Responsible communication: dimensions of co-creation and citizen participation in the educational context

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ABSTRACT

Introduction: The ecosystem is constantly changing, influenced by the rise of information and communication technologies, impacting the knowledge society globally, modifying its way of thinking, feeling and acting. This research seeks to describe the influence of responsible communication according to the dimensions of co-creation and citizen participation in students of the marketing and advertising program of the Department of Business Sciences at the Universidad de Costa, Barranquilla - Atlántico, Colombia. **Methodology:** Using a quantitative-explanatory approach and a non-experimental cross-sectional design, survey data were collected from a sample of 479 people, measuring six higher-order constructs for the variables of co-creation and citizen participation in their relationship with responsible communication. A partial least squares structural equation model was used to evaluate individual hypotheses about each dimension and two hypotheses for responsible communication. **Results:** The structural model showed significance in the influence that the two independent variables have on the level of responsible communication, with an explanatory power of 0.53. Furthermore, evidence was found against shared ideas and actions for the development of communication on the dimensions of responsible communication. **Discussion and conclusions:** The results showed that co-creation has a greater significant effect (0.85), followed by citizen participation (0.74), on responsible communication. Therefore, increasing co-creation in people, via innovation to interact, has a positive impact on responsible communication, and by improving citizen participation, through the management of technological resources, the level of responsible communication improves by 0.5 additional units. The research considered cross-sectional data, which capture the perception of the moment, lacking the evaluation of accumulated behavior, so a longitudinal measurement can show the effects on the adoption and maturity of responsible communication progressively, these reflections and contributions being ideal as recommendations for future research for the advancement of science, technology and innovation in the educational context.

Keywords: Responsible communication; communication; dimensions of co-creation and citizen participation; co-creation; citizen participation; responsible educational communication; educational context.

1. INTRODUCTION

Today, Responsible Communication (RC) is considered an essential pillar for the development of an equitable, fair and conscious society; this approach implies the transmission of ethical, transparent, co-creative and citizen participation messages, taking into account the social impact that the information generates in the different target groups. It is about interacting with full awareness and responsibility, avoiding the dissemination of unreal, biased or harmful contents that may cause misunderstanding or harm in the decoding and understanding of the messages received. RC promotes truthfulness and clarity in messages, creating an environment of trust and mutual respect, and requires the sender to commit to the possible consequences of his messages, recognizing the influence they can have on society in an interconnected, saturated and dynamic world where information circulates rapidly and on a large scale. For Ramírez et al. (2021) and Barrientos et al. (2023), adopting a RC is key to strengthening social relations, constructive dialogue and contributing to the common good, guaranteeing respect for the rights and dignity of all people involved in the ecosystem.

Thus, RC is holistically linked with the dimensions of co-creation and citizen participation, creating a space where the voice of stakeholders or the community is actively heard and valued in decision-making. In this context, the study variable becomes a bidirectional and collaborative process, where citizens are actively involved in the construction of solutions and policies, providing solutions to the world's problems, fostering an inclusive-participatory and transparent dialogue, ensuring that all stakeholders have the opportunity to express their perspectives and contribute to collective development. Co-creation, as a process that integrates the ideas and experiences of the community, is strengthened by an interaction that promotes trust and integration; while citizen participation becomes a tool for social transformation and the appropriation of knowledge, where responsibility in communication ensures that decisions reflect the needs of society, transparency, respect, equity and equality, contributing to a collaborative and concerted environment.

According to Hernández et al. (2021) and Barrio-Fraile et al. (2022), RC is a space of interaction where actions are transmitted, linking social, economic and environmental commitments in an ethical, transparent and coherent way with values. It seeks to improve the image of the company, to be authentically accountable to society, to foster trust and avoid practices against human beings and their environment, to generate the welfare of society, to strengthen the relationship with the different stakeholders or segments (clusters). For Tapia-Carreto et al. (2022), it implies interactivity and consistency, a continuous dialog with feedback and coherence between what is communicated and the values that are exercised. According to Barrientos et al. (2023), it is the management and transmission of information in an ethical and effective manner, guaranteeing the veracity and relevance of the messages issued, involving the careful selection of channels and content to ensure that the audience receives and understands the information correctly.

In addition, RC has emerged as a fundamental concept in the scientific literature, especially in a world where the dissemination of data can have a profound impact on societies, organizations and educational institutions. Over time, this concept has evolved from a basic concern for the ethics of message transmission and feedback to a sustainable and supportable approach in the media ecosystem. Studies on responsible communication, such as Rincón Quintero et al. (2019), Thomas et al. (2021) and Tapia-Carreto et al. (2022), reflect how communicative practices have had to adapt to social and technological changes and environmental phenomena, responding to new demands, existential situations and expectations in a globalized context.

For Torres et al. (2014), early approaches to RC were rooted in the idea of fostering citizen participation and the development of a critical, participatory, and transversal awareness as a basis for learning a critical view of communication. This approach emphasized the responsibility of communicators to convey information and to educate audiences in a broad and ethical vision of the world. It was conceived as a means of empowering citizens by promoting their ability to critically analyze the messages they receive and to participate in social processes. This first stage focused on the social impact of communication and the importance of using it as a tool for transforming the environment.

Over time, the concept of RC has begun to take on new dimensions, especially in organizations. Rincón Quintero et al. (2019) and Hernández et al. (2021) highlight how small and medium-sized enterprises (SMEs, for its acronym in English) have begun to adopt responsible communication strategies as an integral part of their operations, understood as an ethical obligation and a competitive advantage. Companies that adopt responsible communication practices to improve their image with consumers demonstrate a genuine commitment to sustainability and social responsibility. These strategies include transparency in communicating with customers, commitment to fair business practices, and integration of sustainability into their daily operations. Baez et al. (2022) point out that since communication is a development of organizational competence, it becomes a strategic tool that can have a direct impact on business success.

The educational context has also witnessed the growing importance of RC, according to Ramírez et al. (2021), who explore how media can be used to facilitate the acquisition of knowledge in educational institutions. Here, responsible communication takes on a new meaning, focusing on equity and accessibility in the dissemination of knowledge. Rather than being limited to the transmission of information, educational media should ensure that knowledge is viable for all students, regardless of socio-economic factors. This implies the use of communication strategies that are inclusive and ethical, allowing all students to have equal opportunities to learn. In this sense, CR in education is about teaching and doing in a way that promotes social justice and equitable access to knowledge, incorporating the principles of legitimacy, trust and credibility in its means of communication.

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The field of RC represents a differentiating value for educational institutions, showing an evolution towards a multidimensional, dynamic and assertive approach, contextualizing their strategies and communication plans to adapt to turbulent market changes. Karam (2020) and Hernández et al. (2022) highlight how the concept has gained relevance in recent decades, consolidating itself as an essential field of study. According to Villalobos Antúnez et al. (2018), Thomas et al. (2021), and Hernández et al. (2022), the dimensions of co-creation and citizen participation in social science refer to the systemic aspects that allow citizens to engage and model behaviors in all social strata. In addition, they generate value in academic researchers to facilitate knowledge, highlighting the importance of creating open and safe meeting spaces where citizens can participate in a meaningful way, share their perspectives, and contribute to the definition of their ideals, even if there is a diversity of criteria.

Cosimato et al. (2021) and Antequera et al. (2022) highlight the need to establish effective communication practices that promote horizontal and equitable dialogue, ensuring that all voices are heard and respected. Through this process, citizens participate in the production of knowledge and develop a deep understanding of their own social reality. This allows citizens to participate in public discussions, contributing to the democratization of knowledge and social empowerment, hence the relevance of RC in the educational context. By integrating these dimensions of co-creation and citizen participation, social science is enriched with diverse perspectives, ensuring a tangible impact on communities and helping to address social challenges in an effective and sustainable manner, while respecting the free dynamics of RC.

For Mainka et al. (2016) and Santamaria et al. (2022), RC is a key concept in the context of smart cities and public innovation, taking into account co-creation, which involves the active collaboration of citizens in the design, development, and improvement of services and public policies, encouraging the integration of community ideas and perspectives in the decision-making process to create solutions that respond to users' needs and expectations. Citizen participation, meanwhile, focuses on involving citizens in policy formulation and implementation, ensuring that their voices are heard and their input is taken into account. According to Ramírez Molina et al. (2022), when the above dimensions work together, they promote an environment of open and transparent eco-sustainable innovation, strengthen the relationship between citizens and institutions, and enhance the generic and technical competencies of human talent.

Considering the dimensions of co-creation and citizen participation, associated with the RC, the first responds to the collaborative innovation to interact, allowing the identification of the elements of responsible communication, the means and strategies to communicate responsibly, while the shared and consensual ideas, adopt criteria of information transparency, responsible interaction, with a narrative consistent with the welfare of the ecosystem, continuous improvement, aims at accessibility to public communication, attention to diversity and equity of information, and data security. The second dimension refers to human intervention, seeking to address groups, audiences and masses, resource management, emphasizing the application of artificial intelligence, responsible use of information and communication technologies (ICT) and technological culture; and actions for community development, oriented by knowledge transfer, circulation of specialized knowledge and social appropriation of knowledge.

Taking into account the above, the problem of RC in the students of the Marketing and Advertising Program of the Department of Business Sciences of the Universidad de Costa, Barranquilla - Atlántico, Colombia, lies in the low participation of students in the communicative processes, although there are mechanisms and channels available, many students lack involvement in the co-creation and citizen participation that affect the academic environment. This suggests that, despite the efforts of the administration, students do not take full advantage of the opportunities to contribute meaningfully to university life in terms of communication. All of this has led to a lack of time and academic overload for students, which prevents them from engaging in co-creation and participation activities; although they are skilled in the use of technology, many are not familiar with the specific tools and processes of co-creation within the university's academic ecosystem. Some students perceive these dynamics as requiring additional effort without immediate results, leading them to focus on more pressing activities related to their academic training without familiarizing themselves with the university's communication media and technologies.

Therefore, students miss valuable opportunities for collaborative learning and co-construction; their limited participation reduces the diversity of perspectives in decision-making and communication strategies, which can limit the program's ability to adapt to the needs of the sector. The lack of dynamic communication among educational stakeholders can result in a less enriching and proactive environment, where innovative ideas are less frequent. By implementing effective strategies, such as media and digital literacy programs, student participation is likely to increase significantly. This could result in a marketing and advertising program with a dynamic and innovative RC model, where students play an active role in co-creating and participating in content, enriching their academic experience and enhancing their skills.

In addition, it is essential to promote a culture of inclusive participation and focus on continuous training in communication and participation skills to ensure that students have dynamic skills to take advantage of opportunities and contribute to the development of RC at the university. In light of the above considerations, the following problem is formulated: What is the influence of responsible communication according to the dimensions of co-creation and citizen participation in students of the Marketing and Advertising Program of the Department of Business Sciences of the Universidad de Costa de Colombia?

2. OBJECTIVES

This research aims to describe the influence of responsible communication according to the dimensions of co-creation and citizen participation among students of the Marketing and Advertising Program of the Department of Business Sciences of the Universidad de Costa, Barranquilla - Atlántico, Colombia, in order to assess the differential influence of each dimension (co-creation and citizen participation) on responsible communication and how technological tools affect citizen participation in this context.

3. METHODOLOGY

To consolidate the objective of the present research, the method was established according to the theoretical components of Sánchez Flores (2019) and Acosta Luis et al. (2021), being quantitative, focused on the evaluation of data collection and analysis, starting from a deductive approach, oriented by theory testing and positivist modeling, according to the nature of the research. The research is classified as explanatory, characterizing and evaluating the relationships between the dimensions considered under analysis in the population and phenomenon of study, in order to know the concepts addressed, social phenomenon of the problematic reality as it occurs naturally, allowing to portray the details of the situation raised in the educational context for the understanding and promotion of science, technology and innovation. Regarding the research design, it is considered field research, allowing the collection of new data from primary sources to consolidate the objective previously mentioned in a given site, being transversal according to the statistical study, and non-experimental, without building a scenario, evaluating the already existing situation, avoiding deliberate manipulation of the variable.

Regarding the participants chosen for this study, they come from a sample of four hundred and seventy-nine (479) randomly selected respondents, being these the students of the Marketing and Advertising Program of the Department of Business Sciences of the Universidad de Costa, Barranquilla - Atlántico, Colombia. The sampling considered a confidence level of 95% and a margin of error of 5%, for a population of 10954 individuals in the institution under study, a sample of 372 participants is estimated, applying a census to an educational program that exceeds the number of the required sample size. The inclusion criteria of these units of analysis respond to participants as active or enrolled in the program in the periods 2020-1, 2021-1 and 2022-1, regardless of stratum, age, nationality, marital status, culture, religion, gender and ethnicity, without any other type of exclusion, guaranteeing the equality and equity that this type of analysis represents to the study population and the contributions that can be generated from it as inputs to the world of communication and university management. For the data collection, the technique used was the survey and as an instrument a questionnaire structured by sixty (60) items, using a semantic differential scale: always (A), almost always (AA), sometimes (ST), almost never (AN) and never (N), measuring the perception of the respondent on the dimensions of co-creation and citizen participation and its descriptors, articulated with responsible communication:

Figure 1. *Dimensions of co-creation and citizen participation, articulated with responsible communication.*
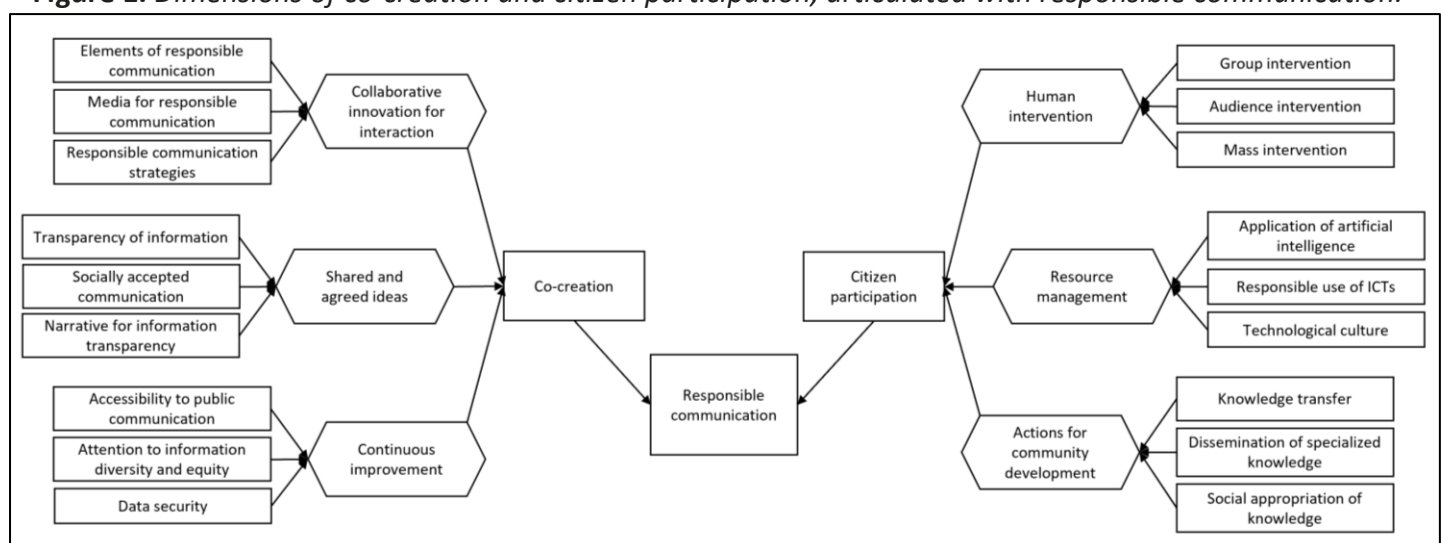
Source: Own elaboration.

All dimensions of co-creation and citizen participation, as well as structural variables, were measured using reflective indicators. The model included six higher-order constructs measured according to the corresponding

formative dimensions, and the validity and reliability of the model were assessed and refined until an acceptable minimum was reached. To validate the hypotheses, a partial least squares (PLS) structural equation model was estimated. This technique takes into account the types of relationships that involve latent variables of different levels and that the indicators measured reflect the behavior of the construct (Hair et al., 2021). The semantic differential scale was designed considering equidistance, assimilating an interval type that allows statistical analysis under this method (Hair et al., 2022). The choice of the estimation approach, between covariances and PLS, considered the assumption of normality, which is not fulfilled according to the Mardia's test (p-value = 0.00005). The estimation included three steps: (a) the measurement model was established by assessing the reflective dimensions on the first-order constructs, (b) the model was evaluated with the higher-order constructs to determine whether the first-order formative dimensions are significant in measuring the higher-order construct, and (c) the explanatory power of the model was assessed and three sets of hypotheses were tested, namely H1: Collaborative innovation to interact (H1a), shared and consensual ideas (H1b) and continuous improvement of communication (H1c) have a significant effect on co-creation; H2: Human intervention (H2a), resource management (H2b) and community development actions (H2c) have a significant effect on citizen participation; H3: Co-creation (H3a) and citizen participation (H3b) have a significant effect on responsible communication. Descriptive treatment, estimation, and evaluation of the model on the data were performed using the seminr package in R (Ray et al., 2021).

For the purposes of developing the research work, the procedure to be followed was (a) identification of the problem in accordance with a hypothetical, empirical case of relevance, impact and social interest, (b) review of the current and classical disciplinary theoretical aspects to understand the problem statement in its natural phenomenon and proceed to the argumentation, (c) the choice of the method and its materials, (d) the application of the instrument and the analysis, using a questionnaire that made it possible to evaluate the behavior of the variable through the operationalization of the variable, which led to (e) the results and their discussion, in order to respond to the research objective, and subsequently to the evaluation of (f) the results, placing them in the reported findings.

4. RESULTS

Although three indicators were considered for each of the dimensions of the constructs evaluated, the estimation of the measurement model showed that ten of the sixty items were slightly below the minimum factor loading threshold of 0.708 as proposed by Hair et al. (2021), and two with much lower value. The 10 indicators with loadings close to the threshold were between 0.60 and 0.704, corresponding one by one to some of the dimensions evaluated, namely: elements of responsible communication, responsible communication strategies, narrative for information transparency, attention to diversity and information equity, data security, public intervention, mass intervention, application of artificial intelligence, knowledge transfer, and social appropriation of knowledge.

Although it is possible to eliminate them from the model, given that each construct is reflected in at least 2 indicators, individual debugging was performed beforehand and tests of internal consistency and convergent validity were calculated (Hair et al., 2021). In all cases, no significant improvement in the Alpha and AVE indicators was found, so it was decided to keep these 10 indicators in the measurement model. Thus, of the sixty indicators evaluated in the survey, only two were removed: one in socially accepted communication (factor loading = 0.2879) and one in accessibility to public communication (factor loading = 0.5206). As a result, the estimate was evaluated with 58 items (see Table 1), reaching the threshold for scale reliability (0.60), for convergent validity (0.50), and for discriminant validity using the HTMT index (0.85) (Henseler et al., 2015).

Table 1. *Measurement model for lower-order constructs*

	Alpha	AVE		Alpha	AVE
Communication elements.	0,76	0,62	Group intervention.	0,77	0,68
Communication media.	0,79	0,70	Public intervention.	0,79	0,56
Communication strategies.	0,80	0,66	Mass intervention.	0,77	0,62
Information transparency.	0,76	0,66	Artificial intelligence.	0,71	0,60
Consensual communication.	0,53	0,67	Responsible Use of ICT.	0,73	0,63
Transparency narrative.	0,71	0,61	Technological culture.	0,74	0,64
Communication accessibility.	0,67	0,75	Knowledge transfer.	0,73	0,58
Diversity equity.	0,84	0,66	Knowledge circulation.	0,74	0,65
Data security.	0,66	0,55	Social appropriation.	0,72	0,63
Co-creation.	0,63	0,72	Responsible communication.	0,67	0,74
Citizen participation.	0,64	0,73			

Note 1: Lower-order constructs correspond formatively to a higher-order construct, as shown in Figure 1: Communication elements, Communication media, Communication strategies correspond to Collaborative innovation to interact. Information Transparency, Consensual Communication, Transparency Narrative correspond to Shared and Consensual Ideas. Communication Accessibility, Diversity Equity, Data Security correspond to Continuous Improvement. Group intervention, Public intervention, Mass intervention correspond to human intervention. Artificial Intelligence, Responsible Use of ICT, Technological Culture correspond to Resource Management. Knowledge Transfer, Knowledge Circulation, Social Appropriation correspond to Community Development Actions.
Note 2: The constructs Co-creation, Citizen participation, Responsible communication are measured with reflective indicators and are part of the structural model (see Figure 1).

Source: Own elaboration.

Six higher order constructs were considered, generated from the dimensions with formative relationships (see Figure 1). Thus, variance inflation factor (VIF) tests were performed to assess the collinearity of the structural model, with most relationships below 3.0 assuming no collinearity. Only the dimension of human intervention in the higher construct of citizen participation obtained a VIF of 3.2, but this is not a critical value to consider its exclusion.

When evaluating the relevance of each dimension with its construct of higher order, significance was found except for shared ideas and actions for the development of the community for co-creation and citizen participation. This finding allows rejecting hypothesis H1b, contrary to what was expected for co-creation in communication and what was exposed by Ramírez et al. (2021) and Santamaria et al. (2022), since shared ideas are considered in consensus to have transparency and responsibility in the narrative generated. This result shows a perception of collaboration in the strategies and elements of communication, as well as in the public accessibility of information, but a manifest lack or bias in the transmission of the message by the generator; contrary to responsible communication, as shown by the direction of the estimator in Table 2.

Likewise, H2c is rejected, indicating that the actions undertaken in the community in search of a social appropriation of knowledge have no effect on what is perceived as citizen participation. Unlike the constructs of human intervention and resource management, in which individuals have management and participation, that is, it is conceived as bidirectional, community development activities are perceived as a unidirectional process, where the group has a passive role in the construction of communication. Although this finding does not establish a relationship in the model, it does present a practical recommendation, suggesting the design of participatory activities for those actions undertaken by academia to socialize knowledge with communities, the results for the other constructs are shown in Table 2.

Table 2. *Path coefficients for higher order model constructs*

	Original estimator	Bootstrap Media	Statistic T
Innovation interaction -> Co-creation.	0,775	0,760	1,817*
Shared Ideas -> Co-creation.	-0,176	-0,120	0,217
Continuous improvement -> Co-creation.	-0,021	-0,061	2,214**
Human intervention -> Citizen Participation.	-0,027	-0,068	2,252**
Resource Managements -> Citizen Participation.	0,860	1,019	1,750*
Community Development Action -> Citizen Participation	-0,088	-0,071	0,958

*90% significance level. ** 95% significance level
Source: Own elaboration.

Finally, the estimation of the structural model showed significance in the influence of the two independent variables on the level of responsible communication. The explanatory power of the model reached a coefficient of determination of 0.53, which is considered adequate as suggested by Hair et al. (2011).

5. DISCUSSION AND CONCLUSIONS

From the results reported in Table 2, the hypotheses for the effect on co-creation are supported. On the one hand, collaborative innovation to interact (H1a) is an approach in which different people or groups work together to develop new ideas, solutions or products, for Mainka et al. (2016), Rincón Quintero et al. (2019) and Thomas et al. (2021), it allows people to be in constant communication, exchanging knowledge and skills, the criterion is the collaboration between stakeholders, which may include teams within the same organization, external partners, customers or even competitors; the continuous interaction between these actors enriches the creative process and allows the generation of innovative and effective solutions. In the particular case of co-creation in the educational context, the development strategies of collaborative innovation can be approached from the collective construction, both in the generation of the what and the how, that is, of the message and the informative environments, and in the implementation under the competition of the various actors of the academic community; in this way, the co-creative effect improves the perception of the responsible communication generated.

On the other hand, continuous improvement also had a significant effect on co-creation (H1c). This corresponds to a systematic approach to optimize the quality of products and services and involves the implementation of small incremental improvements to remedy any type of problem that affects the organization's processes, rather than radical changes (Tapia-Carreto et al., 2022). It is based on constant feedback, evaluation of results and adjustment of practices based on learning and new information; in essence, it is a philosophy that seeks to constantly optimize to achieve higher levels of performance and satisfaction in accordance with responsible communication.

However, in the evaluated sample, there is a small effect of this lower-order dimension on co-creation, i.e., substantial increases in accessibility, security, and diversity have no effect on communication co-creation. Such a finding suggests a detailed review of the generation and transmission process, as it is consistent with the direction of the effects on collaborative innovation and shared ideas. While the first construct suggests greater co-creation of generated communication, the second dimension showed a delay in the construction of consensual ideas, suggesting information that is biased or intentionally directed by a communication agent.

In addition, evidence was found in favor of the hypothesis of the dimensions of citizen participation, in this case human intervention (H2a), exerts an action or measure taken by individuals to influence communicative processes, situations or environments, being direct (execution of a specific action) or indirect (implementation of policies or strategies that affect a group or community). Accordingly, Barrientos et al. (2023) emphasize that RC intervention constantly seeks to improve a situation, solve a problem or achieve a desired goal. At the same

time, resource management (H2b) showed importance, referring to the strategic management of resources, ensuring a responsible communication channel both in the present and in the future to achieve specific objectives, considering material, human and technological resources.

If it is noted that the greatest effect was presented in the lower order construct of resource management, it is suggested that dissemination strategies and the use of technology and artificial intelligence for the management of communication, both outgoing and incoming, increase citizen participation of communities; as concluded by Maziashvili et al. (2023). In addition, the interventions of large numbers of plural audiences are of marginal change in participation, but this should be read under the understanding of the type of population analyzed, which is permeated and in extensive use of digital tools for information and communication. Jointly, the strategies should consider human interaction, for co-creation and collective participation in communication.

However, shared and consensual ideas did not show a significant effect on co-creation (H1b), nor did community development actions on citizen participation (H2c). Although some authors, such as Ramírez et al. (2021), emphasize the social appropriation of knowledge and the transfer of information as a relevant factor in the construction of social development, the results for the object of study under analysis do not allow inferring such a situation. In this regard, it should be taken into account that the dimension of development actions has materialized in the user of the dissemination of this knowledge, so that considering only the creator and sender of the communication does not allow a relevant evaluation of the effects on responsible communication; this takes relevance the double way of the communicative process (Barrio-Fraile et al., 2022).

Regarding the structural relationship of the dimensions with RC, the results showed that co-creation has a greater significant effect (0.85), followed by citizen participation (0.74), on responsible communication. These results allow us to accept hypotheses H3a and H3b. Therefore, by increasing co-creation in people, through innovation to interact, has a positive impact on CR, this is consistent with the research of Karam (2020) and Thomas et al. (2021), the dimensions of co-creation and citizen participation in CR, are affected by the culture and life histories of the human being, which makes them susceptible and sensitive to the acceptance or rejection of the appropriate use in social interactions, either together or separately, which creates a gap in the environment given by the values, beliefs, policies, strategies and governance of countries. Moreover, in the educational context it should be considered that the participation of the actors of the academic community, especially with regard to students, should be constant and active, such frequent exercise motivates collaborative innovation and generates the participation of the actors for the construction of a transparent, consensual, accepted and responsible communication.

On the other hand, improving citizen participation through the use of technological resources improves the level of responsible communication by 0.5 additional units. These results are in line with the postulates of Hernández et al. (2021), Antequera et al. (2022) and Santamaria et al. (2022), highlighting the importance of generating initiatives that include ICTs to optimize the communication flow of the ecosystem, in order to reduce interaction barriers and provide well-being, understanding, knowledge and strengthen learning through social cohesion within a community, fostering an environment where community members can thrive and work together to achieve common goals.

The reference theory confirms that RC has undergone constant modifications due to the evolution of social, environmental, political, cybernetic-technological and global dynamics, which makes the conception of a stable concept of communication with a responsible action in an increasingly turbulent, unstable and information-saturated ecosystem, prevail as a constant over the years human ethics, its barriers or modifications and distortions generated by society. RC, which has dimensions and scopes as sociological and anthropological phenomena (co-creation and citizen participation), stimulates human talent to adapt to new trends that emerge from the same media system that is increasingly aggressive, challenging, plural and toxic, where

information transparency is the focus of attention for the credibility of the human race (Ramirez Molina et al., 2022).

The insertion of ICT and the global effect, has degenerated the adequate sustainable and supportable practices of the RC, resulting in ethical aspects, free transit of communication, narrative for information transparency and innovation of the deontology of social communicators, which slows down the application of innovative, contextualized and relevant interaction strategies before the stakeholders; Due to the transformations of the ecosystem, technological tools have emerged that, although they connect the world with vigilance and good use, it is imperative to train people for their proper management, and this lack of knowledge has led to knowledge gaps in the technological culture, thus limiting the implementation of these tools in any segment of interest.

Finally, some limitations are presented for the study, the sample considers a higher education program that has autonomy in the management of its communication, so the results may vary under centralized conditions in other institutions; it will be relevant to include this component in subsequent studies. Also, the current model neglects demographic conditions that allow controlling the effects and drawing conclusions from specific perspectives, such as gender or age, or complementary variables, such as democracy, environment or third-party actors, which allow designing targeted and intentional strategies (López, 2014, Peralta-García et al., 2021). Likewise, cross-sectional data are considered that capture the perception of the moment, lacking to evaluate the accumulated behavior, so that a longitudinal measurement can show the effects on the adoption and maturity of progressive responsible communication, being these reflections and contributions suitable for future research for the advancement of science, technology and innovation in the educational context.

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