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Reputational organization: How audiences influence the ERAs' communications strategies. A study of the European Medicines Agency (EMA) and the Spanish Agency for Medicines and Healthcare Products (AEMPS) on Twitter.

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**Reputational organization: How audiences influence the ERAs'
communications strategies.**

*A study of the European Medicines Agency (EMA) and the Spanish Agency
for Medicines and Healthcare Products (AEMPS) on Twitter.*

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1. Introduction

The perceived long distance between European regulators and citizens has been a delicate issue on the table for some decades already. In the 2001 Commission's White Paper, it is insisted on the relevance for the existence of the EU that citizens understand the concept of the European Union so that the policies and objectives developed at the European level make sense to them; it adds that "Many people are losing confidence in a poorly understood and complex system to deliver the policies that they want" (European Commission, 2001, p. 3). Meaningful participation and enhancement of democracy are cornerstones for states and institutions worldwide. "Open Government Initiatives" (Mergel, 2012, p. 281) (Grimmelikhuijsen & Meijer, 2015), like Obama's Transparency and Open Government, consider the use of "new technologies" such as social media to foster "bidirectional interactions between government and its stakeholders" (Mergel, 2012, p.281). Adopting social networks in public organizations has generated ways to improve transparency and institutional openness toward citizens.

This thesis studies the reputation management strategies European Regulatory Agencies (ERAs) employed on social media to take care of their online reputation. Regulatory agencies are, to some extent, the representation of European integration responsible for sanctioning, implementing, and supervising regulations impacting citizens covering a wide range of issues such as food safety, consumer protection, security, and the environment, among others (Mathieu, 2022). However, Mathieu (2022) notes that the ERA's power relies on their expertise and knowledge rather than their decision-making capacities. This predisposition to foster evidence-based and knowledge-driven characters might affect how specialized agencies interact with average citizens and other stakeholders.

In addition to responding to their principals, regulatory agencies must show why they are necessary for the public good, their role, and how, rather than being replaced by their national peers, they are a functional element of added value for industry, society, and governments. Maor et al. argue that "an agency's reputation enables it to make a claim for its unique contribution to the public good and to carve for itself a niche of relative autonomy" (2013, p.583). Thus, effectively communicating their public value, competencies, and accomplishments is critical for constructing and caring for the agency's reputation. Similarly, reputation management is thus a fundamental aspect of the survival of regulatory agencies. As described by Carpenter and Krause (2012, p.26), "Public administration cannot operate in an organizational vacuum" Public agencies must respond to a wide range of stakeholders with a myriad of expectations and beliefs, not only to inform about their activities but to justify their very existence.

For public organizations, social media provides tools to support the institution's mandate. In the case of regulatory agencies, issues related to their knowledge-driven, transparency in the processes and quality information features could be included as potential beneficiaries of effective social media interactions. As commented by Wood (2021), the process of public involvement is, in the case of the EU, one of the main ways to sustain and promote technocratic legitimacy, hence the need to connect, communicate and verify the interactions with the different stakeholders and their opinions about the regulations and policies developed at European level. Here is where social media could provide channels to improve interaction, openness, and content sharing (Mergel, 2013).

The benefits social media has to offer have been widely used in government to boost trust in public institutions. For instance, Porumbescu (2016) and Bonson et al. (2012) have examined the satisfaction

and trust levels in the e-government forms for reaching citizens and providing services. Porumbescu (2016) concluded that social media is well suited to building trusting relationships with citizens and proved more effective than web content. Further, Bonson et al. (2012) concluded that although the use of social media by the public sector increased transparency levels among public institutions and citizens' perceptions, the active participation with citizens was relatively low. Similarly, Wood (2021, p.468) raises a critical conclusion about the agencies' and DGs' requirements of connecting with stakeholders; he argues that "the content of the engagement is often left undefined" simply transmitting information does not imply that there is an opportunity to generate meaningful participation. Authors such as (Grimmelikhuijsen & Meijer, 2015) point out public institutions' poor use of social networks. Finally, Muller (2022) notices a 'presence-attention gap' in which a given agency is present on social platforms but receives relatively little attention from users.

Real-time communication and responsiveness are critical features related to agencies' use of social media (Mergel, 2013). However, public agencies do not have the human and legal means to interact with citizens in a fast-paced fashion. In the case of ERAs, this issue could be even more significant, mainly due to sensitive and technical information that must go through a lengthy approval process before it reaches the public. Despite the difficulties or lack of development of some technical and strategic aspects of using social networks, institutions such as European regulatory agencies are also active online. Their performance and type of interactions have yet to be fully documented. Therefore, one question that arises from this phenomenon is if the type of content or communication strategies used by agencies is designed to reach and engage online audiences.

1.2 Research objective and question

This thesis relies on the framework of organizational reputation developed by Carpenter and Krause (2012); they consider that organizational reputation involves assumptions related to a given organization's capacities, intentions, history, and mission. In line with Carpenter and Krause, public agencies handle four dimensions, performative, technical, procedural, and moral, when reaching audiences and nurturing their reputation. EU regulatory agencies are an extension of the EU regulatory state (Majone, 1999); therefore, in theory, EU agencies' communicative strategies are expected to highlight the expertise, technical, and result-oriented features. These characteristics should be materialized in the messages these organizations voice to the public about themselves. Going deeper into the behavior of ERAs and as empirically observed by Rimkut• (2020) and in line with Carpenter's and Krause's arguments (2012), public agencies manage their reputation strategies following their intended audiences' expectations. Therefore the theoretical expectation is to analyze if, according to the type of agency, so is the type of communication strategy.

Internal aspects, such as mission, vision, values, reputation uniquenesses, organizational pillars, and many others, influence how organizations react to various stimuli. However, there are other external factors, such as the role and interactions with the public, that stimulate organizations to respond to these situations, as pointed out by Carpenter (2010, p.832), "when trying to account for a regulator's behavior, look at the audience, and look at the threats." Audiences are precisely an under-exploited source of information about their impact on the actions and behaviors of regulatory agencies. There are diverse sets of audiences, and each of them will most likely generate different responses in how organizations communicate with them.

This thesis explores whether regulatory agencies' audiences matter for adopting specific communication strategies. Therefore the following research question will be answered:

To what extent reputational threats imposed by a diverse set of audiences of regulatory agencies influence their communication strategies?

1.3 Scientific relevance

This research seeks to shed some light on how governmental institutions communicate. Similarly, this research highlights the relevance of targeting and designing specific communication strategies to protect agencies' reputations. For example, Muller (2022) noted that EU agencies have more difficulties reaching online audiences than their national peers. However, if agencies develop ways to engage and interact with citizens successfully, this can be transposed to other national and EU institutions with similar objectives. Another contribution of this thesis is its examination of the types of communication strategies used by regulatory agencies. There is a lack of meaningful knowledge about the interaction between citizens and these organizations. Thus, this research aims to contribute to the existing literature about the use of social media by regulators and point at potential points for improvement in the approaches used by public organizations in certain online environments. Finally, and as commented by Mergel (2012) current development of social media use in the public sector makes part of the "fifth wave of information and communication technology (ICT) adoption in government," these waves have served to increase effectiveness and efficiency and more advantages however such developments pose new challenges to current processes. Therefore, this exercise contributes to the existing knowledge about the public sector's effective use of social media.

1.4 Societal relevance

This academic piece aims to understand how agencies communicate with their public, which is relevant not only for the academic community but also for society. When the public is aware of how an interlocutor addresses them, they can understand what is expected from them and, at the same time, realize what they are entitled to get from those interactions. For example, an agency tends to communicate more about its performance on specific channels. In that case, the audiences more interested in that issues may check these outlets more than others. Also, the knowledge about an agency's communication practices could be of interest to advocacy groups seeking to convey a compelling message or to scientists or researchers that should engage in close collaboration with agencies at different levels of the scientific processes. Muller argues that "communication styles can impact audiences' attention" (2022, p.8) and urges for future research in the field. Empirical research of Muller (2022) and Grimmelikhuijsen and Meijen (2015) show that certain types of tweets lead to more activity and interactions with the public, and according to the authors, informative and engaging messages seem to be more effective in reaching wider audiences on social media. Authors such as Grimmelikhuijsen and Meijer (2015) indicate the potential effect social media has on the perceived legitimacy of public authorities, as they mention that legitimacy is a constructed assumption built over time. Specifically for regulatory agencies, legitimacy is a vital issue due to the agencies' role in the regulatory state. This topic is arguably relevant for public institutions and practitioners since it provides an account of what could be done from the institutional side to enhance interaction in the Online environment.

1.5 Structure of the thesis

This thesis is structured as follows: chapter two is dedicated to the theoretical framework, in which the concepts and literature related to reputation management, communication strategies, and regulatory agencies' audiences will be examined. This chapter will address the role of bureaucratic reputation as a source of authority and power for regulatory agencies. Organizations use multiple tools to cultivate their reputation, such as communication strategies. Then, in chapter three, the variables mentioned above will be operationalized, considering the methods and classification codes developed by Busuioc and Rimkut• (2020). Likewise, the analysis cases will be introduced, i.e., the European Medicines Agency (EMA) and the Spanish Agency for Medicines and Healthcare Products (AEMPS). Furthermore, this chapter will introduce the roadmap of the empirical exercise carried out on these two agencies' official Twitter accounts. The fourth chapter will present the results of the empirical research conducted on AEMSP's and EMA's Twitter accounts between January and May 2023, in which 104 Tweets were collected and classified using the four reputation management dimensions. Similarly, 765 Twitter profiles were classified into specific audience categories. Chapter Five will analyze the classification results into four organizational reputation dimensions. While chapter six will discuss the main trends and findings, taking into account the theoretical concepts developed in chapter three to explain and answer the central question of this research. Finally, in chapter seven, potential avenues for improvement and future research points identified in this work will be discussed. In its final part, this research will offer concluding remarks.

2.Theoretical framework

This chapter introduces Bureaucratic reputation theory as the conceptual base to examine the role of reputation management in regulatory agencies. Then, it presents the communication strategies of public agencies as the dependent variable. In this part, the different strategies and approaches agencies use to communicate will be discussed to understand the different dimensions agencies use to convey a successful message. In the second part of this chapter, the independent variable will be introduced by discussing the notion of audience and their diverse expectations that impact agencies' communicative approaches and strategies. Lastly, in the third part, the role of audiences in European and national regulatory agencies will be explored from theoretical and functional points of view.

This part will also discuss the propositions related to the European agencies' responses to the expectations of primarily institutional and technical audiences. In contrast, national agencies focus on their immediate environment to generate a positive and tangible impact on their audiences. Finally, this chapter will conclude with the research hypotheses that will be empirically developed in the upcoming sections.

Bureaucratic reputation

Literature has demonstrated that a favorable reputation is a source of authority and power to agencies. Therefore the cultivation and maintenance of it is a crucial concern to the survival of agencies; bureaucratic reputation theory defines agencies as rational actors that actively seek to improve their authority and powers by managing their reputation through different strategies. The concept of reputation is based on a set of skills and qualities perceived by the public that benefits from or evaluates the performance of a group. Carpenter (2010,p.45) states, "An organizational reputation is a set of symbolic beliefs about the unique or separable capacities, roles, and obligations of an organization, where these beliefs are embedded in audience networks." These beliefs are arguably unique features of each organization's display of capacities, values, and principles with different audiences.

There is no black-and-white concept when it refers to reputation management; therefore, authors such as Busuioc and Rimkut• (2020, p. 549) describe it as a "multi-dimensional" feature that reputation has in essence. Furthermore, "communication strategies are thus considered a fundamental part of crafting a bureaucratic reputation based on a portfolio of regulatory competencies and agency preferences to hide, foster or advance" (Muller & Braun, 2021, p.673). Similarly, Maor et al. (2013,p.584) argue that "communication is central for the construction and protection of agencies' reputations." The communication designed by agencies will most likely respond to the needs and objectives of the agency itself; arguably, this is a successful channel to show and emphasize what an organization wants to highlight about itself. Due to its tailored character and multi-dimensional notion, reputation management is a malleable tool to cultivate any organization's good character. In addition, Christensen and Gornitzka (2019, p.886) add that reputation management shares information charged with symbolic nature, making this process dependent on the context, shared beliefs, and norms specific to a particular audience.

2.1 Dependent variable: Communication Strategies

This part of the chapter will examine communication strategies as the dependent variable in the organizational context of regulatory agencies. Regulatory agencies use communication strategies to promote their image and position themselves before different audiences as legitimate and functional institutions that carry out their missions and publicize their existence. Maor (2020, p. 1046) describes the communication strategies to “range from strategic silence to regulatory talk,” in this way, the agencies can use the communication channels to: in the first case, suppress any attention from the agency and therefore avoid any reaction in determined aspects. Similarly, Gilad et al. (2016, p.371) define the passive approach to treats as a way to “keep a low profile” whenever a potentially harmful situation emerges in the agencies’ environment.

In the second case (regulatory talk), agencies engage in the spectrum of active communication; Maor and Gilad et al. agree that agencies may empathize with their active blame avoidance and credit strategies, claiming to boost their positive image when facing their audiences. Gilad et al. (2016) comment that in credit-claiming strategies, agencies tend to portray “favorable information” regarding products and services offered by the organization. While Maor (2020, p. 1046) observes that active blame avoidance might include “problem denial, problem admission, and responsibility denial, or admission,” as commented by Hood et al. (2009), strategies generally used by agencies focus on the delegation and delimitation of powers. In addition, there are other forms, such as policy strategies in which modifications to existing structures can improve the status of the issue at hand; and finally, the “presentational strategies” (Hood et al.,2009, p.697) in which acknowledgment and responses to avoid the blame.

Regarding communication strategies, Wukich and Mergel (2015) explain three potential “modes of civic engagement” The first is one-to-many, the second is one-to-one, and the third is many-to-many strategies. The first one is the most commonly used among public organizations because this one offers practical use of information produced for other corporative products such as press releases. With this content, the organizations can educate and inform the public. The second strategy (one-to-one) allows direct interaction with the audience, for instance, in approaching individual users or responding to their messages or comments. The third one enables co-production or collaboration in the elaboration of content. Although the idea of more participation and democracy linked to the use of social networks, a means of communication seems to present more criticisms than opportunities, as Zavattaro and Sementelli (2014, p. 262) note that “the development of one-way communication through social media allows for more careful implementation of public sector marketing strategies, enabling those in power to shape information, discourses in general.”

In line with Carpenter (2014) and Krause and Carpenter (2012), four dimensions combine different beliefs and ideas about organizations’ character. These are the performative, technical, legal-procedural, and moral reputations. These four dimensions can be leveraged by organizations to aid them in showing what is expected from them and, on the other hand, what the organization wants to make visible about itself. For instance, the performative reputation responds to the organization’s ability to accomplish its mission or goals. However, in a deeper analysis of this type of reputation, Carpenter notes that the meaning of performance is based on the view that a portion of the audience has of the

organization. Highly effective decisions demonstrate that the organization can take unpopular actions with a segment of its audience and still decide to go for it. In their research, Busuioc and Rimkut• (2020,p.565) note that a rising trend in European regulatory agencies towards the emphasis on the performative dimension could be linked to the implementation of “New Public Management (NPM)-type dynamics” at the European level.

Regarding moral- reputation, the audiences care about the ethical and more abstract implications of the agencies’ decisions. One can argue that this dimension encompasses a certain sense of humanity that, although within the technical and organizational, should be seen and appreciated, primarily if this can serve the organization so that the audiences see their moral and ethical principles reflected in the bureaucracy that represents and regulates them. For example, Christensen and Gornitzka (2019) hold that the moral dimension is particularly relevant for agencies in food safety, environmental policy, and financial institutions. Their analysis of Norwegian national agencies concludes that the moral dimension considerably increased in national agencies’ communications between 2006 and 2016. However, Busuioc and Rimkut• (2020, p.565) observed that it remains the least pronounced dimension for all agencies” in the European regulatory system. There is some variance in the moral approach among regulatory agencies between the national and the supranational contexts.

While in the technical reputation, audiences are concerned about the suitability of experts and the scientific capacities of the agencies. Some questions that might arise from a technical perspective could be related to the nature of decisions based on sound scientific grounds. Another might wonder whether the officials are “qualified” enough to ensure suitable research methods and principles are used. This is undoubtedly a source of legitimacy and authority among agencies due to the rational and impactful information they gather and distribute. As Rimkut• (2019) pointed out, European regulatory agencies facing higher reputational threats display a more strategic use of reputational strategies in which they tend to use the four dimensions but primarily focus on their technical one.

Furthermore, the legal-procedural reputation, which could look like the moral dimension, refers to the audiences’ perception that the agency is following proper processes, it is fair, and the decision-making structures are according to the organization’s due processes. Carpenter (2014) mentioned that these four dimensions could clash in real-life situations, generating conflict. For example, between the efficiency and the moral aspects in cases when the organization pays more attention to achieving results than empathizing with affected citizens or audiences. Actually, in real-life situations and some contexts, effectiveness must sacrifice some empathy with some of those affected by the decision that has been made. Alternatively, strictly applying regulations may impact the organization’s efficiency and performance.

2.2 Independent Variable: Agencies's reputational threats coming from the audiences

This section will discuss audiences’ influence on communication approaches and their use by public organizations. For public organizations, communication and interactions with multiple audiences are essential aspects that “can allow it to enlist public support, build its autonomy, protect it from external attacks, and ultimately help ensure its survival” (Busuioc, 2016, p.42). In addition, effective communication contributes to the aspects mentioned earlier and strengthens relationships among diverse stakeholders and across audiences. Communication is composed of numerous interpretations, many of them subjective; shared beliefs and symbols are loaded with meaning that, if interpreted as

intended, leads to a compelling connection between the organization and the intended audiences. Carpenter (2014, p.51) commented that “a reputation is not something fully chosen by an organization or its leaders but is shaped as well by an organization’s audiences and less authoritative members.” Indeed there is a relationship between the organization and its stakeholders forged by regular interactions of diverse nature. According to Christensen and Gornitzka (2019, p.886), the success of “reputation management is relational” because it requires the audience’s feedback, making it a bidirectional process that is supposed to build an image or impression among diverse stakeholders constantly.

Organizations emphasize critical aspects of their identity, and in many cases, this goes in line with the expectations of their audiences. Carpenter explains, “An audience is any individual or collective that observes a regulatory organization and can judge it.” (2014, p.33.) Thus, organizations must tailor their messages to meet performative expectations and other dimensions to complete their profile in front of different audiences. As Busuioc and Rimkut• (2020) pointed out, organizations adapt to meet their audiences’ expectations and ideas about the role a given agency must perform. Thus, it is expected that according to its mandate or area of expertise, the agency will prioritize different dimensions of reputation. If we look at how context affects an agency’s behavior, it could be said that, among other factors, audiences and their expectations are a significant influence when it comes to communication. The type of audience is arguably one of the most essential elements in determining organizations’ communication strategies. For example, the various stakeholder niches that may be most interested in the information coming from the agency are, of course, the ones that influence how the agency communicates about itself and its work. For instance, EU and national agencies behave differently because they must respond to different audiences.

As Carpenter (2010, p.832) highlighted, “When trying to account for a regulator’s behavior, look at the audience, and look at the threats.” Regulatory agents hold a degree of power over different groups, be it product developers, its epistemological community, the market, policymakers, and citizens, among many others who might have different expectations in the field of action of a given agency. As Carpenter (2010,p.18) pointed out, “Audiences have a form of power, too, as their assessments may diminish if the organization’s behavior exhibits a lack of propriety, equanimity, or honesty.” In the case of EU regulatory agencies, these are, arguably, an extension of the EU regulatory state (Majone, 1999). In theory, EU agencies’ communicative strategies are expected to highlight the expertise, technical, and result-oriented features. In the past, regulators used to react to what might have worked at the time, place, and circumstances of the action. Nowadays, regulations must respond not only to scale production and new economic models but also to new ways of seeing and interacting with the world. For example, environmental regulations, gender perspectives, and other types of representation must be considered when researching, communicating, sanctioning, and informing stakeholders about their industry. These insights should be materialized in the messages the organizations voice to the public and about themselves.

Any organization can play with different approaches when interacting with its public, one of them is the organization as it is in reality, and the other could be how it attempts to be presented (as a reliable, effective, and honest institution). On the other hand, as Carpenter mentions, reputation is “socially rooted” (2001, p.5), meaning that social interactions are the raw material for creating and maintaining collective ideas that justify the existence of autonomous organizations dedicated to regulating the way we produce, consume and interact with industry, commerce, the environment and among other aspects of daily life that are subject to national and European regulation. Therefore, agencies’ approaches to

cultivating and enhancing their reputation and image are closely linked to different audiences' conflicting expectations, judgments, and evaluations. Said audiences might base their assessments on performative aspects, while others might focus on the processes; therefore, the agency must choose which of these features is the most relevant to meet the public.

There are different internal and external audiences. For instance, as pointed out by Carpenter and Krauze (2012), "external audience members (e.g., elected officials, clientele groups, the media, policy experts, and ordinary citizens)" represent a general group of stakeholders that any organization might have if we look at the constituents and anyone that observes the organization. For example, in the EU health regulatory agencies field, these external audiences could be external scientists, academics, industry, citizens, medical personnel, and the media, to name a few. Indeed, some audiences, as argued by Carpenter and Krauze (2012), do not have the same attention from public managers; this is because the management should determine the type of expectations coming from such audiences in order to meet their demands and not only ensure aspects linked to the legitimacy, authority but also power to convey messages across different channels and publics. Similarly, Bustos observes, "Audiences' perceptions mean both threats and opportunities for the organizations." (2021, p.736). Naturally, these signals influence the organizational responses for facing and addressing the degree of the potential threats and thus crafting a specific response to them.

Agencies do not operate in a vacuum; they employ networking strategies with organizations and stakeholders in their environment. As noted by Groenleer (2009), the alternative to isolating themselves from their peers and actors in their field, should be making their contribution clear within their network. Moreover, good management of their reputation is also required, Groenleer (2009) explains that in addition to their real efficiency, organizations also depend on their successful use of their reputation when it comes to establishing relationships and cooperating with different stakeholders in the organizational context. For instance, Busuioc's (2016) research of Frontex and Europol cooperation with their analogous national agencies showed that cooperation between agencies within the same policy field was more likely when the EU agencies displayed unique objectives that did not compete or threaten the national ones.

Close cooperation between European agencies and national ones is supported among many aspects by vertical knowledge transfer. However, as pointed out by Groenleer, "In order to maximize their autonomy, agencies have to demonstrate that they add value to existing national, EU, and international structures and arrangements"(2009, p.356). Furthermore, Carpenter (2001, p.5) observes that "network-based reputations as such are the very essence of state legitimacy in modern representative regimes." For instance, in the case of the EU regulatory state, cooperation between national and transnational agencies is a critical factor in ensuring that European guidelines are followed by all members and naturally by the citizens. Furthermore, member-state cooperation provides transnational decision-making governance with local input and repetitiveness.

2.3 Bringing the variables together: How does X relate to Y?

This section elaborates on the connection between the independent and dependent variables, in this case, the influence that reputational threats impose by diverse audiences on regulatory agencies' communication strategies. Based on the assumption that regulatory agencies have a different set of audiences, which is why they will communicate differently.

European regulatory agencies' operation might shed some light on the interaction patterns between ERAs and their audiences. Several theoretical approaches have addressed the reasons behind the creation of regulatory agencies. For example, as explained by Rimkut• (2021), from the institutionalist point of view, EU agencies are delegated with three activities and roles within the regulatory state, one being information gathering, the second blame avoidance, and third, commitment. Arguably, the rise of ERAs is linked to European institutions' need to rely on knowledge-based and scientific knowledge from reliable sources. European institutions depend on high-quality information and assistance that could offer stability, continuity, and predictability in policymaking under common European standards. Therefore, "EU agencies legitimize themselves by delivering results that are expected to translate into effective policies. In other words, EU agencies depend on output legitimacy." (Rimkut•, 2021, p.214). It could be said that the audiences of European agencies are those that depend on the technical and scientific inputs to create and implement policies at the European level. However, at such a level, agencies face challenges linked to their legitimacy and authority in addition to a complex political environment that responds to diverse constitutions and multilevel organizational and power structures.

The functional aspect behind the creation of ERAs provides cues about their *raison d'être*. However, to understand the way they behave and function, we may look through the lens of the "rationalist institutionalist framework" (Rimkut•, 2021,p.215). From this perspective, it can be inferred that although European agencies might perform similar technical functions, their missions, scope, and powers are not quite the same. Rimkut• (2021, p. 214) explained that "EU agencies have been created on a case-by-case basis"; therefore, there is some variance between them. Consequently, it can be understood that their differences also respond to political constraints that have shaped the creation, design, and uniqueness of EU agencies. Institutions such as the Council of Ministers, the European Parliament, and the European Commission," the so-called 'Eurocracy' have strongly influenced how EU agencies operate.

Furthermore, with the institutionalist approach, institutions, in this case, the ERAs, are defined as "adaptive systems" that evolve as they mature as an organization. In this line of thought, the ERAs depart from their political missions and develop at their own pace over time, considering their behavior, environment, and preferences. The road to own development in organizational reputation should lead to divergence from the mission and vision; instead, this might lead to a tailored approach to respond to the environment and prioritize their behavior. In the analysis of how organizational reputation is used within the context of the European regulatory state, Rimkut• (2019) examined the communications of 45 EU agencies and bodies to study which dimensions were commonly used by these agencies in programming documents, websites, annual reports to portray themselves against their audiences. Rimkut• (2019) considered the nature of the reputational concerns coming from a myriad of audiences at different levels; she concluded that EU agencies tend to emphasize their "output-oriented legitimacy"; in other words, the performative and technical aspects prevail over input-legitimacy ones (moral and procedural).

Busuioc and Rimkut• (2020) point to output legitimacy as a recurrent form of reputation building when attempting to respond to diverse stakeholders' expectations within the EU multilevel system. Similarly, Van der Veer (2021) studies the responses to reputational threats from highly diverse audiences. In the research, he analyzes the EU Commission, an organization facing a complex network of stakeholders. Van der Veer concluded that organizations would respond to threats based first on their relevance to the institution's *raison d'être* and second regarding the source of those threats and the degree of influence this might represent for the organization.

European agencies have broader, more general audiences and arguably have more need to engage with international stakeholders considering that they must connect impartially with members of the European Union, international organizations, and other European agencies, to name a few.

European agencies' *raison d'être* and character indicate that their communicative approach when interacting with diverse audiences might be based on their technical and performative characteristics. For this reason, it can be affirmed that:

Hypothesis 1: European agencies emphasize technical and performative dimensions in their communications strategies.

In the national context, National Regulatory Authorities (NRAs) ensure that products released for public distribution, typically pharmaceuticals, biological products, vaccines, and medical devices, including test kits, are appropriately evaluated and meet international quality, safety, and efficacy standards. According to the World Health Organization (WHO) (n.d), all countries need an NRA to regulate these products. Similarly, NRAs are defined by De Somer (2018, p.581) “as administrative authorities, established at Member State level, that are separate from the central state administration and that are entrusted with specific regulatory or supervisory missions that involve the implementation of EU legislation.” Thus, national agencies mainly respond to their national audiences and, to some extent, to a European legal framework. However, as pointed out by De Somer, NRAs are invested with ‘missions’ and ‘powers’; the first, to some extent, is the mandate, and the second relates to the “formal instruments of decision making and especially the coercive powers that they possess” (2018, p.584). The audiences of NRAs are typically government officials, including national, state, and municipal government officials, who oversee, support, or run organizations with significant regulatory or enforcement responsibilities (Harvard Kennedy School, n.d.)

Factors such as time, sector, task, and audiences are vital conditions that influence reputation management in national agencies. Context is one of them, and it is a relevant factor in determining the type of symbols and messages that should be used to reach a given audience. Christensen and Gornitzka (2019) compared four Norwegian regulatory agencies' information about their activities between 2006 and 2016 to observe the most frequent dimension. They found that performance reputation was the most prominent dimension among these agencies. From 2006 to 2016, all dimensions increased in visibility; however, the moral dimension was the one that stood out the most in terms of increase, going from 34 to 52 points. In fact, according to the authors, focusing on soft values could be seen as a strategy to go beyond professional characteristics and present themselves as “moral beings (representing particular values)” (2018, p.907). As Bustos (2021) pointed out in his systematic review of organizational reputation studies, the moral or affective aspects are the less studied dimensions in the literature; however, as he notes, the agencies should choose which dimensions or characteristics are relevant for the organizational goals.

Similarly to the idea proposed by Busuioc and Rimkut• (2020) about the multi-dimensional notion of bureaucratic reputation, Christensen and Gornitzka (2019) point to the complexity of using reputation symbols. The authors argue that public organizations rely on more than one dimension of their reputation. However, they combine their moral, professional, procedural, and performative dimensions to “manage diverse accountability expectations” (Christensen & Gornitzka, 2019, p.907).

Agencies are not insulated from their context, and they operate in a social environment where they

constantly interact with many stakeholders. NRAs are “subject to the general principles of good administration.” Under Article 41 of the Charter of Fundamental Rights of the European Union, as explained by De Somer (2018), this right applies to EU institutions, and NRAs, as agents of the EU in their national contexts, are subjects of this principle. However, as described by authors such as Groenleer (2009), Carpenter (2001), and Busuioc (2016), cooperation and networking between national and European agencies require a high level of clarity between the missions and characters of the agencies for successful cooperation to take place.

Likewise, NRAS must legitimize its work and meet the expectations of the political principals by demonstrating its competence and suitability to carry out the functions delegated to them. By giving some degree of prominence to their reputational uniqueness, NRAs identify and highlight what makes them relevant for a given audience or issue in their environment. Reputation uniqueness, according to Carpenter (2001, p.5), deals with the demonstration by agencies that they can create solutions (e.g., expertise, efficiency) and provide services (e.g., moral protection) found nowhere else in the polity.” Reputation uniqueness is also a form of survival on which a given agency can rely to demonstrate its relevance and *raison d'être*. As pointed out by Maor et al. (2013, p.583), the success of a good reputation management strategy is reflected in the ability of any agency to highlight “its unique contribution to the public good and to carve for itself a niche of relative autonomy,” in this sense regulatory agencies craft their sphere of influence where their experience or knowledge are critical assets.

Moreover, Rimkut• (2018) compared the scientific assessments of the Bureau of European Food Safety Authority (EFSA) and the French Agency for Food, Environmental, and Occupational Health and Safety (ANSES). She concluded that agencies are responsive to diverse audiences, and these can shape the emphasis of an agency’s approach to its reputational strategies. Rimkut• (2018, p.11) empirically observed that EFSA focused “on the scientific accuracy, methodological expertise, and high methodological quality,” while ANSES emphasized protecting consumers’ values and safety.

For example, Busuioc (2016) examined the willingness of agencies with similar mandates to cooperate. She argues that the agencies’ reputation uniqueness significantly shapes their approach to collaborating with other organizations. National agencies are more likely to cooperate if they encounter tasks likely to boost their reputation. On the other hand, agencies are less likely to cooperate when they foresee threats to their “reputational uniqueness” (p. 43). Agencies display rational behavior to protect their reputation in the eyes of audiences and principals. Similarly, Rimkut• (2018) points out that the defense of uniqueness positively impacts the autonomy, audience’s approval, and independence of political power over the agency.

National regulatory agencies have different incentives or threats than transnational or international agencies since they primarily operate locally. They are arguably close to various stakeholders and, above all, to the citizens. National agencies appeal to their celerity to react and protect the welfare of their public as well as to their objective and fair character of a public organization seeking the common good.

Hypothesis 2: Consequently, national agencies are expected to emphasize the procedural and moral dimensions in their communications strategies on Twitter.

This chapter showed that European and national agencies respond to different audiences and expectations. Therefore, agencies also modify their way of communicating depending on their target. Agencies communicate because they act strategically by communicating what suits them best and satisfying specific niches of high value to the organization. Carpenter states, “what one audience sees is not necessarily what another audience sees” (2010, 34).” The context in which EU and national agencies operate is substantially different. For example, one might argue that there are more technical or performative expectations at the EU level because agencies must respond to high-level politics, such as organizations such as the EU parliament and the Commission.

This thesis will dedicate the following chapter to empirically test the before-mentioned hypotheses to estimate their practical and theoretical implications for the academy, practitioners, and citizens.

3. Research Design

This thesis seeks to understand whether the audience's threats influence the communication strategies of regulatory agencies. This chapter will provide the research design to revise this proposition empirically, and it is structured as follows. The first part will explain the roles of the Spanish Agency for Medicines and Healthcare Products (AEMPS) and the European Medicines Agency (EMA) and why these agencies have been chosen. Further, the data source will also be discussed and justified. Then, this chapter will elaborate on the operationalization of the dependent (the type of tweets) and independent variables (the type of audiences) and the reason for using them. The following section shows the sampling method and justifies the chosen time frame of the study. To continue with the description of the qualitative content analysis as the method to examine the research question. Finally, the validity and reliability issues concerning this empirical exercise will be discussed in the last part of this chapter.

This research conducts a qualitative analysis of the aspects that can influence regulatory agencies' communication strategies, focusing on a novel comparison between a transnational agency and a national one. For this purpose, Spanish Agency for Medicines and Healthcare Products (AEMPS) and the European Medicines Agency (EMA) will be used as study cases to observe this phenomenon empirically. In recent years the communication role of these agencies has had to diversify, in addition to responding to the basic needs of the mission to protect consumers, patients, and the medical industry related to both humans and animals. With the Covid-19 pandemic, the media attention and threats, such as increasing misinformation that at some point was generated around vaccine production and approval, demonstrated the importance of effective communication between regulatory agencies and their audiences.

3.1 Case selection

In recent years, drug agencies at the European and national levels have proven to be a reference for the community on issues related to biosafety, drug and vaccine development, as well as for informing and combating the spread of misinformation among a wide range of audiences. For example, Way (2017) highlights the suitability of EMA to explore the relationships between an agency and its audiences, taking into account the transparency concerns, a recurrent issue embedded in the agency processes and procedures since its creation. Alonso-Gutiérrez et al. (2015) commented that national agencies from EU member states comprise a network of around 4500 experts throughout EMA processes, scientific assessments, and decisions. In fact, between 2003 and 2013, the Spanish Agency for Medicines and Healthcare Products (AEMPS), according to Alonso-Gutiérrez et al., “was one of the six most active European agencies” (2015,p. 233), in cooperating with European agencies. These two agencies closely work in medicine and health-related issues, making them suitable cases for comparing two agencies operating at different levels (national and transnational) but with similar mandates.

Moreover, the pharmaceutical and medical industries operate in a complex multi-level structure where consumers and patients depend on the quality of the products developed; this makes the healthcare industry a commercial area and one in which moral and ethical elements are paramount. These two agencies are administrative entities with regulatory capabilities and transformative entities that can strongly impact some of their stakeholders (e.g., patients). Bustos notes, “The analysis of regulatory agencies is relevant given the proximity to their audiences” (2021,p. 733). With the fast development and commercialization of new products, regulatory agencies are increasingly important in protecting

consumers, patients, and the community's welfare in medical and healthcare matters.

The European Medicines Agency (EMA) plays a crucial role in ensuring the safety, effectiveness, and quality of medicines available on the market in the European Union (EU) and the countries of the European Economic Area (EEA). The EMA is responsible for the scientific evaluation, supervision, and safety monitoring of medicines in the EU (EMA, 2023). It also assesses medicines to rigorous scientific standards and provides stakeholders with independent, science-based information on medicines. The EMA was chosen because it serves a community of around 450 million people in the EU (EMA,2023). Therefore, the EMA covers many stakeholders, including diverse social groups from industry, scientists, and academics to citizens and patients, which means that its decisions have a global impact on the population.

Similarly, AEMPS is responsible for authorizing or denying individualized access to medicines not authorized in Spain. It authorizes medical and health-related criteria for treating humans and animals (Viedma-Martínez, 2023). AEMPS aims to be the health authority accredited in terms of quality and efficiency to which citizens can rely on high safety standards and accurate information concerning medicines, medical devices, cosmetics, personal care products, and biocides (AEMPS,n.d). Some of the most common values shared by the agency are the ones linked to the wealth being of the citizens fostering the development of avenues to development but within high standards of professional ethics and public responsibility (AEMPS,n.d).

3.2 Data Sources

Social media is arguably a communication channel to build trusting relationships with citizens and has proved to be more effective than web content due to its interactiveness and accessibility. According to Zavattaro and Sementelli (2014, p.258), “Social media integrates technology, social interaction, and content creation using the ‘wisdom of crowds’ to connect online information collaboratively.” In reputation management, it is also possible to consider that the type of media and, more importantly, the tone are vital factors in deciding how to cultivate a solid reputation with the different audiences of public organizations. (Maggetti, 2012). The microblogging site Twitter, according to Müller and Fraussen, is used “by public agencies as an instrument for reputation-building” (2022, p.6); this platform has over “340 million monthly active users” (Cantaluppi et al.,2021, p.79) and as stated by the General Plan for Risk Communication elaborated by EFSA, Twitter is an ideal platform to cultivate organizational reputation among specific communities. As commented by Okay et al. (2021, p.177) estimate that “more than 100,000 healthcare professionals worldwide send nearly 300,000 tweets per day to over 135 million followers” Similarly, the use of Twitter concerning medical and health issues not only provides a channel for the spread of information and educational purposes but also it is a platform that promotes the broader spread of information and deeper interactions.

3.3 Operationalization

Dependent Variable: Communication Strategies

There are several ways to classify and measure organizations' communication strategies on social media accounts. The instrument to measure the outcome variable is a list of keywords developed by Busuioc and Rimkut• (2020); this will be used to classify the tweets' content into the four dimensions

of reputation management. Busuioc and Rimkut• (2020) empirically analyzed the 20 EU agencies' annual reports from 1977–2017 to examine how they managed their reputation over time. They develop a dictionary of keywords that compresses Carpenter's four reputation management dimensions. Moreover, the list of keywords used in this research includes some concepts from Rimkut•'s (2019) research on reputation management strategies across EU agencies. The keywords employed to classify the communication strategies will be used within a qualitative content analysis context. According to Hsieh and Shannon (2005, p.1278), "qualitative content analysis focuses on the characteristics of language as communication with attention to the content or contextual meaning of the text."

Using these words, the researcher will establish the general meaning of the post and comments. As this analysis is qualitative, some quotes from the tweets and comments will be discussed to understand the interactions between national and European audiences and agencies.

Table. 3.1 Categorization and keywords of reputational dimensions

Dimension Category	Keywords
Technical reputation	reliable, testable, analytical, assessment, calculate, data, evidence, examine, expert, investigate, knowledge, likelihood, methodology, model, profession, qualitative, quantify, quantitative, research, robust, science, scientific, studied, study, technic, scientific accuracy, evidence, methodological quality, rigorous, evidence.
Performative reputation	delivery, enforce, result/s, achieved, achievement/s, action/s, adopted decision/s, application/s, assertive, compliance, comply, effective, efficient, goal/s, improve, inspect, KPI [Key Performance Indicator], objectives, outcome/s, output/s, performance, restrict, success/es, timely, target, goals, formal mandate.
Legal-procedural reputation	consultation, formal, independent, protocol/s, process/es, rule/s, access to document/s, access to information, appeal/s, conflict/s of interest/es, control standard/s, control system/s, declaration/s of interest/s, internal control/s, internal operation/s, internal system/s, judicial, legal, liability, management standard/s, management system/s, procedure/s, provisions, requirement/s. due process/es, fair procedure/s.
Moral reputation	protection, values, committed to, common interest/s, consumer/s, credibility, dialogue, engagement/s, ethic/s, flexible, good governance, honest/ty, inclusive/ness, integrity, moral, openness, precaution/s, public interest/s, respect for, safeguard, societal, transparent, trust, users,

ethic, conduct, transparency, fairness, accessibility.
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Independent Variable: Agencies' reputational threats coming from the audiences

To understand the type of communication strategies used by regulatory agencies, as pointed out by Carpenter (2010), to understand the potential threats coming from audiences, it is necessary to be aware of their characteristics. For this thesis, the characterization of the audiences will be based on the existing literature on user profiling on social media and the information shared by the users on their profiles.

Most classification techniques use supervised machine learning techniques to extract information from the content and behavioral aspects that users display on their accounts, which are taken into account to classify said profiles. Zhang and Bors (2020) tested whether, with less basic information, they could obtain a classification of different stakeholders related to public health. The authors used the information from the users' biographies; for those who did not have this data, they included the first 20 tweets available in their feed. After a random sample of 3,100 users on Twitter and using their bio (i.e., their Twitter profile text) to classify them, the authors concluded that the "bio is arguably more informative" when compared with the content or tweets posted by users (Zhang & Bors, 2020, p.219). Similarly, Vicente (2023) argues that some demographic characteristics are more easily extracted by analyzing user-level information than when examining tweets or other types of interactions. Thus, this thesis will use the extractable information from their public bio on their Twitter accounts.

Regarding the information, our research looks for an account of the type of audience; therefore, some basic information that could help understand the potential expectations and threats coming from the audiences will be extracted from their Twitter profile bio. For instance, in the Regulatory Science Strategy to 2025, conducted by EMA, five key groups of stakeholders were identified and surveyed (Hines et al., 2020). In the EMA's "Clustering of survey respondents," the first cluster contains individual members of the public, patient organizations, and advocacy groups. The second is healthcare professionals. The third is the academic and research community. In the fourth, the so-called public bodies (EU regulatory institutions, health assessment bodies), and in the fifth group, the industry. Similarly, Way (2017) categorized the audiences of EMA's transparency policies into six groups, and these were: "external 'independent scientists, industry, Non-EMA regulators, policy and healthcare decision-makers, medical doctors and patients'" (p. 77). This research has adapted the five clusters of stakeholders developed in the Regulatory Science Strategy to 2025 conducted by EMA (Hines et al., 2020) and the categorization developed by Way (2017) to the scale and resources currently available.

As far as available, the information to be extracted will be: Healthcare professionals: people who provide information about their profession or occupation in the healthcare area. The industry: users affiliated or related to pharmaceuticals, businesses, and laboratories. Patient organizations and the news and media; profiles describing their affiliation with these collectives will also be included. The group related to the scientific community will include academics, researchers, and students. Furthermore, Individual members of the general public will also be included for the users who do not display information related to the above mentioned groups or provide any information at all.

Regarding the language, in this case, the analysis will be limited to English or Spanish for practical reasons. Audiences are different; that is why they communicate differently, and this is how this research is trying to capture the differences between audiences, in this case, followers. The theory indicates that looking at audiences is the best way to understand the potential threats coming from them. This approach would also portray the agency's behavior in specific contexts, for example, on social media.

Table. 3.2 Audiences's classification

Healthcare professional	Profession or occupation in the health area (doctor, nurse, etc) .
Industry	Pharmaceuticals, business and laboratories.
Patient organizations	Identifying with particular diseases, health related advocacy organizations.
News and media	Blogs, newspapers, journalists, media.
Scientific community	Academics, researches and students.
Individual member of general public	Users with no relevant information, no information at all or not identifying with the other categories.

3.4 Sampling

At the moment of analysis, the Twitter account of the EU Medicines Agency @EMA_News has 117.7 K followers, and @AEMPS has 53.4 K followers; thus, this is the sampling frame. From this population, a sampling method will be used to apply to classify the audiences' characteristics described in Table 3. To ensure a representative sample size and significance together with a given margin of error, the number of users to be analyzed will be calculated with the Sample size calculator from Qualtrics XM Platform(2023). For instance, to ensure sample significance, the number of EMA followers should be 383 users, while for AEMPS, the required sample size will be 382; these numbers offer a 5% margin of error and a confidence level of 95% for both. The sampling method, considering the existing limitations, is as follows: in the case of EMA, the 382 followers to be analyzed will be chosen from every ten profiles starting from the first follower available from the list displayed at EMA's profile. Similarly, for the AEMPS, the same process will occur every ten followers. This approach responds to how the followers are organized on Twitter, being the first to appear in the feed the most recent ones; this is consistent, for example, with the time frame chosen to perform the analysis because the analysis will take into account updated follows of followers. On the other hand, this approach is helpful to avoid technical failures related to the application's ability to display such amounts of profiles correctly and, finally, to overcome human limitations in performing the data recollection manually. This approach naturally skews the sample towards the most recent users, but it this is expected to give a better picture of the present overall picture rather than the situation several years ago.

AEMPS's @AEMPSGOB and EU Medicines Agency @EMA_News official Twitter accounts are selected to compare them. The analysis will be conducted on both agencies' tweets, retweets, and comments on their official profiles. The sampling frame consists of the tweets posted in the last five months, starting in January and ending in May 2023. The sampling will start with the first week of January, the second of February, the third of March, the fourth of April, the fifth of May, the first day of the week, Monday, and the last Sunday.

Table. 3.3 Sampling schedule

	Dates
Week 1	2-8 January
Week 2	6-12 February
Week 3	13-19 March
Week 4	17-23 April
Week 5	22-28 May

This timeframe has been chosen due to the real-time nature of Twitter; this means that older tweets are not properly displayed. At the same time, this period is helpful to study recent interactions on current issues that have taken place in the last few months. For example, in the case of EMA, there is significant activity on the platform compared with AEMPS, and this means that the application’s display capacity will only show messages from 2022 onwards. The analysis of tweets over different weeks in five months seeks to empirically point out the visibility in the communicative dynamics and communication strategies used by both agencies with their audiences at national and European levels.

3.5 Analysis of Data

Once the data is gathered and classified, the dependent and independent variables will be analyzed, considering the data patterns observed from the empirical examination. Then, hypotheses H1: European agencies emphasize technical and performative dimensions in their communications strategies, and H2: national agencies are expected to emphasize the procedural and moral dimensions in their communications strategies on Twitter, will be addressed through qualitative content analysis. According to Hsieh and Shannon, qualitative content analysis is a research method “for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns” (2005, p.1278). With this definition in mind, after gathering the raw data, the first step is to organize and correctly classify it. For example, in the case of the dependent variable, the posts are classified as technical, performative, legal-procedural, and moral, considering the use of keywords and meaning within the posts. In the case of the independent variable, the data related to the profile information that this research seeks to obtain is filtered and organized to visualize followers’ characteristics. The qualitative content analysis is chosen due to several factors: the relative “small” amount of followers and Tweets used to grasp the differences between the communication strategies used by national and European agencies on Twitter. Another reason is the qualitative approach’s descriptive nature to understand nuances and subtle contents embedded in the information posted by the agencies.

3.6 Validity or reliability

This study seeks to observe regulatory agencies at national and European levels empirically; therefore, it is expected that this academic exercise could be replied to and applied to contexts in which regulatory agencies operate, on social media contexts, especially if these are nationally compared to transnational ones, and explicitly microblogging sites such as Twitter. However, some methodological conditions could not be repeated. For instance, random sampling might be challenging for future research because the same population might not be available to be included in the sample. In addition to the concern of public health and safety, studying medicines regulators is essential to identify potential barriers to improving compliance with the applicable regulations, considering ethical issues among stakeholders in general. As with other agencies dedicated to the approval and verification of products for human and animal consumption, this academic exercise could be put into practice in other agencies such as the European Centre for Disease Prevention (ECDC), European Chemical Agency, European environment agency, European Monitoring Centre for Drugs and Drug addiction among others that also regulate and are sources of scientific and procedural objectivity within their fields of action.

The results obtained in this research measure, to a high degree, the intended objective, which is bound to compare national and European agencies in medicines for humans and animals. The information regarding the type of audiences could be approached from many different angles. Vicente (2023, p.33) pointed out that “ social media studies are frequently limited by not reporting demographic data because of the difficulty in retrieving this information from publicly available online data sources.” Twitter is no exception; information such as gender, age, location, and education, among others, are not available and, thus, making more challenging comparisons between groups in the case of this research by gathering as much information as possible to support us in finding a possible relationship between audience expectations and the communication strategies used by regulatory agencies. Moreover, human biases might present in addition to some limitations to replicability. However, the understanding of figurative and non-literal meaning associated with human perception will be present in the manual coding enhancing this academic exercise. Social media is a fast and evolving environment, and it is difficult to imagine what it would look like in five, let alone ten years, in particular with the looming mass production of content via AI engines that can make the problems about discerning between information and disinformation even harder to crack.

4. Results

This chapter will present the results of the empirical research conducted on AEMSP's and EMA's Twitter accounts between January and May 2023. 104 Tweets were collected between the two agency accounts to analyze the communication strategies or dependent variable. Then the classification taking into account the reputational dimensions categories presented in the previous chapter was employed to classify the data; Table 4.2 details the Tweets. On the other hand, the independent variable was measured using a user classification based on the stakeholder classification previously described. 765 Twitter profiles were analyzed to classify them into specific audience categories. With the results of this empirical exercise in the next chapter, this thesis will confirm or disprove H1 and H2 and answer the main research question.

4.1 Communication Strategies (Dependent variable)

A total of 104 Tweets published by AEMSP and EMA were categorized using the four reputational dimensions. Of the total, 34 were posted by AEMSP and 75 were posted by EMA, it is worth noting that EMA retweeted many messages from other agencies and organizations related to health issues and medicines. While the Spanish agency mostly posted original content.

Table 4.1 Tweets posted by AEMSP and EMA

		AEMSP	EMA
Week 1	2-8 January	1	8
Week 2	6-12 February	6	10
Week 3	13-19 March	8	21
Week 4	17-23 April	10	11
Week 5	22-28 May	9	20
	Total	34	70

The category of moral reputation had the highest incidence in the publications of both agencies with a total of 15 posts by AEMSP and 23 by EMA. In this case most post related to this category were informational and educational posts that were committed to protect and enhance public wellbeing. The category with the second higher representation is the performative reputation, with 5 post from AEMSP and 22 from EMA most of the publications were focused on the delivery of guidelines, results or actions related with medical and sanitary initiatives and products. The third place on relevance present divergent results for the two agencies, the technical dimension was more relevant for EMA with 16 posts displaying this feature while AEMSP only published 4 tweets with this characteristics. On the other hand, the legal-procedural reputation was more prevalent on AEMSP's feed while it was less on EMA's profile with 8 and 14 posts respectively.

Table 4.2 Tweets' classification

Dimension Category	AEMSP	EMA
Technical reputation	4	16
Performative reputation	5	22
Legal-procedural reputation	8	14
Moral reputation	15	23
Total	32	75

4.2 Audiences classification (Independent variable)

The classification of the AESP showed that 49.2% of followers of this agency are individual members of the general public, which is people who do not identify themselves as health professionals, patients or organizations, nor as media, industry or scientific community. Many of these people had no descriptions in their profiles or if they did they described other aspects of their online personality. The second largest group is that of health professionals, this group is equivalent to 27.4% of the profiles examined, many of them are doctors, nurses, laboratory technicians and others. The next group in size is the scientific community, representing 8.9% of the total, in the profiles, there were included some academic activity linked to their profile. Following these, are the news and media with a presence of 6.2% of the sample, many of these profiles correspond to journalists from national and local media in Spain. On the other hand, profiles linked to the industry represent 4.7% of the sample, here it is evident the presence of companies dedicated to the sale of medicines and medical supplies such as pharmacies, there were also businesses related to health and wellness. Finally, the least represented group was that of patient organizations with an incidence of 3.4% of the total, it is possible that many patients do not identify themselves as such in their profiles or that their identification with a disease or group is different in another environment.

Table 4. 3 AEMSP's followers classification

Healthcare professional	105	27.4%
Industry	18	4.7%
Patient organizations	13	3.4%
News and media	24	6.2%
Scientific community	34	8.9%
Individual member of general public	188	49.2%
Total	382	

In the case of the EMA the largest share of responses 55.6% accounted for Individual member of

general public, these are users that didn't identify themselves with the other available categories or were followers with no relevant information. It has to be said that these profiles had other information regarding their activities and identities and most of them were individuals and regular users. The next group of audiences in numbers is the healthcare professionals with 14.8% of the total, these users had a professional related information in their profiles. The third biggest group is the scientist community with 12.7% of incidence from the total of analyzed profiles. The industry represented an 8.6% of the randomly selected profiles included in the analysis. The news and media accounted for 4.9% of the consulted users, most of them were journalists, bloggers or lifestyle influencers. Finally the group with the lowest numbers is the patient organizations with 3.1% of the total.

Table 4.4 EMA's followers classification

Healthcare professional	57	14.8%
Industry	33	8.6%
Patient organizations	12	3.1%
News and media	19	4.9%
Scientific community	49	12.7%
Individual member of general public	213	55.6%
Total	383	

5. Analysis

This chapter will examine the findings of the empirical exercise carried out on the twitter accounts of EMA and the AEMPS. The analysis will be developed taking into account the reputational dimensions used for classifying the content of the tweets. First the results concerning the technical dimension will be discussed by using examples from the tweets extracted in the research design. Second, the performative dimension, will be examined by using theoretical concepts introduced earlier in chapter two. Third, Hypothesis one will be disproved or confirmed by supporting such conclusion with empirical evidence. Then the next two dimensions, the legal-procedural and the will be discussed

5.1 Technical dimension

The technical dimension was EMA's Twitter account's third most used reputational dimension. 12 out of 16 tweets covering technical information posted on EMA's account were retweets of other EU agencies. For example, on the 5th of January, in a retweet from @ECDC_EU (The European Centre for Disease Prevention and Control), the keywords suggested its technical approach; this post was about a Covid-19 variant recently discovered. There were four comments in which the users mostly interacted concerning the technical aspects of the post, and two users included external sources to reflect on the information presented in the post. One user identified as "Jasper" mentioned: "Your assessment could be better," arguably challenging the technical dimension of the information; however, the organization responded in the comments expanding the information provided on the post. Neither EMA nor The European Centre for Disease Prevention and Control (ECDC_EU) addressed individual users or comments.

Similarly, on the 10th of February, EMA posted a post informing the audiences about their assessments of medicines containing pseudoephedrine on its Twitter account. This communication was considered technical because it mentions the assessment conducted by the agency, and on those grounds, they were issuing a warning. To this post, there was a reaction from a user asking to run such assessments on medications that can cause permanent PSSD; however, there was no reply. In the national context, on the 18th of March, the AEMPS posted about a new vaccine developed in Spain. The agency shared some vaccine characteristics and highlighted its efficacy against some Covid strains. Paradoxically, this is the post with more comments of all the posts of AEMPS in the study; the vast majority of comments had a negative tone questioning the quality of the vaccines and side effects.

Even if they have negative comments directly addressed to their technical competence, the agencies did not respond to these threats in the three situations mentioned above. A regulatory silence (Maor, 2020) demonstrates autonomy and authority on the part of these agencies in technical matters. The technical threats may not come from the audiences on social media; therefore, agencies do not reply directly to citizens and do not invest many resources in publishing this type of content. As commented by Carpenter (2010); Carpenter and Krauze (2012), agencies tailor their messages by taking into account the audiences they are referring to. Nevertheless, agencies adapt their information to reach their audiences more effectively. However, regarding audience classifications, the scientific community corresponds to 12.7% of EMA's followers and 8.9% of AEMPS's followers, the third larger group for both agencies. For example, the production and dissemination of scientific information are treated differently because these are complex topics that would be very difficult to address on platforms such as Twitter.

Consequently, technical information is adapted so that most audiences can grasp or understand it quickly and fundamentally. As Van der Veer (2021) observes, the heterogeneity of audiences is another relevant aspect for designing a communication strategy that aims to reach the most significant number of audiences with the same type of message or information. On top of that, agencies seek to face the threats coming from audiences that are more likely to have a direct impact on their ability to perform their duties; thus, and at least for the technical dimension, Twitter does not seem to pose a threat to which the agencies both European and national agencies.

5.2 Performative dimension

The performative dimension was the second most used dimension employed by the EMA (22) and the third by the AEMPS, each with 22 and 6 posts, respectively. In the empirical examination of this dimension, it was possible to demonstrate a tendency towards cooperation and decisions taken in working teams and with other organizations. In the case of the Spanish agency and the EMA, most posts showed their joint work with other organizations and institutions. For example, on the 14th of March, EMA retweeted a post from the EU council; this retweet was classified in the performative dimension because, although it was informing the public about the EPSCO Health Council, it also mentions the aspects that would be discussed at the meeting, being these the EU global health strategy which is in itself a common goal or objective that requires a formal mandate and joins decisions to be effective. Similarly, this council would cover the budgets related to payments for the EMA, which also carries the implicit message that issues related to the performance parameters and joint decisions to approve funds for EMA will be handled. This post has a negative comment, but it was related to a relationship among diplomats, so arguably, it has moral connotations that are not directly related to the council or health-related topic but rather to the morality of the civil servants participating in the meeting. There has yet to be an answer to this comment from the council or EMA. Like the last post, on the 17th of March, EMA tweeted that the agency is participating in a co-join project with other EU institutions to prevent medicines supply problems. Two negative comments are linked to the moral reputation of management involved in such negotiations. It can be argued that, to some extent, the protection of consumers and patients are associated with the trust and other values expected from the organization's leadership. As pointed out by Rimkut• (2019), in the performative dimension, "Agency emphasizes its ability to attain effective and efficient regulatory outputs and goals set in its formal mandate outcomes" (p.5), and to this extent, the EMA seeks to convey a message about its identity as an influential player in the multilevel structures at EU level, for example with institutions and agencies that are somehow in the same policy field as EMA. In the case of the Spanish agency, the performative action was implicit in the type of tweets referring to their role as an agent that aims at protecting citizens, this aspect was very similar, and in some tweets, this mission was interrelated with the moral dimension because there were clear signs of their commitment with the well-being of consumers. For example, in the post of the 13th of March, the performative and moral reputations were featured in this post in which the agency warns about the potential adverse effects that a medicament might have on pregnant women. It calls for compliance with this restriction and, at the same time, aims at protecting pregnant and their babies. In this post, there was only one comment criticizing that pregnant women are still being treated with some medicines; however, this was not answered.

Proposition one: *H1: European agencies emphasize technical and performative dimensions in their communications strategies.*

The expectation that European agencies would prioritize the technical and performative dimensions was based on previous research, most of them analyzing the role of regulatory agencies from an out-put legitimacy stand. However, this research focused on communicative behavior, and this exercise focused on studying the content of European and national agencies' communications on social networks, specifically Twitter. The empirical exercise in this research yielded mixed results regarding the type of communication strategies employed by EU agencies and their emphasis on the technical and performative dimensions. Generally, the technical dimension was the third most used dimension, with 16 posts out of 75. This aspect does not meet the expectations because although EMA is supposed to base its posts on technical and scientific grounds, on the content analysis, this dimension was overcome by the performative, legal-procedural, and moral ones. However, as Van der Veer (2021) points out, agencies try to meet the expectation of broader audiences while, at the same time, the channel might also influence the type of information that is shared in a specific environment.

In the empirical revision of the type of audiences following EMA's Twitter account, this research found that out of 383 analyzed profiles, the most representative audiences are people from the public, 213 people corresponding to 55.6% of the total. Perhaps this indicates the type of audiences that are more prevalent in this environment. As commented by Rimkut• (2018, p.6), "To maintain a good reputation, agencies will respond to the demands of relevant external audiences by incorporating external preferences in their out-puts, rather than just automatically following common scientific and procedural standards" in terms of communication strategies, agencies seek to fulfill the expectations that most of their stakeholders have regarding the communication they share with them. In this case, technical information is often complex and detailed, and microblogging networks are perhaps not the best place to share such information. As a note by Vicente (2023,p.5), Twitter allows "up to 280 characters that can include URLs and hashtags" and is a good starting point for sharing links or inviting followers to click to expand the current information. For example, on the 18th of April, EMA shared some outcomes of the Antimicrobial resistance surveillance in the EU; it was a joint report made by WHO_Europe (the World Health Organization Europe) and ECDC_EU (The European Centre for Disease Prevention and Control). In this tweet, there was a link for expanding the information; also, in the comments, more explanations about the topic were given; however, there were no user comments.

The performative dimension, ranked second with 22 tweets out of 75. Carpenter and Krause (2011) state that when an agency emphasizes this dimension, they feature competent and efficient reputational signals. In the case of EMA, one of the most highlighted and repeated aspects in the tweets was related to interagency cooperation, joint decisions, and the objectives achieved within the European regulatory framework. For example, in a post from the 14th of March, the EMA retweeted from EU Health about the Eu Global Health Strategy. EU Health user is the Twitter profile of the EU Commission DG Health & Food Safety. In the comments, the EU Health elaborates more on this initiative's results, objectives, and compromises. One comment questioned the effectiveness of EU action on treatments for Long-covid; the EU Health profile addressed this comment.

Mathieu observes that "ERAs are created through the EU legislative process that involves the Commission, the European Parliament, and the Council." (2022, p.410). Therefore it can be assumed that the performative dimension is a suitable way to enhance the agency's legitimacy vis-à-vis various influential audiences such as other European agencies and institutions as well as citizens and

stakeholders. Van der Veer (2021,p.23) points out that “audiences’ preferences and power” strongly influence agencies’ reputational strategies. In this case, the heterogeneity of audiences is relatively wide; we encounter regular citizens following EMA on its Twitter account and followers from the agencies and organizations that EMA retweets. This could be a way to signal not only a high commitment and compliance with the EU multilevel governance structure but also to position the agency as an assertive player in the region. The high incidence of the moral dimension in EMA’s publications could be related to the type of audiences they have in their social networks, like Twitter in this case. As mentioned above, the most significant number of followers of the agency on Twitter are people from the public who do not identify themselves within any specific group, such as healthcare professionals, industry, patients, the scientific community, or the news.

Many comments on EMA’s tweets had moral connotations; for example, on the 20th of April, several comments were about the discontent and lack of trust concerning Covid-19 vaccines. For instance, a user replied, “That’s a lot of public trust in these products lost over the last 3 years - all indicators gone down... Yet judging by the ‘wild popularity’ of these bivalent shots I’m guessing they’re down significantly more than your graph would suggest” Twitter (2023). Similarly, on the 16th of March, one out of 12 negative comments published: “No one believes you. People are tired of your lies. Stop promoting Big Pharma and start to listen people! No way to be trusted after three years of lies” (Twitter, 2023). Neither EMA nor the other organizations tagged on Twitter replied to these comments, yet, these tweets were public to the other followers and visible to the organizations’ accounts. It is worth mentioning that most of the moral comments collected were focused on Covid-19, risk management, vaccines, and patients. Users seem to have taken these spaces to express their disagreement with the situations and regulations generated by the pandemic. Rimkut• (2018, p.11) notes that “Depending on the reputational threats, agencies choose to emphasize either their role as guardians of the prevailing social values by proposing precautionary measures or send strong professional signals by delivering a scientifically rigorous risk assessment.” and it is the case in which the audiences voice their concerns and discontent with the actions taken by the European health governance framework.

5.3 Legal-procedural dimension

The least common reputational dimension for the EMA was the legal procedural, with 14 incidences, while the legal-procedural dimension was the second in relevance for the Spanish agency. As Carpenter (2010) pointed out, the legal-procedural dimension relates to the appropriateness of processes and decision-making steps taken to reach any decision. EMA’s communicative strategies on Twitter employing the legal-procedural dimension could be perceived, for example, in a retweet from the European Health and Digital Executive Agency (HaDEA) posted on the 8th of February about the call for proposals on health research. The legal procedural dimension of EMA’s communicative displays was mostly retweets and messages assuring the control of standards regarding the different processes involved in managing health issues at the European level. For example, on the 26th of May, EMA retweeted from The European Centre for Disease Prevention and Control (ECDC), marking the beginning of the recruitment process of the Director of the ECDC_EU. The ECDC expanded the information of such a vacancy and elaborated on subsequent comments about the role and qualification required for such a post. However, in this dimension, there were not many comments concerning the due process or formalities that the authorities should or have not considered.

In the case of the Spanish agency, the legal-procedural dimension was very present in its role as a regulatory agent of the domestic market, always focusing on quality control and adequate standards to guarantee a product suitable for domestic consumers. For instance, on the 6th of February, AEMPS tweeted about the changes in the labeling of a medical product, mentioning the key features of the previous medicine and the new one. In the lower part of the communication, they mentioned that the agency is working towards harmonizing packages in the EU. Implicitly, the organization is trying to send a message of strict controls, especially on issues that could directly harm cortisone patients. The “Focus of agency communication is on due process, adherence to socially approved and fair procedures” (Rimkut• , 2019, p.5). Another illustration is from the 15th of March, when the AEMPS tweeted about a conference concerning new European regulations on clinical trials on the agency’s youtube channel. This post underlines the interest to ensure access to information for the public wishing to learn more about the regulation and processes of clinical trials following the European regulation. This Tweet also promotes other social networks where the agency offers other types of content, which indicates that they use social networks for different purposes depending on the features they can offer to transmit or communicate better with different audiences.

5.4 Moral dimension

The moral dimension was the most used by the two agencies analyzed, with 23 tweets from the EMA agency and 15 from the Spanish agency. The tweets in this category had moral connotations linked to values and respect for the common good. On its Twitter account, EMA published many retweets from various European agencies and offices on the topic of health; however, the tweets that initially came from the EMA agency had a strong moral dimension. It was unexpected that most tweets were moral because, according to the literature and many empirical studies, communication strategies, and bureaucratic reputation emphasized the technical and performance dimensions over the moral dimension. In this study, this may have been the case due to the communication medium in which the analysis was done; as Bonson et al. (2012) comment, social networks are channels that, despite having many limitations, at the same time enable the representation of multiple audiences and their interaction with interlocutors that would otherwise be difficult to reach. The empirical analysis of audiences showed that most of the followers of the two accounts examined are individual public members; they do not describe themselves as doctors, scientists, industry, patients, or news and media. In this study, most followers are members of the public who have no specific knowledge or interest in technical, scientific, or legal issues but may be more interested in the ethical aspects and moral principles.

For example, on the 9 of February, EMA retweeted from EU Environment. In this post, the message intends to inform EU consumers about an app that can help them address their clothes’ sustainability. This post has three comments, one reacting positively about this idea and the other two complaining about the technical aspects of the app. Nevertheless, the interactions relate to the problems directly related to the users trying to participate in such initiatives. In the case of AEMPS, for example, on the 8 of February, they posted the video: “Do you know the team behind the decisions we make at the AEMPS? It is about the people working at the agency. In the video, different workers are interviewed, talking about their roles at the agency and why it was relevant for the general public. It seems like a strategy to give a face to the public civil servant behind the decisions taken at the agency. In the section of comment, there were mixed responses. Some comments mentioned people’s surnames and lifestyle activities that did not match the user’s idea of what it ought to be; for example, the user mentioned the type of expensive treatment the civil servant gets or practices like hunting. This perhaps is related to

what a public official should embody, but that question lies outside the scope of this study. Moreover, the other comments were complaints about how Covid-19 management has affected the lives and freedom of people in Spain.

Proposition two: National agencies emphasize the procedural and moral dimensions in their communications strategies on Twitter.

This proposition was evident in the empirical analysis of the communication strategies of the Spanish Health and Drug Agency. The moral and legal/procedural dimensions were this agency's first and second most emphasized aspects in their communications via Twitter. In the case of the legal and performative dimension, as mentioned by Capenpenter (2010,p.47), "relates to the justness of the processes by which its behavior is generated," the organization should be able to ensure its ability to act objectively on behalf the interest of quality, fair processes, and equity among the different stakeholders that are likely to be affected by the decisions. Especially for national agencies, such as the AEMPS, that In addition to ensuring the quality and safety of medicines and medical devices for humans and animals, the agency must also assure other audiences of its professionalism and professional competence. This agency must also guarantee to other audiences its professionalism and professional competence as an agency relevant to citizens and to industry, commerce, the academic community, and researchers working to develop products and services. As noted by Rimkut• (2018, p.71), when the "role as a guardian of social values (e.g., public health) is more important than their technical-scientific conduct, they will rather focus on providing regulatory outputs that send strong protectionist signals instead of sending strong professional signals." National agencies can influence the market and consumption patterns with technical and scientific outcomes; however, the role of social guardians prevails in this context.

One frequent aspect of the shared content was the types of messages warning consumers about potential practices or products that might harm them. For example, on the 6th of May, the agency retweeted a post from the Ministry of Health about the potential threats of henna tattoos. Similarly, on the 19th of April, the agency posted an informative post about the adverse effects of black henna tattoos for the summer. With these tweets and the reiteration of this information, the agency exercises its authority based on scientific and technical knowledge. However, at the same time, they emphasize their commitment to societal well-being. The moral dimension was the most used communicative framework, with 15 tweets. The tweets that emphasize this type of communication focus on preventing harm to the community at large, informing and encouraging the participation of citizens and interested personnel in the agency's initiatives. For instance, on the 23rd of May, AEMPS invited its followers to the presentation of the Royal Decree on Medical Devices. In the post, the agency encourages the potential participants to ask questions using hashtags and other channels of the event. Moreover, Maor et al. (2013) observe that regulatory agencies tend to choose a niche where they can cultivate an autonomy linked to their uniqueness. Although the AEMPS is a government agency, it seems to highlight its close and inclusive character, by selecting topics that affect consumers directly, for example, warnings of potentially harmful products and activities open to the general public.

6. Discussion

Audiences are undoubtedly one of the determining factors when evaluating the different communication strategies employed by an organization. This thesis conducted empirical research by comparing the communication strategies of two regulatory agencies, one national, the Spanish Agency of Medicines and Health Products (AEMPS), and the European Medicines Agency (EMA) on Twitter. In a period of five months, using a composed month strategy, 104 tweets were analyzed, and 600 profiles were classified to answer the question: To what extent reputational threats imposed by a diverse set of audiences of regulatory agencies influence their communication strategies? This proposition is conceptually addressed with the insights of the bureaucratic reputation theory.

The agencies' behavior is also determined by the context, niche, or target audiences, and this exercise tried to observe how regulatory agencies respond to influences that may come from relatively powerless and diverse publics. This thesis focused on the role of external audiences (Carpenter & Krauze, 2012) by studying social media to examine how agencies interact with their audiences; in this case, Twitter served as the context in which these relationships occur. Porumbescu (2016) notes that social media is more effective than websites in fostering interaction between public organizations and citizens.

After performing a content analysis and audience classification, it became evident that agencies tune their content to what audiences may expect and what the medium they communicate allows them to share. It was expected that European agencies would emphasize their technical and performative dimension. Nevertheless, this idea was refuted in the empirical assessment because the moral dimension was the most used reputational strategy when communicating with the public on social media. One potential explanation for this outcome could be the composition of its followers on Twitter. According to the classification of the audience of EMA's Twitter account, 55.6% of them were Individual members of the general public, indicating that this group of followers did not identify themselves with any other of the other group of audiences. On the other hand, the expectation concerning the emphasis of national agencies on the moral and legal dimensions was confirmed. However, the same classification pattern was noticeable; 49.2% of AEMPS's audiences identified themselves as "Individuals of the general public." These results pointed to a similar trend between these agencies concerning the composition of their audiences and the communication strategies used in their communications on social media.

Within their uniqueness and spheres of influence, these agencies generally framed their communications within moral and legal-procedural dimensions of reputation management. This similarity could respond to the composition of the audiences in this specific context (social media). Therefore, the agencies portray themselves as "a guardian of social welfare by generating regulatory outputs that have wider moral implications" (Rimkut•, 2018, p.73). For example, on the 13th of March, the EMA retweeted from EU Health information concerning a stakeholder event about the mental health of EU citizens; in the tweet, mental health was framed as a relevant concern for the EU with an underlying tone of unification and cooperation. In the tweet, it can be read: "Together, we can improve the #MentalHealth of EU citizens, regardless of where they live or work" The details of the posts, including the graphics, implied the commitment to protecting the welfare and representation of citizens.

In some contexts, and perhaps this is the case with social media, "an organization's legitimacy may rest upon its "good cop" image (Carpenter, 2010, p.69). The reputation's construction with a personalistic

approach could mean a great deal of empathy or connection with the audiences, which in this case are composed of regular citizens or individuals loaded with diverse expectations. The tweets about the different roles of the personnel working at the agencies were shared not only in the feeds of the analyzed agencies but also in other European organizations. For example, on the 10th of February, EMA retweeted from ECDC a post about women in science in which women from different EU agencies were sharing their stories and experiences in science. Of course, EMA also contributed to this theme; however, there were no comments about these posts. Similarly, the AEMPS also posted a video about the people (according to the tweet) working to protect Spanish citizens. The post addressed different genders and professional backgrounds across the organization. Still, the comments were unfavorable and not responded to by the agency.

Even though most tweets try to portray an overall moral dimension, a high degree of ambiguity was common throughout the empirical research. Carpenter notes that “ambiguity and the possibility of multiple interpretations of symbols and actions can facilitate singularity for the organization” (2010, p.47). Many of the posts are moral but with scientific and technical bases demonstrating the efficiency and good management that the administration performs in these agencies. Reputation-building is not a white-and-black issue. It involves communicating different aspects of the organization’s image to create a profile that meets technical and moral expectations. For example, in many instances, one post contained different dimensions or could be understood as such. For example the 14th of March, EMA tweeted about the Clinical data publications for COVID-19 medicines. The post displayed keywords related to the moral dimension, such as transparency and data publications. However, other aspects, such as the legal-procedural, were also present in hashtags, like marketing authorizations and safety monitoring. Similarly, on the 17th of March, the Spanish agency tweeted about its participation in a co-join project with other EU institutions to prevent medicines supply problems; this post had performative characteristics; however, it has moral connotations. It can be concluded that, to some extent, the protection of consumers and patients are associated with the trust and other values expected from the organization’s leadership. Both agencies elaborated on the legal or technical aspects of the topic, but at the same time, their message attempted to protect the consumers and societal well-being. Creating communication strategies involves carefully crafting general messages to meet different expectations in a wide range of audiences.

The two agencies have similar behavior concerning comments and one-to-one interactions. None of the tweets have direct answers to any of the comments, and still, in some cases, they used the section of comments to expand the information but not to interact with users. One could say that these communication strategies respond to what Maor (2020) and Gilad et al. (2016) would describe as “strategic silence” or “keep a low profile” in situations that challenge authority and somehow do not represent a considerable risk to the reputation of the organization. However, this behavior challenges the idea that creating spaces for interaction with diverse audiences should be used to convey information and cultivate the organization’s authority and legitimacy beyond traditional channels of interaction. For example, the comments were frequently negative in the tweets about medical regulations or Covid-19 information.

On the other hand, users reacted positively in tweets related to the support and development of initiatives aiming at benefitting citizens. For example, programs to support investigation against cancer generated positive reactions. On the 25th of May, in a retweet from Stella Kyriakides (European Commissioner for Health and Food Safety), she posted: “EUCancerPlan belongs to every citizen and is changing the realities of cancer for patients and families across EU.” Two comments were optimistic

about the information, they thanked the commissioner, and in the same message, they advocated for their causes, one for Amyotrophic Lateral Sclerosis and the other for Long-Covid treatments. Even in this positive feedback, no answer or comment was responding to it.

Followers tend to react more to more practical topics or touch them closely, for instance, Covid.19 related issues such as vaccines, restrictions, and aids. While the opposite, for example, managerial actions such as signing agreements recall less attention and almost no interactions at all. The agencies are careful when interacting with the comments. These findings also support Bonson et al. (2012) observations about the citizens' relatively low participation levels on social media and what Muller (2022) calls the "presence-attention gap" in which, although the agency is present on the online channels, it receives relatively low attention from the audiences. The gap or lack of participation could respond to a passive approach from national and European agencies when reaching out to their audiences (Wukich & Mergel, 2015).

The most common interactions were between agencies and organizations in the same policy field. The network-based reputation (Groenleer, 2009) is a significant communication aspect; EMA retweeted around 57 posts from diverse EU and other health-related agencies and offices such as WHO and Unicef. According to Carpenter (2001), cooperation among agencies is a valuable way to enhance legitimacy. Cooperation between agencies and key stakeholders is essential for the survival of regulatory agencies; they do not operate in a vacuum. In the case of the Spanish agency, there were not as many posts as in EMA's account, but some were retweets from EMA. The collaboration between national and European agencies represents mutual gains for both organizations, as pointed out by Rimkut• (2018, p.72) "Enhancing legitimacy is particularly pertinent to regulatory agencies, as it ensures that their rules and standards that are produced are followed by those who are regulated (e.g., industry) and appreciated by those who are affected (e.g., consumers)."

7. Conclusions

7.1 Conclusion

To conclude, the study of reputation management strategies employed by European Regulatory Agencies on social media has illustrated that threats from diverse audiences influence the different communication strategies used by regulatory agencies on Twitter. In order to reach this conclusion, this thesis used the theoretical approach of bureaucratic reputation and communication strategies to cultivate specific aspects of their reputation. The relationship was empirically tested by the European Medicines Agency (EMA) and the Spanish Agency for Medicines and Healthcare Products (AEMPS) and their communication strategies on Twitter. One hundred and four tweets were examined, and 765 Twitter profiles (followers of the above indicated agencies) were classified to consider the influence of diverse audiences' threats on the communications strategies used by agencies. Generally, the European and national agencies analyzed in this study prioritized the moral and legal dimensions when communicating with their audiences on social networks. On the other hand, the technical and performative dimensions were less represented in the analyzed communicative actions. These findings point to a possible response to the type of audience present in the communication channel and, therefore, to the expectations regarding the information and type of content coming from the agencies, thus influencing the use of specific strategies.

Some common elements worth highlighting from the communications of the regulatory agencies on Twitter appear throughout the empirical analysis. For example, the consistent announcement of cooperation between European agencies and offices highlights the relevance of administrative interactions at the European level. At the national level, the Spanish agency also prioritizes its commitment to citizens' welfare and compliance with the regulations established at the national and European levels. This thesis considers that other possible relationships could be observed, for example, with the communication medium or comparing social networks and their relationship with communication strategies; these issues could be considered as alternatives to explore in future research.

7.2 Practical implications

This research has a few practical and theoretical implications. First of all, this research expanded on various methodological approaches to analyze the influence of audiences' expectations on the communication strategies of regulatory agencies by adding one more strategy to the traditional and automated standards that have been used to perform this type of analysis. Second, this research takes as its focal point two agencies that have yet to be studied from the perspective of communication strategies. This work has found modest evidence that agencies consider the composition of audiences and the potential threats they may pose to organizations for designing their communication strategies. They do this to take care of legitimacy in the eyes of diverse audiences on social media. "The successful management of unique bureaucratic reputations may generate public support, it may foster agencies' autonomy and discretion from political superiors, it can also shield the agency from political controls and attacks" (Rimkut•, 2018,p.72). This research supports the idea that communication strategies for social networks should include more opportunities for meaningful interaction with audiences that engage in communication channels such as Twitter.

7.3 Limitations

This research has a few limitations. First and foremost, the findings need more generalizability; due to time and resource constraints, we took a relatively small sample of followers and an analysis timeframe. This research would have significantly benefited from a larger sample that would have allowed us to obtain more precise results regarding the composition of the audiences of the agencies studied and to know the potential threats they could represent to the organizations. On the other hand, this thesis could have used a more extended sample of tweets to detect particular situations of more significant activity for the audiences and to understand the activity patterns of the various European organizations interacting with each other in the health field.

Another area for improvement of this research is the transferability of results, mainly because it is not known to what extent the followers of these two agencies are comparable with those of other national and European agencies with similar characteristics. In addition, if this research were developed in another social network, for example, Instagram or Facebook, the general approach including the sampling method would have to be different due to essentially different characteristics of these social networks. Finally, qualitative findings are relatively abstract, making them difficult to be measured and compared and challenging to be transposed to other situations, even within the same agencies.

7.4 Future research

This thesis covered the study of communication strategies in regulatory agencies with EMA and AEMPS as case studies. However, several aspects could be conducted differently in future research. First, the category “Individual member of the general public” that was used to classify the agencies’ audiences could be more detailed in its design to avoid generalizations and gain a better understanding of what an approximate composition of this diverse group identified in the empirical assessment of EMA’s and AEMPS’s Twitter accounts. Bustos (2021, p.741) also notes that “It would be useful for the research on OR (Organizational Reputation) to understand each audience’s characteristics, as each one has different ways of interpreting information related to the reputational facets.” It would also be possible to analyze the profiles of users who comment on agency posts to learn more about their expectations and behaviors when interacting with public agencies. It could be helpful not only for these agencies but also for online behavioral researchers, for market analysis, and even to work for the internet to become a safer and healthier environment. Likewise, this research suggests that future studies should include agencies from different countries or policy fields to compare results across different geographic, political, and cultural contexts to see if the composition and expectations of audiences are also determinants of the communication strategies used by regulatory agencies.

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9. Annexes

Categorization of tweets' reputational dimensions

Week 1	AESP	EMA
	Legal-procedural reputation (market control campaign) Comments: 2 comments about medicinal cannabis and one about an agencies's website that doesn't work	Retweeted from @EU-Health: the post contained Moral reputation key words.
		Retweeted from @ECDC_EU The post contain technical reputation information in relation to Covid rising numbers in China. The comments from @ECDC_EU have a technical approach.
		Retweeted from @EU-Health: the post contain performative reputation related information such as: adopted decisions, agreement on coordinated decisions. There aren't comments.
		Retweeted from @EU_HaDEA the post has a performative reputation tone inviting the public to consult recent researches and studies. No comments
		Retweeted from @ECDC_EU. The post displays technical reputation vocabulary and tone. Moderate interactions in the thread in which the organization replied with audiences. The audiences mostly interacted in relation to the technical aspects in the post. For example, this post was about one variant of Covid-19 and its likeness to spread, two users included external sources to reflect on the information presented in the post.
		Retweeted from @EU_Heath. The post displays Performative reputation . In this thread from @EU_Heath two users commented about the EU's handling of the pandemic, these comments have a negative, disapproving and discriminatory tone towards China.
		Retweeted from @SkyriakidesEU. The post shows features of performative and moral dimensions .
		Retweeted from @EU_HaDEA. Technical reputation .

Week 2

Week 2	AESP	EMA
	06-02-23. Legal-procedural reputation. Changes in the labelling of a medical product.	06-02-23. Performative reputation. This posts from EMA invites the public to read “EMA-EU_Commission report on the actions to support the development of medicines for children”. There is only one comment in a language different to English or Spanish that was blocked by EMA's account.
	06-02-23. Legal-procedural reputation. One comment referring to the technical capacities of the agency. It asks: “why don't you analyze the content of what you call "vaccine against covid-19” however, there isn't any reaction from the agency to it.	06-02-23. Technical reputation. Retweeted from ECDC. This is part of an institutional campaign carried out by ECDC to prevent respiratory viral infections in healthcare settings.
	07/02/23 Retweeted from Plan Antibióticos. This post did not display any of the keywords listed in the reputational categories. This post was informational in essence giving guidelines to prevent flu. It did not have any comments	08/02/23. Legal-procedural reputation. Retweeted from @EU_HaDEA.This tweet is calling for professionals to send their research proposals to HaDEA. No comments
	08/02/23. Legal-procedural reputation.	07-02-23. Technical reputation. Retweeted from Horizon Europe.
	08-02-23 Moral reputation. Post with video about the people working at the agency.	07/02/23. Moral reputation. Retweeted from EU_Heath. “Together we can be UnitedInProtection.” no comments
	09-02-23. Legal-procedural reputation. Retweeted from Plan Antibióticos.	09-02-23. Performative reputation. Retweeted from HealthUnion. No comments.
		09-02-23. Moral reputation. Retweeted from EU Environment. In this post the message intends to inform EU consumers about an app that can help them to address the sustainability of their clothes. This post has 3 comments, one reacting positively about this idea and the other two are complaining about the technical aspects of the app, for instance it is apparently unavailable in Switzerland App Store.
		10-02-23. Technical reputation. This is a post from EMA and in this they inform the audiences about their assessments on medicines containing pseudoephedrine.

		There is one comment from an user asking to run such assessments on medications that can cause permanent PSSD, however there isn't a reply for it.
		10-02-23. Moral reputation. Retweeted from ECDC. This post is part of a threat about women in science in which women from different EU agencies share their stories and experiences in science.
		10-02-23. Moral reputation. Post about Kristina Larsson from EMA, the Head of orphan medicines and rare diseases at the agency.

Week 3	AESP	EMA
	13-03-23. Performative and moral reputation. In this post, the agency warns about the potential negative effects that a medicine might have on pregnant women. It calls for compliance about this restriction and at the same time aims at protecting pregnant and their babies. There is one comment about criticizing the fact that pregnant women are still being treated with some medicines.	13/03/23. Technical reputation. Retweeted from EFSA informing about Avian influenza. Question in the comments that was not address.
	15-03-23. Performative reputation. The agency in cooperation with con @secardiologia produced a "Guide for the Person Carrying Pacemaker".	13-03-23. Moral reputation. Retweeted from EU Health regarding a stakeholder event about mental health of EU citizens. One question in the comments that was address by EU health Twitter account.
	15-03-23. Legal-procedural reputation. This post informs that the conference about new European regulation on clinical trials is up on the agency's youtube channel.	13/03/23. Technical reputation. Retweeted from ECDC's reports on the at the time Avian influenza outbreak.
	16-03-23. Legal-procedural reputation.	13-03-23. Legal-procedural reputation. Retweeted from Gastein Forum about "Revision of the EU general pharmaceutical legislation".
	16-03-23. Technical reputation. Offers more information about technical facts and issues of pacemakers.	14-03-23. Performative reputation. Retweeted from EU Council. This retweet compete EMA because health ministers were meeting in Brussels to discuss fees & charges payable to EMA, EU global health strategy and shortages of medicines in the EU. The was a negative comment about this post but it was related to a relationship among diplomats, so arguably it has

		moral connotations.
	16-03-23. Moral reputation. Post advises users about an application to measure glucose.	13-03-23. Technical reputation. Retweeted from EU HERA (Health Emergency Preparedness and Response). In line with the outbreak of avian influenza, EMA shares the content that might be interesting for its followers. On the following two comments, HERA explains the suitability of its laboratories and scientific capacities. However, there is only one comment criticizing the covid vaccines.
	17-03-23. Performative reputation. The agency is participating in a co-join project with other EU institutions to prevent medicines supply problems. There are two negative comments linked to the moral reputation of management involved in such negotiations. It can be argued that to some extent the protection of consumers and patients are associated with the trust and other values expected from the organization's leadership.	14-03-23. Performative reputation. Retweeted from EU Health. Post about the Eu Global Health Strategy. In the comments the EU Health elaborates more on the results, objectives and compromises from this initiative. There was one comment questioning the effectiveness of EU action on treatments on Long-covid, this comment was address by EU Health profile.
	17-03-23. Moral reputation. This post is about warning consumers and healthcare practitioners about a product . There has been a recurrent comment about a medicine, in some posts, this comment has been hidden by the agency.	14-03-23. Legal-procedural reputation. Retweeted EU Council Press. Post about the live session for drafting a law about the financing of the European Medicines Agency (EMA) and EU global health strategy.
		14/03/23. Performative reputation. Retweeted from HERA, this post is about the cooperation and coordination between HERA and EMA in relation to “health emergency preparedness and response.”
		14.03-23. Legal-procedural reputation. Retweeted from Sandra Gallina (Director General for Health and Food Safety). Post post on the recent alliance between HERA, ECDC and EMA.
		14.03.23. Performative reputation however some moral aspects such as mentioning the well being of patients and the goal of ensuring accessibility . Retweeted from Stella Kyriakides. This post has 3 complete comments criticizing this initiative with examples and arguments. However, there is no answer from the EU profile.

		14.03.23. Technical reputation. However, the moral aspect is also represented on the message of clinical data availability and transparency at EMA.
		14.03.23. Technical reputation. Retweeted from ECDC.
		15.03.23. Moral reputation. Retweeted from Eu Health. “We owe it to millions of our citizens to deliver.” (Kyriakides) comments of agreement about this statement.
		16.03.23. Legal-procedural reputation. Retweeted from HaDEA Inviting users to join the European Health Policy Platform.
		16.03.23. Legal-procedural reputation. Retweet from EU Health. Post about Medical Devices Regulation.
		16.03.23. legal-procedural reputation. Retweet from ECDC. Post about the mandatory & recommended vaccinations and boosters. The covid-19 topic sparks a lot of debate on the audiences whenever it is posted. Most of the comments are from discontent people or users that feel their freedom threatened by the regulations of mandatory vaccines.
		16.03.23. informative post about an event on medical devices. Retweet from HaDEA.
		17.03.23. Technical and Legal- procedural reputation. Post from EMA about their commitment with the quality of medicines.
		17.03.23. Legal-procedural reputation. Post from EMA about the outcomes of the Management Board meeting highlighting Agency’s additional responsibilities and the clinical trials information system. There is one comment in which the user is complaining about the price of the medications.
		19.03.23. Moral reputation Retweet from WHO. This post is about the misinformation about vaccine hesitancy and delayed healthcare. This post has 8 comments all of them questioning the actions of WHO about poor information about covid leading to a lack of trust.

Week 4	AESP	EMA
	17.04.23. Legal-procedural reputation. Post about information sessions offer by EMA.	17.04.23. Performative reputation. Retweet from ECDC. Information about ECDC management in relation to covid.
	17.04.23. Moral reputation. Post about adverse effects of medications. There is one post that questions the agency if they aren't concern about the covid vaccines side effects.	18/04/23. Technical reputation. Retweet from EAAD. Post about recent study of Antimicrobial resistance.
	17.04.23. Legal-procedural reputation. This posts directs the audiences to check on the AESP's website the health standards applicable to cosmetic products in Spain and in the European Union.	20/04/23. Moral and performative reputation. Retweet from EU Health. Post about the state of State of Covid Vaccine Confidence in the EU. Several comments about the lack of trust on how the EU has handled covid pandemic.
	18.04.23. Technical reputation. The agency posted about a new vaccine developed in Spain. This is the post with more comments and all of them had a negative tone questioning the quality of vaccines and their side effects.	20.04.23. Moral reputation. Retweet from Unicef. Comments questioning the information on the post about the life-saving frame use to define the vaccines in aiding children. One user pointed at other more pressing issues such as clean water and living conditions as more relevant one that haven't been properly address.
	19.04.23. Moral reputation. Informative post about the negative effects of black henna tattoos, AESP's advice for the summer.	20.04.23. Moral – performative reputation. Retweet from Unicef. Comments questioning the quality of all type of vaccines.
	19.04.23. Moral reputation. Post about misleading labeling of products sold as natural. One comments about covid vaccines.	20.04.23. Legal-procedural and moral (seeks to protect public interest). Retweet from EU environment. EU Chemicals strategy for sustainability. One question about corona tests.
	20.04.23. Performative reputation. AESP share the impact that medications shortages have on patients, also indicates what they do to overcome this (importing medicines to prevent interruptions in treatments).	20.04.23. Legal-procedural reputation. Retweet from ECDC. Access to information on European immunization week.
	20.04.23. Moral reputation. Post about participation in a race to prevent Cancer in Madrid.	21.04.23. Legal- moral reputation. Retweet from EU Health. Mental health at EU level stakeholder participation. One comment supporting this initiative. “aided by the wide support to this strategic approach (ideally an EU-wide strategy”.
	21.04.23. Technical and performative reputations. Recall of a medication that is	21.04.23. Moral reputation. EMA opens a public consultation on clinical trials. One

	defect.	comment point at technical problems with the form, no answer from the agency.
	22.04.23. Technical and moral reputation. Informative post about the armbands against mosquitos.	22.04.23. Performative-moral reputation. EMA posts about earth day.

Week 5	AEMSP	EMA
	22/05/23. Moral reputation. Expansion of the previous post in which they remark the status of antiseptics for pre and post surgeries as basic medicines.	22.05.23. Performative reputation. Post informing about EMA's human medicines committee has been published.
	23/05/23. Moral reputation. Post inviting the audiences to the presentation of Royal Decree on Medical Devices. Encouraging the public to make questions using the hashtag and other channels.	22.05.23. Moral reputation. Retweet from EU Social.
	23.05.23. Performative -legal procedural reputation. Change in one medicine's dosage to comply with EU normative.	22.05.23. Moral reputation. Retweet from EU Health.
	23/05/23. Moral reputation. Recommendation to prevent skin cancer.	22.05.23. Technical – performative reputation. Retweet from EU Health.
	23/05/23. Moral reputation. Retweet from plan Antibióticos. One comment from non identified user expanding on the information regarding the use of antibiotics.	22.05.23. Moral reputation. Retweet from Stella Kyriakides.
	24.05.23. Moral reputation. Retweet from Ministerio de Sanidad.	25.05.23. Moral reputation. Retweet from Stella Kyriakides.
	25/03/23. Moral reputation. Post informing about the online availability of the information session on the new decree on medical devices.	25.05.23. Performative reputation. Retweet from EU Health.
	26.05.23. Moral reputation. Retweet from Ministerio de Sanidad. Post giving advice about henna tattoos.	25.05.23. Moral reputation. Retweet from European Week Against Cancer.
	Pinned Twitter. Post describing the agency's work and their impact on everyday aspects of Spanish citizens.	24.05.23. performative reputation. Retweet from Stella Kyriakides.
		25.05.23. Performative reputation. Retweet from EU HaDEA.

		25.05.23. Performative reputation. Retweet from EU HERA. Words such as. “Stronger cooperation in preparedness can only strengthen fast & effective response to future threats.”
		25.05.23. Moral reputation. Retweet from Stella Kyriakides. “EUCancerPlan belongs to every citizen, and is changing the realities of cancer for patients and families across EU”
		25.05.23. Legal-procedural reputation. Retweet from EU Health.
		25.05.23. Moral reputation. Retweet from EU Health. “we shine a light on the needs of cancer patients & the collective work that is on-going to improve their lives”. 10 comments from the same agency expanding on the topic.
		25.05.23. Performative reputation. Retweet from WHO.
		25.05.23. Legal procedural reputation. The good clinical Trials Collaborative.
		26.05.23. legal procedural reputation. Retweet from ECDC. “ beginning of the recruitment process for the most senior role in the Centre”.
		26.05.23. Performative reputation. Retweet from ECDC.
		26.05.23. Technical reputation. Retweet from EU Health.
		26/05/23. Technical reputation. Post from EMA about the recommendation for approval of new medicines in the EU.