadrić & Kovačević, 2018) or the application of interactive resources in posts (Fähnrich *et al.*, 2020; Peruta & Shields, 2016), which allows obtaining a holistic or integral vision of the management of communication in social networks.

Capriotti, P., Carretón-Ballester, C. & Losada-Díaz, J.-C.
**Analysing the influence of Universities' content strategy
on the level of engagement on social media**

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://www.doi.org/10.1016/j.pubrev.2017.05.002

Albanna, H., Alalwan, A. A. & Al-Emran, M. (2022). An integrated model for using social media applications in non-profit organizations. *International Journal of Information Management*, *63*, 102452. https://www.doi.org/10.1016/j.ijinfomgt.2021.102452

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*(0), 24, 4095-4118. Retrieved from http://ijoc.org/index.php/ijoc/article/view/4569/1759

Atarama-Rojas, T. & Vega-Foelsche, D. (2020). Comunicación corporativa y *branded content* en Facebook: un estudio de las cuentas oficiales de las universidades peruanas. *Revista de Comunicación*, *19*(1), 37-53. https://www.doi.org/10.26441/rc19.1-2020-a3

Bélanger, C. H., Bali, S. & Longden, B. (2014). How Canadian universities use social media to brand themselves. *Tertiary Education and Management*, *20*(1), 14-29.
https://www.doi.org/10.1080/13583883.2013.852237

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://www.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://www.doi.org/10.1016/j.pubrev.2018.04.010

Camilleri, M. A. (2019). Higher Education Marketing: Opportunities and Challenges in the Digital Era. *Academia*, *0*(16-17), 4-28. https://www.doi.org/10.26220/aca.3169

Capriotti, P. & Zeler, I. (2020). Comparing Facebook as an interactive communication tool for companies in LatAm and worldwide. *Communication & Society*, *33*(3), 119-136.
https://www.doi.org/10.15581/003.33.3.119-136

Capriotti, P., Zeler, I. & Camilleri, M. A. (2021). Corporate Communication Through Social Networks: The Identification of the Key Dimensions for Dialogic Communication. *Strategic Corporate Communication in the Digital Age*, 33-51.
https://www.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://www.doi.org/10.1108/CCIJ-10-2020-0149

Cho, M., Schweickart, T. & Haase, A. (2014). Public engagement with nonprofit organizations on Facebook. *Public Relations Review*, *40*(3), 565-567.
https://www.doi.org/10.1016/j.pubrev.2014.01.008

Di Nauta, P., Iannuzzi, E., Milone, M. & Nigro, C. (2020). The impact of the sustainability principles on the strategic planning and reporting of universities. An exploratory study on a qualified Italian sample. *Sustainability*, *12*(18), 1-21.
https://www.doi.org/10.3390/su12187269

Dixon, S. (2022). *Average engagement rate per posts on social media in 2020 and 2021.* Statista. Retrieved from https://www.statista.com/statistics/1274133/engagement-rate-per-post-social-media/

Capriotti, P., Carretón-Ballester, C. & Losada-Díaz, J.-C.
**Analysing the influence of Universities' content strategy
on the level of engagement on social media**

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://www.doi.org/10.15655/mw/2019/v10i1/49563

Eger, L., Egerova, D., Tomczyk, L., Krystoň, M. & Czeglédi, C. (2021). 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://www.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://www.doi.org/10.1108/JCOM-06-2019-0090

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

Ferrer-Serrano, M., Latorre-Martínez, M.-P. & Lozano-Blasco, R. (2020). Universidades y comunicación. Papel de Twitter durante el inicio de la crisis sanitaria de la Covid-19. *El Profesional de La Información*, *29*(6), 1-18. https://www.doi.org/10.3145/epi.2020.nov.12

Gori, E., Romolini, A., Fissi, S. & Contri, M. (2020). Toward the dissemination of sustainability issues through social media in the higher education sector: Evidence from an Italian case. *Sustainability, 12*(11), 4658. https://www.doi.org/10.3390/su12114658

Guzmán, 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), 236-251. https://www.doi.org/10.7238/rusc.v10i2.1744

IAB Spain & Elogia (2022). *Estudio de redes sociales 2022*. Retrieved from https://iabspain.es/estudio/estudio-de-redes-sociales-2022/

Jadrić, I. & Kovačević, S. (2018). The usage of social media in marketing communication of Croatian institutions of higher education. *Zbornik Veleučilišta u Rijeci*, *6*(1), 99-112. https://www.doi.org/10.31784/zvr.6.1.10

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

Kimmons, R., Veletsianos, G. & Woodward, S. (2017). Institutional Uses of Twitter in U.S. Higher Education. *Innovative Higher Education*, *42*(2), 97-111. https://www.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://www.doi.org/10.18778/1508-2008.23.14

Landis, J. R. & Koch, G. G. (1977). The measurement of observer agreement for categorical. *Biometrics*, *33*(1), 159-174. https://www.doi.org/10.2307/2529310

Lombard, M., Snyder-Duch, J. & Bracken, C. C. (2002). Content Analysis in Mass Communication: Assessment and Reporting of Intercoder Reliability. *Human Communication Research*, *28*(4), 587-604. https://www.doi.org/10.1111/j.1468-2958.2002.tb00826.x

Losada Díaz, J. C. & Capriotti, P. (2015). La comunicación de los museos de arte en Facebook: comparación entre las principales instituciones internacionales y españolas. *Palabra Clave*, *18*(3), 889-904. https://www.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://www.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://www.doi.org/10.1108/IJEM-10-2016-0215

Capriotti, P., Carretón-Ballester, C. & Losada-Díaz, J.-C.
**Analysing the influence of Universities' content strategy
on the level of engagement on social media**

Martínez, C. (2022). *What is A Good Engagement Rate for the Different social Networks?* Cyberclick Agent S.L. Retrieved from https://www.cyberclick.net/numericalblogen/what-is-a-good-engagement-rate-for-the-different-social-networks

Melewar, T. C., Foroudi, P., Dinnie, K. & Nguyen, B. (2018). The role of corporate identity management in the higher education sector: an exploratory case study. *Journal of Marketing Communications*, *24*(4), 337-359. https://www.doi.org/10.1080/13527266.2017.1414073

Mesquita, K., Ruao, T. & Andrade, J. G. (2020). Websites e páginas do Facebook das Universidades portuguesas: novas possibilidades de interação social? *Revista Internacional de Relaciones Públicas*, *10*(20), 135-156. https://www.doi.org/10.5783/rirp-20-2020-08-135-156

Oliveira, L. G. (2020). A framework for the development of social media content strategies for higher education institutions. *Estudos Em Comunicacao*, *30*, 21-48. https://www.doi.org/10.25768/20.04.03.30.02

Oliveira, A., Capriotti, P. & Zeler, I. (2022). El estado de la cuestión de la investigación sobre la comunicación digital de las universidades. *Redmarka. Revista de Marketing Aplicado*, *26*(2), 1-18. https://www.doi.org/10.17979/redma.2022.26.2.9240

Pereira, H. G., Salgueiro, M. de F. & Mateus, I. (2014). Say yes to Facebook and get your customers involved! Relationships in a world of social networks. *Business Horizons*, *57*(6), 695-702. https://www.doi.org/10.1016/j.bushor.2014.07.001

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://www.doi.org/10.1080/08841241.2016.1212451

Royo-Vela, M. & Hünermund, U. (2016). Effects of inbound marketing communications on HEIs' brand equity: the mediating role of the student's decision-making process. An exploratory research. *Journal of Marketing for Higher Education*, *26*(2), 143-167. https://www.doi.org/10.1080/08841241.2016.1233165

Santos, Z. R., Cheung, C. M., Coelho, P. S. & Rita, P. (2022). Consumer engagement in social media brand communities: A literature review. *International Journal of Information Management*, *63*, 102457. https://www.doi.org/10.1016/j.ijinfomgt.2021.102457

Simancas-González, E. & García-López, M. (2017). Gestión de la comunicación en las universidades públicas españolas. *El profesional de la información*, *26*(4), 735-744. https://www.doi.org/10.3145/epi.2017.jul.17

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://www.doi.org/10.5585/remark.v18i4.14321

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

Vetrova, E. A., Kabanova, E. E., Medvedeva, N. V. & Jukova, E. E. (2019). Management of educational services promotion in the field of higher education (the example of "Russian State Social University"). *European Journal of Contemporary Education*, *8*(2), 370-377. https://www.doi.org/10.13187/ejced.2019.2.370

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://www.doi.org/10.1080/00913367.2017.1405754

Wang, Y. & Yang, Y. (2020). Dialogic communication on social media: How organizations use Twitter to build dialogic relationships with their publics. *Computers in Human Behavior*, *104* (September), 106-183. https://www.doi.org/10.1016/j.chb.2019.106183

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

Capriotti, P., Carretón-Ballester, C. & Losada-Díaz, J.-C.
**Analysing the influence of Universities' content strategy
on the level of engagement on social media**

Appendix 1. Universities

EUROPE	UNITED STATES	LATIN AMERICA
University of Oxford	Harvard University	Universidad de Buenos Aires
University of Cambridge	Stanford University	Universidad Nacional de Córdoba
University College London	MIT (Massachusetts Institute of Technology)	Universidad Nacional de La Plata
Imperial College London	Princeton University	Universidad Austral
University of Edinburgh	Columbia University	Universidad de Sao Paulo
University of Manchester	California Institute of Technology (Caltech)	Universidad de Campinas
King's College London	University of Chicago	Universidad Federal de Río de Janeiro
University of Bristol	Yale University	Universidad Federal de Minas Gerais
London School of Economics and PS	John Hopkins University	Universidad Católica de Río de Janeiro
University of Warwick	University of Pennsylvania	Universidad Católica de Río Grande Sul
Sorbonne University	University of Michigan - Ann Arbor	Universidad de Chile
Paris Science et Lettres - PSL	University of North Carolina - Chapel Hill	Pontificia Universidad Católica de Chile
Paris Saclay	University of California - Berkeley	Universidad de Concepción
Heidelberg University	University of Washington - Seattle	Universidad de Santiago de Chile
University of Munich (LMU)	Purdue University - West Lafayette	Universidad Nacional de Colombia
Technical University of Munich	University of Illinois - Urbana Champaign	Universidad de Antioquia
Swiss Federal Institute of Technology Zurich	University of Texas - Austin	Pontificia Universidad Javeriana
University of Zurich	University of Wisconsin - Madison	Universidad de Los Andes (Colombia)
Swiss Federal Institute of Technology Lausanne	University of Maryland - College Park	Universidad Nacional Autónoma de México
Utrech University	University of Minnesota - Twin Cities	Universidad Autónoma Metropolitana
University of Amsterdam		Benemérita Universidad Autónoma Puebla
Karolinska Institute		TEC de Monterrey
University of Oslo		Universidad Nacional Mayor de San Marcos
University of Helsinki		Universidad San Francisco de Quito
University of Copenhagen		Universidad de la República

Capriotti, P., Carretón-Ballester, C. & Losada-Díaz, J.-C.
**Analysing the influence of Universities' content strategy
on the level of engagement on social media**

Appendix 2. Types of Contents: links to the examples

Teaching: PUC-Rio (Brazil)
https://www.facebook.com/2310651305847599/posts/2784934911752567/

Research: MIT (USA)
https://twitter.com/MIT/status/1331614951539093506

Commitment: University of Minnesota (USA)
https://www.linkedin.com/posts/university-of-minnesota_university-of-minnesota-establishes-the-national-activity-6737033040649887746-fPvG

Organizational: University of Alicante (Spain)
https://twitter.com/UA_Universidad/status/1146026739640033286?s=20

Context: UNAM (Mexico)
https://m.facebook.com/story.php?story_fbid=3403879313010994&id=125299054202386