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EFFECTIVE COMMUNICATION MODEL FOR THE DISSEMINATION OF PUBLIC INVESTMENT PROGRAMS AND PROJECTS OF THE DEPARTMENT OF LORETO (PERU)

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Abstract. This investigation has been developed with the general objective of determining an effective communication model for the dissemination of Public Investment Programs and Projects (PIP) of the Department of Loreto, Peru. Theoretically, it was based on effective communication models: empirical - experimental, functionalist and network communication. From the methodological perspective, it was based on a quantitative methodological strategy, at a descriptive level, with a non-experimental, cross-sectional field design, which was supported by surveys applied to the lieutenant governors of the towns located on the borders with Colombia and Brazil. Once the field work was developed, the information was processed, thus generating the descriptive analysis, the discussion of the results and the proposed model. In essence, it was concluded that there are important limitations in the current model of PIP dissemination in the Department of Loreto, weaknesses concerning all elements of communication: dispersed and unprepared senders, uncharacterized receivers, wasted channels, uncoded and non-contextualized messages, unstimulated feedback. In view of which the Model of Effective Communication for the Diffusion of PIPs (MCE-D-PIP) is designed, which proposes the development of a Situational Room for Effective Communication (SSCE-PIP), which allows to enhance the roles of producers, consumers and prosumers of information, through the diversification of channels and a specialized coding of the message, depending on the context: cultural diversity, educational conditions, technological factors, among others.

Key words: Effective communication, dissemination, programs and projects, public investment, communication models.

MODELO DE COMUNICACIÓN EFECTIVA PARA LA DIFUSIÓN DE LOS PROGRAMAS Y PROYECTOS DE INVERSIÓN PÚBLICA DEL DEPARTAMENTO DE LORETO (PERÚ)

Resumen. Esta investigación ha sido desarrollada con el objetivo general de determinar un modelo de comunicación efectiva para la difusión de los Programas y Proyectos de Inversión Pública (PIP) del Departamento de Loreto, que ocupa la tercera parte del territorio del Perú, y, dadas sus características geográficas, existe mucha influencia cultural de Colombia y Brasil. Desde la perspectiva metodológica, se basó en un enfoque cuantitativo, de nivel descriptivo, con un diseño de campo, no experimental, transversal, que se apoyó en encuestas aplicadas a los tenientes gobernadores de los poblados ubicados en las fronteras con Colombia y Brasil. Una vez desarrollado el trabajo de campo, se realizó el procesamiento de la información, generando así el análisis descriptivo, la discusión de los resultados y la propuesta de modelo. En esencia, se llegó a la conclusión de que existen importantes limitaciones en el modelo actual de difusión de los PIP en el Departamento de Loreto, debilidades concernientes a todos los elementos de la comunicación: emisores dispersos y no preparados, receptores no caracterizados, canales desaprovechados, mensajes no codificados ni contextualizados, retroalimentación no estimulada. En vista de lo cual se diseña un Modelo de Comunicación Efectiva para la Difusión de los PIP (MCE-D-PIP) que plantea el desarrollo de una Sala Situacional de Comunicación Efectiva (SSCE- PIP), que permita potenciar los roles de productores, consumidores y prosumidores de la información, mediante la diversificación de los canales y una especializada codificación del mensaje, en función del contexto: diversidad cultural, condiciones educativas, factores tecnológicos, entre otros.

Palabras clave: Comunicación efectiva, difusión, programas y proyectos, inversión pública, modelos de comunicación.

Introduction

Public investment refers to government spending on economic infrastructure such as airports, roads, railroads, water and sewage systems, electricity and gas utilities, telecommunications and social infrastructure such as schools, hospitals and prisons (IMF, 2015). Therefore, public investment is considered a key element in the development of countries, especially to consolidate the economic and social infrastructure necessary for their growth.

In this context, the operational effectiveness of the formal governance framework for public investment management must be a major priority. Among other issues, it is critical to introduce best practices for conducting and prioritizing project selection (Plan, Jordan Economic Growth, 2018).

Also, given that a large part of the investment is financed with public funds, there is a clear need to inform the public about the main results, to allow interested persons to follow the ongoing developments and form their own opinion based on solid facts and real, objective data. The process of informing requires, then, communication and, in turn, it is ideal for this to be effective, so it is relevant, for effective dissemination, to match the media with the message and the needs of the audience.

The PIPs are aimed at improving the production capacity of public goods or services, as well as providing training, technology transfer and technical assistance in productive projects to all districts and localities in the country, especially those areas classified as poor. However, it is necessary to adopt a method that works for the target audience and for the type of content to be delivered.

In Peru there are areas with a high potential for productive activity (agriculture, livestock, fishing and others), but in terms of public services or infrastructure, there are deficiencies that limit the social welfare of its citizens, an example of which is the Department of Loreto, which is part of the Peruvian Amazon, which occupies almost 29% of the national territory. Also, unfulfilled promises in the past or poor management may have left a legacy of distrust.

The Department of Loreto presents economic characteristics that peculiarly define its behavior with respect to other regions or localities in the country and, therefore, the interest of public investment (Office of Information Management and Statistics of the Congress of the Republic, 2019). In this sense, the PIPs seek to counteract these shortcomings and it is important to disseminate the achievements for the recognition of the beneficiary regions.

According to Mea, et al. (2016) dissemination actions should be aimed at well-defined audiences, and their relevance lies in the fact that the results of a project may be of interest to the general public, but also to specialists and high-level policy makers.

For the authors, this audience needs to be informed about the project, its progress, its results, its products and its legacy. However, to disseminate something effectively, in any context, and to evaluate the success of that dissemination, you must first be clear about what you are trying to achieve.

In this regard, it is important to consider the Department of Loreto, since it has infrastructure deficiencies. For example, inadequate access roads and land communication, and, considering that a large part of its geographic extension is riverine, this results in poor accessibility and integration of the department into the dynamics of the national economy. Likewise, more than half of the towns in the Department of Loreto have communications (telephony, cable and Internet), while the rest of the towns do not have access to media or do not have these services, in addition to not having electricity, or, in any case, only receive it for hours at a time. It is not easy to access an Internet network, and if these populations have access to it, the data transfer is very slow or insufficient.

The benefit of effective communication that links transparency in the management of state institutions and citizens' access to information and the exercise of monitoring, control and evaluation practices of government actions is evident, in order to promote the efficient use of public funds allocated to public investment.

Common difficulties encountered during dissemination to different target groups include information sharing between projects, involvement of local stakeholders and open access.

Author Hargie (2016) refers that he has conducted research and operational audits in a wide range of public and private sector organizations in several countries, obtaining that the main essence of what is most valued by staff is communication. Also, the first and most important factor is having an effective line manager, which is a benchmark measure, as it is a central indicator of effective communication throughout the organization. If employees value their hierarchical superior very positively, they value the organization very positively.

From this reality, it is necessary to answer the following research questions:

what effective communication model can be defined for the dissemination of Public Investment Programs and Projects for the Department of Loreto, Peru?

what is the current situation regarding the dissemination of public investment programs and projects in the Department of Loreto, Peru?

what are the informational needs that the communication model selected for the Department of Loreto Peru would respond to?

what are the elements of the communication model for the dissemination of public investment programs and projects in the Department of Loreto, Peru?

what are the public investment programs and projects carried out in the Department of Loreto, Peru?

what benefits would the selected communication model generate in the development of public investment programs and projects in the Department of Loreto, Peru?

Theoretical framework

This study is based on the theory of effective communication, the conceptualization of public investment programs and projects, and the characterization of the Department of Loreto, officially considered the largest region of Peru in terms of geographic extension, occupying 38% of the country's border with Colombia and Brazil.

The theory of effective communication in the cross-cultural workgroup describes how culture and cultural diversity influence workgroup communication and, subsequently, how communication affects group outcomes. The theory suggests that situational characteristics, the composition of the group as homogeneous or heterogeneous, and cultural and individual characteristics affect the likelihood that a group will have effective communication. The relationship of situation, composition, and individual factors can be complex in determining whether a group will have effective communication (Oetzel, 2017).

The theory reviewed identifies four communication processes that comprise effective communication: (a) equitable participation, (b) consensus decision-making, (c) cooperative conflict, and (d) respectful communication. Equal participation refers to a relatively even distribution of turns among group members. Consensus decision making focuses on the commitment and general agreement with the decisions made by the group. Cooperative conflict includes the collaborative management of conflict when it arises in the group. And respectful communication includes listening and dialoguing in a way that values and appreciates others, even when there are differences of opinion (Oetzel, 2017).

Effective communication is associated with a core aspect of the communication process, which is the satisfaction of the informational needs that the subjects involved may present. In terms of informational needs, it should be noted that these include the individual's own needs, such as the basic or physiological needs of hunger, thirst, sleep, among others, as well as those of protection or security, or of fulfillment, on a higher scale.

On informational needs there are several authors who have produced research from different disciplinary approaches, however, for the purposes of this research, it is considered that the author Calva (2004) makes a significant, accurate and timely contribution to the analysis of information needs through his book entitled "Las necesidades de información. Theoretical foundations and methods", where he explains that informational needs arise in people from a dissatisfaction originated by (a) "The lack of some knowledge or information about a phenomenon, object, or to solve a problem", (b) "The influence of an environment (social, political, scientific, etc.)" and (c) "The particular characteristics (experience, previous knowledge, etc.) that the subject has, since they also influence the appearance of a need for information" (p.76).

Regarding the elements of communication, this research takes into account the Network Communication Model, which is based on the current context of the network-Internet in the information society, where individuals interact in multiple and diverse sources or media that

offer messages of different contents directed to a heterogeneous population with complex profiles.

Research that addresses networks in the subject of communication, according to Marulanda (2015, p. 39), maintains the key elements of the communicative process and adjusts the essential aspects that make up a network such as users or interaction nodes. Thus, the following are found: transmitter, receiver, flow, orientation, effects, and channel.

Regarding the benefits of effective communication, Hargie (2016) indicates a range of considerable benefits at the organizational level, such as higher productivity, higher quality of services and products, higher levels of trust, greater commitment, higher levels of creativity, and higher job satisfaction. It also improves labor relations, increases acceptance of change, reduces absenteeism and staff turnover.

So its relevance lies in the fact that the flow of effective communication develops strong bonds between those who apply it. However, there are many obstacles in the practice of effective communication, so this becomes a major obstacle to effective communication strategies. It is not the responsibility of any one person, it is a team effort with organizational help or support and is an essential area of research for the development of the organizational goal for a rapidly changing era.

In the development of societies, especially in relation to the well-being and quality of life of citizens, public investment is a vital tool in the fight against social inequalities. The role of the State, at all levels, should be oriented towards the design, execution and evaluation of public investment programs and projects, aimed at satisfying needs.

Public investment refers to government spending on economic infrastructure such as airports, roads, railroads, water and sewage systems, electricity and gas utilities, telecommunications and social infrastructure such as schools, hospitals and prisons (IMF, 2015).

The term "public investment" is also sometimes used by governments in a broader sense to refer to spending on human capital, such as education and health spending, or financial investments by government institutions, such as sovereign wealth funds. However, the literature on public investment management focuses on spending related to physical assets (Miller & Mustapha, 2016).

The PIP formulation and development process is called the Project Cycle, which consists of a sequence of steps or stages that must be followed in every instance, namely: pre-investment, investment and post-investment. Each of these stages must be in accordance with the principles of the National Public Investment System.

Regarding the dissemination of information, the following elements must be considered: what type of information is to be transmitted, to whom it is addressed or with whom I wish to share it (user-consumer profile), what is the systematization of the messages I wish to transmit in terms of frequency, tone and form (format), what are the security criteria, what are the policies for response and treatment of information, what are the media to be used to transmit the information (Hutt, 2012).

For geographic purposes, the Loreto Region is known as the Department of Loreto. In this section, this term will be used to describe the characteristics of Peru's largest geographic region: Loreto.

According to information provided by the Information and Statistics Management Office of the Congress of the Republic (2019) and the Central Reserve Bank of Peru (2018):

The department of Loreto occupies an area of 368,852 km², which represents 28.7 percent of the national territory, placing it in first place in the ranking of departmental extension; it is also located in the extreme northeastern part of the Peruvian territory. Loreto has 3,891 kilometers of international borders with three countries: Ecuador to the northwest, Colombia to the northeast and Brazil to the east.

This border extension represents 38 percent of the country's total border, receiving cultural irradiation from neighboring localities such as Leticia (Colombia) and Tabatinga (Brazil). It is also divided into 8 provinces and 53 districts, in which 705 of the 1,786 indigenous communities nationwide are located (p.5).

Loreto is divided into 8 provinces. Requena, Maynas, Ramon Castilla, Putumayo, Loreto Nauta, Ucayali, Alto Amazonas and Datem Del Marañon. These 8 provinces are home to 53 districts (Banco de Reserva del Perú, 2018).

In addition, the territory of Loreto belongs to the so-called "Amazonian plain", whose lowest altitude is 61 meters above sea level, and the highest is 220 meters above sea level, where two types of terrain can be distinguished: alluvial and hilly.

Other geographic aspects that can be highlighted in Loreto, and that is part of its characterization, have to do with its natural resources, among which the flora, fauna and hydrography stand out. These characteristics are explained in the Regional Information System for Decision Making (SIRTOD, 2020) of the National Institute of Statistics (INEI) of Peru:

- Flora: consists of several botanical species, including timber trees and other species of commercial and medicinal value, including willows, palms, mahogany, cedar, chestnut, walnut, camphor and matapalo.
- Fauna: In this department there is a variety of wild species, among which we can highlight: lizards, otorongos, boas, anacondas, peccaries, sachavacas, deer, ronsocos, monkeys, sloths, turtles, taricayas, parrots, red bufeos. It is important to note that there are also endangered species such as jaguars, black lizards, manatees, various river turtles, river otters, scarlet macaws, pink dolphins, and paiches.
- Hydrography: Loreto has a hydrographic system composed of a variety of rivers, among which the Amazon, Ucayali, Marañon, and Huallaga are the main ones. There are also the Nanay, Itaya, Ampiyacu, Morona, Pastaza, Tigre, Napo, Putumayo, Yavari, and Cochiquinas rivers.

Method

The present research is framed within the quantitative approach, of descriptive type, which has used as social research techniques the survey, which was applied to 53 lieutenant governors. The instrument was derived from the following operationalization of variables:

Table 1
Operationalization of variables

Variable	Dimension	Indicators
	Information needs	Use and usefulness of the information. Manifestation of need. Information content. Position in time. Collective or specific nature.
Effective communication	Elements	Emitter-producer. Receiver-consumer. Flow - message. Orientation: technique and context. Channel. Effects-feedback.
	Benefits	Satisfaction of needs. Participation of the subjects. Transparency in management.
	PIP Phases	Pre-investment. Investment. Post investment.
Public Investment Programs and Projects	Dissemination of information	Type of information to be disseminated. User-consumer profile. Format of the information. Safety criteria. Response and treatment policies of the information. Media or channels.

Note. This operationalization of variables is the result of the theoretical framework approach

The hypotheses formulated, which were answered in this research work, are presented below:

Main hypothesis: The definition of an effective communication model will allow the dissemination of Public Investment Programs and Projects for the Department of Loreto, Peru.

Secondary hypothesis 1: The dissemination of public investment programs and projects in the Department of Loreto, Peru, is poorly developed.

Secondary hypothesis 2: The informational needs of the citizens of the Department of Loreto Peru are met in the effective communication model.

Secondary hypothesis 3: The elements of the communication model are effectively integrated for the dissemination of public investment programs and projects in the Department of Loreto, Peru.

Secondary hypothesis 4: The public investment programs and projects developed in the Department of Loreto, Peru, respond to the needs of the community.

Instruments

In the present investigation, the survey technique and the questionnaire instrument were used. The survey technique, according to Palella & Martins (2012), aims to obtain data from several people whose opinions are of interest to the researcher. For Hernández et al (2014), the questionnaire is a "set of questions regarding one or more variables to be measured" (p. 217).

For the purposes of this research, a questionnaire was designed to collect information on the variables under analysis, namely, effective communication and public investment programs and projects. For the first variable, a total of 43 items were defined, while for the second variable, 27 items were elaborated, for an overall total of 70 items.

The questions were constructed following the parameter of closed-ended items, that is, questions that "contain previously delimited response options" (Hernández et al, 2014, p.217), which are usually easier to code and analyze. The selected response options correspond to the Likert scale of the selected options correspond to the Likert Scale of: never, rarely, sometimes, almost always, and always.

The data collection instrument designed for the collection of information in the present research was submitted to the validity and reliability of three (3) experts in the area of theoretical knowledge and research methodology, who gave their favorable judgment on the validity of the instrument, considering its theoretical and methodological construct and general aspects, such as writing, spelling and internal coherence.

The reliability of the data collection instrument of this research was very high, which shows that it is reliable, that is, that the items allow measuring the study variables adequately and without errors.

To establish the reliability of the instruments to be applied in this research, a pilot test was conducted on subjects with similar characteristics to the population and/or units of analysis of the research.

Once the information was collected through the selected instruments, the findings were interpreted, analyzed and discussed, which explain the reality of the object studied.

Thus, the information gathered in this research was treated statistically, using the descriptive and inferential technique, using the statistical program SPSS Version 26, presenting the data obtained through tables, where frequencies and percentages are interpreted, thus using descriptive statistics. Descriptive and inferential statistics are used to analyze the data. This includes calculating the results for a population (or sample), as well as assessing the significance of the results (Håkansson, 2013).

Results

Table 2

Frequency distribution of the variable effective communication

		Frequency	Percentage	Valid percentage	Cumulative percentage
Valid	Under	16	30,2	30,2	30,2
	Medium	37	69,8	69,8	100,0
	Total	53	100,0	100,0	

Note. As can be seen, 69.8% of the respondents considered that effective communication for the dissemination of public investment programs and projects in the Department of Loreto is at a medium level. While 30.2% are at a low level.

Table 3

Frequency distribution of the information needs dimension

		Frequency	Percentage	Valid percentage	Cumulative percentage
Valid	Under	14	26,4	26,4	26,4
	Medium	39	73,6	73,6	100,0
	Total	53	100,0	100,0	

Note. It can be seen that 73, 6 % of the respondents considered that the informational needs for effective communication are at a medium level. While 26.4% are at a low level.

Table 4

Frequency distribution of the elements dimension

		Frequency	Percentage	Valid percentage	Cumulative percentage
Valid	Under	16	30,2	30,2	30,2
	Medium	37	69,8	69,8	100,0
	Total	53	100,0	100,0	

Note. Regarding the elements dimension, 69.8% of the respondents reported an average level. Meanwhile, for 30.2% it is at a low level.

Table 5
Frequency distribution of the benefits dimension

		Frequency	Percentage	Valid percentage	Cumulative percentage
Valid	Under	25	47,2	47,2	47,2
	Medium	28	52,8	52,8	100,0
	Total	53	100,0	100,0	

Note. It can be seen that the majority of respondents consider the benefits dimension to be at a medium level (52.8%) while another part considers it to be at a low level (47.2%).

Table 6
Frequency distribution of the dissemination of information dimension

		Frequency	Percentage	Valid percentage	Cumulative percentage
Valid	Under	20	37,7	37,7	37,7
	Medium	33	62,3	62,3	100,0
	Total	53	100,0	100,0	

Note. As for the information dissemination dimension, 62.3% is at a medium level. While 37.7% consider it to be at a low level.

Discussion and conclusions

The results show the behavior of the variables studied, based on their respective dimensions and indicators. In this section, these results are contrasted with the theoretical and conceptual approaches on which this research is based.

These are focused on describing the Public Investment Programs and Projects (PIP) being carried out in the Department of Loreto, diagnosing the current situation of their dissemination, as well as establishing the informational needs in this regard, with a view to defining an effective communication model, while estimating their potential benefits. Consequently, it is necessary to introduce this discussion of the results by addressing the dimensions that define effective communication, namely:

Within the assessment of the context is the reference to the informational needs of the subjects involved, i.e. citizens, political representatives and leaders, interest groups, private organizations, public agencies and others. In its analysis, indicators such as the use or usefulness of the information, manifestation of these needs, content of the information, position in time and its collective or specific nature have been considered.

The predominance of an average rating in 73.6% of those interviewed and a low rating in 26.4% is an indication that, regardless of effectiveness, timeliness or good management of public funds, Loreto's society has not had effective access to information related to such management, to sufficient information to participate, give their opinion, make their own decisions, organize themselves or properly assess (at least) what the State does with the economic resources available to them.

Another dimension of effective communication is related to the elements that define it, namely: sender-producer, receiver-consumer, flow-message, technical orientation-context,

channel and effects-feedback (Santos, 2012 and Vera, 2014). Each of these elements are linked in a cyclical and interactive system, playing an essential role in the achievement of the communication objectives.

Considering that the purpose of this research is connected to the construction of an effective communication model for the dissemination of PIPs, it is necessary to move towards a dynamic and well-meshed articulation of these communication elements. According to the results of this study conducted in the Department of Loreto, these elements, as a whole and in their effectiveness, have a medium (69.8%) and low (30.2%) valuation, which constitutes a weakness for the achievement of effective communication.

For its part, the sender-producer, in the research context, is mainly represented by the entities that manage public investment for the development of programs and projects aimed at solving social, economic, technological, cultural, environmental and/or any other type of problems that affect the community, although citizens also become sender-producers by assuming an active participation in the communicative process.

A third dimension of effective communication has to do with the benefits it offers in terms of satisfying informational needs, subject participation and transparency in the management of public investment, a dimension that, as a whole, was rated as average by 52.8% of the respondents and low by 47.2% of the sample. Although in comparison with the previous dimensions, benefits have a better valuation among the lieutenant governors of the towns that make up the Department of Loreto, it could be said that their rating is still negative, considering that the positive perceptions are not statistically significant.

If one starts from the fact that effective communication entails a set of organizational benefits (such as improved levels of productivity, quality, trust, commitment, creativity and job satisfaction) (Hargie, 2016), if the communication and dissemination policy of the PIPs does not result in an upturn in such levels, it cannot be considered effective.

As for the Public Investment Programs and Projects (PIP) variable, essentially two dimensions have been studied: Phases and Information Dissemination, with the purpose of specifying the way in which the communication strategies implemented by the State entities responsible for the management of these programs and projects address the need to disseminate information in each of their phases: pre-investment, investment and post-investment; as well as the way in which they address the type, format and content of the information, the profile of the consumer (receiver), the media used and the policies of response or treatment of the information.

Based on the data obtained in this research, it has been determined that the lieutenant governors of the towns of the Department of Loreto, for the most part (84.91%), express an average evaluation with respect to the dissemination of information on the phases of the PIPs, which means that there are limitations in the communication processes among the subjects involved.

With regard to the dimension of dissemination of information related to PIPs, which includes indicators such as type and format of information, consumer profile, safety criteria, response policies and treatment of information and media or channels used, this is an essential aspect that allows us to know the current status and potential for effective communication in this field.

According to Magdalinou, et al. (2019), in this context, the benefits generated by the knowledge of PIP products by the key audience are expressed in the opportunity for the community to evaluate the relevance and usefulness of the content disseminated. Consequently, the construction of an effective communication model for the dissemination of the PIPs in the

Department of Loreto requires the development of mechanisms and strategies that allow timely and sufficient attention to each of the elements of communication.

In this regard, it is necessary to overcome certain barriers that are manifested in an average (62.3%) and low (37.7%) evaluation of this dimension by the lieutenant governors of the towns in this department, which probably indicates that the management of information, channels, parameters and policies are not adapted to the fulfillment of the communication objectives.

Proposed solution: Dissemination of Public Investment Programs and Projects: Identification of constraints and demands

The results obtained show significant limitations in terms of communication strategies and, specifically, in terms of the dissemination of Public Investment Programs and Projects (PIPs) at all stages.

The purpose of disseminating this information is to democratize information, promote transparent public management and stimulate the active participation of citizens in decision making and social control, evidently in the Department of Loreto - Peru.

In that sense, we will explain the purposes of dissemination, its limitations and demands:

First purpose: to inform all stakeholders (internal and external). Among the limitations is the fact that information on the PIPs is not effectively distributed to any of the actors involved. Therefore, the vital presence of all the actors involved, both internal and external (members of the community: citizens or organizations, actors outside the community: private organization or public agency, political-community activist, professional) during the process of design, planning, execution and evaluation of the PIPs is required. Consequently, the demand is focused on the implementation of permanent, updated and useful information dissemination strategies that are efficiently distributed among all members of society, all of whom are interested in learning about the PIPs.

Second purpose: To publicize the benefits that the project brings to the community. Here, the limitations are limited to the type of information to be disseminated on the PIPs, including: benefits, results, budget execution and accounts. The statistical analysis carried out in this study shows that in none of these cases are high levels of information dissemination achieved, so that economic, political and social actors have very limited data on the benefits generated through public investment. Consequently, citizen demand emphasizes the need to know the information related to all public management processes, and the community aspires to have certain and reliable knowledge of all stages of the PIPs, from formulation to evaluation: problems to be solved, solutions provided, projects to be developed, investment to be made, probable social and environmental impact, technical aspects, benefits, responsible parties, processes, execution conditions, progress, results, investment execution, among other data.

Third purpose: to generate commitment and participation of stakeholders. With respect to this purpose, both participation and transparency of public investment processes have been evaluated as aspects that have not been effectively stimulated by the current PIP dissemination strategies. The data show that the level of citizen participation in the preparation, execution and control of the PIPs is low, and public access to information on the execution and accountability of the PIPs has been assessed as limited. Therefore, there is a demand for the successful dissemination of the PIPs, which implies promoting the commitment and active participation of citizens and organizations, so it is necessary to stimulate co-responsibility in the decisions and actions aimed at solving the problems of the community, through public investment and, specifically, through the PIPs.

Fourth purpose: to know the expectations of the project on the part of the subjects and/or groups involved. Among the limitations, it has been evidenced that in the dissemination of the PIPs, the feedback process and the satisfaction of needs are negative, since there is a low valuation of the interaction between the PIP formulating and executing units and the communities or organizations in the area of influence, which hinders obtaining a solid and reliable knowledge about the expectations of the subjects and/or groups involved regarding the execution and scope of the projects and programs, which are supposed to be oriented to the solution of common problems. In this sense, it is essential to promote communication strategies that seek permanent feedback between the entities that manage the PIPs and the stakeholders involved, whether they are internal or external to the communities. Systems are needed to assess the opinions of citizens, groups and organizations regarding the purposes, processes, progress and results of the PIPs.

The proposed model focuses mainly on the activation of a Situational Room for Effective Communication (SSCE-PIP), which allows the design and implementation of strategies, mechanisms and instruments for the collection, processing, analysis, storage and distribution of information related to public investment programs and projects developed in the Department of Loreto. An effective activation and integration between the elements of communication is contemplated through the following processes:

a) The SSCE-PIP is in charge of developing mechanisms to expedite the transmission of information from the PIP management units, considering that they do not need to process and encode contents to disseminate them to the community, being the room in charge of these processes, which represents an empowerment of the sender-producer of communication. In addition, tools are designed and activated to encourage citizens to also act as issuers-producers of the information required to strengthen PIP management processes.

b) As for the receiver-consumer, who is represented in the group of citizens, community organizations, private organizations, political-community activists, professionals, public agencies and others, with whom an interaction is established that becomes progressively more dynamic, since initially the aim is for the community to have access to information on the PIPs

b) As for the receiver-consumer, which is represented by citizens, community organizations, private organizations, political and community activists, professionals, public agencies and others, with whom an interaction is established that becomes progressively more dynamic, since initially it is sought that the community has access to information on the PIPs, and then, later, to strengthen instruments that allow feedback and active participation by citizens in each of the development phases of the projects and programs.

c) This model promotes the use of a wide diversity of communication channels: traditional media (press, radio and television), digital media (web page, e-mail, social networks, among others), as well as collective, participatory and face-to-face media (community diagnoses and assemblies, work tables, meetings, community diagnoses), as each of them offers potential that should be used to achieve the PIP dissemination objectives.

d) The flow - message, context and code are elements that are strengthened by a systematic, rigorous and professional treatment of the information, since the process of codification of the message is effectively produced, the contextual aspects of the region are considered and the data required by each of the users of the community are selected.

e) The feedback effect is strengthened as a process through the MCE-D-PIP, since first the transmission of information from the PIP management entities to the subjects, groups and organizations of the environment is strengthened, and then strategies and mechanisms are established for the generation of responses and participation on the part of the citizenry.

Consequently, the conclusions are based on the answers to each of the specific hypotheses.

Regarding specific hypothesis 1, there is a lack of human talent, technologies and communication strategies about the PIPs, with little identification and knowledge about the recipients of the information. In addition, there are no formal processes for the collection, processing and selection of the information to be disseminated, resulting in limited contextualization and inadequate coding of the message, with the consequent waste of the diversity of communication channels to disseminate the information.

Regarding specific hypothesis 2, the information needs of citizens are not known, so the dissemination of information on the PIPs has not been useful to stimulate participation or social control. Stakeholders express their information needs in relation to the PIPs, which is the basis for the construction of a new dissemination model. There are limitations in the information content on the PIPs to which citizens have had access, the present information needs are not effectively met, nor are future information needs projected, with a predominance of the expression of information needs on the PIPs by individual users, and a low expression of collective consumers.

In relation to specific hypothesis 3, that the elements of the communication model should be effectively integrated for the dissemination of public investment programs and projects in the Department of Loreto, Peru, the Model of Effective Communication for the Dissemination of PIPs (MCE-D-PIP) is necessary, whose objective is to establish timely and satisfactory channels of interaction between citizens and public management entities, favoring the construction of a more positive image on the part of citizens, encouraging greater social control of public investment, and fostering mechanisms for active participation and commitment of the subjects, groups and/or organizations involved.

Regarding specific hypothesis 4, the PIPs have their origin in the prioritization and formulation of problems - needs of the surrounding communities. There is little information on the pre-investment phase that is disseminated to the public. In addition, information on the investment phase is not timely, complete or dynamic, while the dissemination of the PIPs and their post-investment phase does not stimulate social assessment of their results and effects.

Regarding specific hypothesis 5, with the implementation of the proposed Effective Communication Model for the Dissemination of PIPs (MCE-D-PIP), benefits are projected at the level of both senders and receivers.

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