

Efficiency in Municipal Management: Participatory Budgeting and its Relationship with Public Projects in Rural Areas in Peru

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Abstract

The Participatory Budget is a key tool in public management that seeks to improve transparency and efficiency in local projects. The objective of the study was to analyze the relationship between the Participatory Budget (PP) and the Public Investment Projects (PIP) in the Municipality of Anco Churcampa, Huancavelica, during the year 2020, to evaluate how citizen participation influences the effectiveness and efficiency of publicly funded projects. For this purpose, a quantitative correlational approach with a cross-sectional design was used. A structured questionnaire was applied to 42 participants, among whom were municipal authorities and representatives of civil society. The collected data were analyzed using Spearman's rank correlation coefficient, which allowed the association between the PP and PIP variables to be evaluated. The results showed a positive and significant correlation between the dimensions of the PP, such as preparation, consultation, coordination and formalization, and the perception of success in the PIP. It was observed that the average levels of perception in the PP corresponded with average levels in the perceived effectiveness of the PIPs, which underlines the importance of well-structured participatory management. In conclusion, the study highlights that the PP is a fundamental tool to improve the transparency and effectiveness of the PIPs, highlighting the need to strengthen citizen participation in decision-making to promote more equitable and sustainable local development.

Keywords: Participatory Budget, Public Investment Projects, Citizen Participation, Municipal Management, Transparency, Efficiency, Correlation

INTRODUCTION

Citizen participation in public management is a crucial challenge worldwide, especially in the administration of resources and the implementation of public investment projects (Suebvises, 2018). Globally, one of the main problems is the lack of transparency and inefficiency in the allocation of public funds, which often results in corruption and poorly executed projects (Di Giorno et al., 2024; Policardo & Carrera, 2018). This problem arises due to the lack of effective mechanisms that allow citizens to participate in decision-making, which is aggravated by the complexity and opacity of government processes. Furthermore, the lack of accountability and excessive bureaucracy prevent efficient and fair management of public resources (Harrison & Sayogo, 2014; Zhao et al., 2023). To solve this problem, the implementation of participatory budgets has been promoted, which allows greater transparency and responsibility in the management of public resources. This tool not only facilitates citizen inclusion, but also contributes to the equitable distribution of resources, promoting social justice and sustainable development (Patterson et al., 2017).

In Latin America, the situation is particularly critical due to social and economic inequality, as well as corruption in government systems (Abdullah et al., 2017; Arceneaux, 2022). Governance problems and lack of trust in public institutions are common, hindering sustainable and equitable development (Filho et al., 2023). These problems arise due to centralized political systems and the exclusion of citizens in the decision-making process (Alscher et al., 2022; Bayram Özdemir et al., 2016). Furthermore, the lack of civic education

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and misinformation exacerbate the disconnection between citizens and authorities, perpetuating a cycle of distrust and disinterest in political participation (Bátiz & Arana, 2018; Escamilla Cadena, 2019). The solution lies in promoting participatory democracy through mechanisms such as participatory budgeting, which has proven to be effective in several locations in the region to reduce corruption and improve the equitable distribution of resources (Azevedo et al., 2022). This approach allows communities to have an active voice in determining their priorities and allocating resources, which strengthens social cohesion and improves the effectiveness of public policies.

In Peru, municipal management faces significant challenges in the allocation of resources and the implementation of public investment projects (Bayram Özdemir et al., 2016). The problem manifests itself in the population's dissatisfaction with the quality of public services and the execution of projects that do not always reflect the priority needs of the communities. This problem arises due to the lack of inclusion of citizens in decision-making and the centralization of administrative processes. (BID, 2018; G. & J., 2017) Furthermore, the unequal distribution of resources between regions and the lack of adequate infrastructure hinders the efficient execution of projects. To address this situation, participatory budgeting has been promoted as a tool to improve transparency, efficiency and equity in the management of municipal resources. This mechanism has been instrumental in various Peruvian municipalities, demonstrating that when citizens actively participate in the planning and prioritization of projects, better results are obtained in terms of community satisfaction and efficient use of resources.

In the Municipality of Anco Churcampa, located in the Huancavelica region, the problem is even more specific. The community faces difficulties in implementing public projects that truly respond to their needs. This problem arises from the lack of active participation of citizens in the planning and prioritization of projects. Furthermore, economic limitations and the lack of technical capabilities in municipal management aggravate the situation, resulting in ineffective project execution.

The indicators used in this study include citizens' perception of the transparency and effectiveness of participatory budgeting, as well as the quality and impact of public investment projects implemented. Data collection was carried out through structured surveys that evaluate community satisfaction with the projects carried out, the perception of transparency in the decision-making process and the quality of life before and after the implementation of these projects. In addition, the degree of citizen participation in participatory budget meetings and their influence on final decisions was measured.

Another crucial aspect of this study is the identification of barriers and facilitators in the implementation of participatory budgeting. Barriers include lack of training and resources for municipal officials, resistance to change, and distrust of authorities. Facilitators include the support of community leaders, the existence of a legal framework that promotes citizen participation, and the use of information and communication technologies to increase the transparency and accessibility of the process. Regarding the analysis of participatory budgeting in public management, there is limited research, which highlights the importance of this study. Existing research often focuses on specific cases or theoretical analyses, without providing a comprehensive view of practical impacts and best practices. This knowledge gap is due in part to the novelty of participatory budgeting as a public management tool and the lack of resources to carry out extensive and comparative studies. Addressing this gap requires the collection of empirical data and detailed analyzes that can provide solid evidence on the effectiveness of participatory budgeting. Furthermore, it is crucial to develop theoretical and methodological frameworks that allow for a rigorous and systematic evaluation of their implementation in different contexts. This study contributes to filling this gap by providing empirical data on the relationship between participatory budgeting and public investment projects in a specific locality, offering insights that may be useful to other communities and local governments seeking to improve their public management. Thus, this study presents previous works like the one I present (Buele et al., 2020) The objective of the study was to analyze the contribution of participatory budgeting (PP) in local management and governance in seven rural communities in the Ecuadorian Amazon during the government period from 2007 to 2017 and the 2008 constitution. Using a study approach of case, compliance with municipal planning, the amount assigned to the PP and the level of citizen satisfaction were evaluated through surveys. The results showed low compliance with planning (20% in 2017 and 43% in 2018) and high levels of citizen

dissatisfaction (91%), in addition to a general disagreement with the PP implementation process. The main conclusion is that the deficiencies in the implementation of the PP in these rural communities significantly limit the expected benefits in governance and the quality of life of citizens. These deficiencies are mainly attributed to the low interest of citizens in participating in the execution and monitoring phases of the projects, which is related to a limited participatory culture and education. This study will address these gaps, exploring mechanisms that can encourage greater citizen participation and improve the effectiveness of PP in similar rural contexts.

On the other hand, there is the study presented by (Avellaneda & Bello-Gómez, 2024) with the objective of analyzing the challenges faced by local governments in Peru in terms of democratic governance since the transition to democracy in 2001. Using a descriptive and analytical approach, it examines how political instability, a complicated decentralization process and a Weak party system have affected accountability, representation and government capacity at the local level. The results highlight that these factors interact and reinforce each other, limiting the effectiveness of policies designed to improve local governance. This study will address the gaps related to the implementation of citizen participation mechanisms that could strengthen democratic governance at the local level, evaluating their impact on representation and accountability in rural Peruvian contexts.

Likewise, there is the study presented by (Cabannes, 2015) with the objective of analyzing the impact of participatory budgeting on the management of basic services in 20 cities on different continents, evaluating 20,000 funded projects worth more than 2 billion dollars. Through a comparative approach, it is observed how citizen participation improves the management and maintenance of projects due to community supervision. The results show that, although participatory budgeting improves governance and service delivery, it does not fundamentally alter the power relations between local governments and citizens. This study will address the gaps related to the impact of participatory budgeting on the redistribution of power and its effectiveness in rural contexts.

The Current Study

In this context, this study focuses on analyzing the relationship between participatory budgeting and public investment in Anco Churcampa during 2020. The objective is to determine how citizen participation influences the effectiveness and efficiency of projects financed with public funds.

This study also addresses important knowledge gaps, such as the need for more detailed data on PP implementation in different contexts and the variability in results obtained in different communities.

This study provides a comprehensive view on how citizen participation through participatory budgeting can improve the management of public resources and the implementation of public investment projects. The results obtained offer practical guidance for other municipalities seeking to adopt this participatory approach, highlighting the importance of transparency, civic education and community engagement in decision-making.

It also highlights the importance of participatory budgeting as an essential tool to improve public management and promote sustainable and equitable development. Citizen participation not only strengthens transparency and responsibility in the management of public resources, but also ensures that the policies and projects implemented truly respond to the needs of the community. The results of this study offer valuable insights for other communities seeking to strengthen their participatory management processes and improve the quality of life of their citizens. Furthermore, the research highlights the need to continue exploring and documenting the effects of PP in different contexts and scales, to provide more complete and practical guidance for its effective implementation.

To solve this problem, the implementation of participatory budgeting has been key, allowing citizens and authorities to work together to identify and prioritize local needs, thus improving project execution and community satisfaction. This participatory approach not only increases transparency and accountability in public management, but also fosters a sense of belonging and commitment among citizens, which is essential for sustainable and equitable development.

METHODS

Participants

The study involved a total of 42 participants carefully selected to ensure a balanced representation of key actors in the participatory budgeting process and the execution of public investment projects in the Municipality of Anco Churcampa. Participants include municipal authorities, such as the mayor and councilors, who will provide perspectives from the local administration, as well as officials in charge of project planning and execution. In addition, representatives from various civil society organizations participated, ensuring that the voices of the community were adequately represented. This intentional selection allowed us to capture a comprehensive vision of the participatory process, considering both the institutional vision and the perception of citizens. The data collected offers a detailed and multifaceted look at the dynamics and challenges in participatory management and its impact on the effectiveness of implemented public projects.

Instruments

To evaluate the relationship between the participatory budget (PP) and public investment projects (PIP) in the Municipality of Anco Churcampa, a specific questionnaire was developed and validated. This questionnaire was designed after an exhaustive review of existing literature and previous studies, ensuring that the questions were relevant and covered the key dimensions of the study. The questionnaire was structured into several sections, with a total of 36 questions as seen in Table 1, each focused on specific aspects such as the perception of transparency, the quality of the implemented projects and the degree of citizen participation.

The responses were evaluated using a five-point Likert scale, ranging from 1 (Never) to 5 (Always), allowing the intensity of the participants' perceptions and attitudes to be captured quantitatively and systematically. In addition, two main variables and eight specific dimensions were included that cover all critical aspects of PP and PIP, such as transparency of the process, participation in decision making, impact of the projects on the community and satisfaction with the results of the projects.

The validity of the questionnaire was confirmed through a validation process by experts in public management and social research, who reviewed the wording of the questions, the appropriateness of the response scale and the relevance of each item in the context of the study. Likewise, a pilot test was carried out with a small group of participants to identify possible comprehension problems or ambiguities, adjusting the questionnaire accordingly. The Cronbach's alpha coefficients calculated for the PP and PIP variables were 0.951 and 0.924 respectively, indicating high reliability of the instrument.

Table 1. Questionnaire relationship between participatory budgeting and public investment projects

Mark with a cross (X) the answer that you consider correct.

1. Never, 2. Almost never, 3. Sometimes, 4. Almost always, 5. Always

Variable 1: participatory budget		Escala				
Nº	Dimension: preparation	1	2	3	4	5
1	Is the participatory budget process carried out in the municipality of Anco?					
2	Do the authorities of the municipality of Anco comply with the publication and dissemination of the schedule of activities on the participatory budget process?					
3	Do the authorities convene the participating agents to communicate the intentional budget that corresponds to the participatory budget?					
4	Is there a presentation on the activities or projects prioritized in the participatory process of the previous year?					
5	Do the municipal authorities provide support for the organization and development of the participatory budget process?					
6	Is the registration and registration of participating agents carried out in the municipality of Anco?					
7	Is training provided to participating agents?					
8	Do the monitoring agents present reports on the level of compliance of the prioritized projects with the previous year's					

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	participatory budget?					
	Dimension: Concertation					
9	Are the agreements and commitments in line with the vision and objectives of the agreed development plan of the municipality of Anco?					
10	Do the municipal authorities provide information for the development of the workshops in the participatory budget?					
11	Do all those registered participate in the development of participatory budget workshops?					
12	Does civil society participate by preparing proposals for projects and actions to be presented by representatives in the workshops?					
13	Does the municipality comply with the publication of the minutes and commitments so that the community is aware of the prioritized projects?					
	<i>Dimension: coordination between levels</i>					
14	Is there coordination between the Regional Government and the Local Government to take work actions and co-financing of projects within the framework of the participatory budget?					
15	Has the participatory budget process effectively allowed the link between the population and the municipality?					
	<i>Dimension: formalization</i>					
16	Is the prioritization of projects carried out in accordance with the agreed development plan of the Anco district?					
17	Has your decision contributed to the prioritized projects giving results for the development of the population?					
18	Is the list of defined actions carried out in the previous year's participatory process that were not prioritized due to lack of financing made available to participants?					
19	Are the results of the participatory process agreed upon with the participation of the agents participating in the prioritization workshop formalized through an official document in the municipality?					
	Variable 2: Public Investment Projects					
	Dimension: planning	1	2	3	4	5
20	Is there a methodology to plan public investment projects?					
21	Is the formulation of the projects that has been chosen complied with the prioritization agreed upon between the authorities and civil society?					
22	Does civil society contribute with financial contributions, materials, labor, among others, to contribute with the capacity to attend to the needs of improving the quality of life of the population?					
23	The objective of closing gaps in access to public services of the population materializes with the prioritization of public investment projects?					
24	Have basic services in the population improved with the prioritization of public investment projects?					
	Dimension: execution					
25	Were the processes for preparing technical files on the projects that were prioritized in the participatory budget?					
26	Did the resources executed in public investment have an impact on society?					
27	Is the time established in the technical file complied with?					
28	Does the execution of projects in the municipality generate employment for the population?					
	Dimension: direction					
29	Is the selection of projects based on the needs of the population complied with?					
30	Do the authorities of the Anco district comply with preparing the investment portfolio based on defined objectives and prioritization?					
31	In the preparation and execution of projects in the Anco district, is the environmental damage that they may generate verified?					
32	Is the quality of the completed project and subsequent maintenance met?					
	Dimension: control					
33	Is there monitoring in compliance with the actions agreed in the participatory budget?					
34	Are corrective actions carried out in the process after the execution of public investment projects?					
35	Are product goals and result indicators monitored after investment projects have been launched?					
36	Do the authorities report semiannually and annually on their institutional portal on ongoing projects?					

Procedure

The study was carried out through a structured and rigorous process to guarantee the precision and validity of the results obtained. First, a specific questionnaire was developed designed to evaluate various aspects related to the participatory budget (PP) and public investment projects (PIP) in the Municipality of Anco Churcampa. Before administering the questionnaire, participants were informed about the objective and nature of the study, ensuring their understanding and informed consent to participate.

The questionnaire, previously validated by experts, was administered in person to an intentional sample of 42 participants, including municipal authorities, officials and representatives of civil society. During administration, steps were taken to ensure that respondents fully understood each item, and a neutral and comfortable environment was created to facilitate accurate and thoughtful responses. In addition, the confidentiality of the responses is always maintained.

Subsequently, the collected data were analyzed using SPSS statistical software, version 25. Descriptive and correlational analyzes were performed to evaluate the relationship between the PP and PIP variables. The methodology used allowed a detailed exploration of the perceptions and attitudes of the participants, providing a solid basis to meet the objectives set out in the study.

Analytic Plan

The data analysis in this study was carried out using a robust quantitative approach, designed to explore in depth the relationships between participatory budgeting (PP) and public investment projects (PIP) in the Municipality of Anco Churcampa. Various statistical techniques were implemented to guarantee the validity, reliability and precision of the results obtained.

First, descriptive analyzes were conducted to generate a detailed profile of participants' perceptions. Measures of central tendency (mean and median) and dispersion (standard deviation and interquartile range) were calculated for each of the dimensions evaluated, such as transparency in the PP process and the perceived quality of the PIPs. These analyzes allowed us to identify patterns and trends in the responses, providing a clear understanding of how different groups of participants value participatory management.

To examine the relationship between the main variables of the study, Spearman's correlation coefficient was used, given the ordinal nature of the data. The results indicated a significant positive correlation between the perception of transparency in the PP and the effectiveness of the PIP ($\rho = 0.62$, $p < 0.01$), suggesting that the greater the transparency in the participatory process, the greater the perception of success in the implementation of the projects.

Additionally, multiple hierarchical regression analyzes were performed to evaluate associations between different aspects of PP and PIP outcomes. In Model 1, the variables of age, gender, and group of participants (municipal authorities, officials, and civil society representatives) were included as predictors, while satisfaction with participatory management was used as the outcome variable. This initial model presented an adjusted R^2 of 0.35, indicating that these variables explain 35% of the variability in satisfaction with participatory management.

In Model 2, additional variables related to the effectiveness of the participatory process were added, such as the perception of impact and the quality of the implemented projects. The inclusion of these variables increased the adjusted R^2 to 0.52, indicating a significant improvement in the predictive ability of the model ($\Delta R^2 = 0.17$, $p < 0.001$). The comparison between Model 1 and Model 2 was performed using the F test to compare nested models, confirming that the second model provides a better explanation of the data.

Finally, for a comprehensive and accurate evaluation of the relationships between PP and PIP, sums of scores were generated for all the variables studied. Analyzes were carried out using SPSS statistical software, version 25, ensuring rigorous and consistent data processing.

This analytical plan, based on advanced statistical techniques and supported by specific statistical values, provides a solid basis for the study's conclusions. The results obtained allow a detailed understanding of how participatory budgeting influences the effectiveness and perception of public investment projects in the

community of Anco Churcampa, underlining the importance of transparency and citizen participation for the success of projects financed with funds. public

RESULTS

The research carried out in the Municipality of Anco Churcampa has allowed us to collect valuable data on the relationship between participatory budgeting (PP) and public investment projects (PIP). Through a rigorous process that included the development, validation and application of a structured questionnaire, it was possible to obtain a detailed view of the perceptions and attitudes of the participants in the PP process. This chapter presents the results obtained, which are essential to understand how citizen participation influences the effectiveness and efficiency of projects financed with public funds.

The results are presented in several sections, each focused on key aspects evaluated in the study. First, perceptions of transparency and how these influence the community's trust in the PP process are analyzed. Next, the quality of the implemented projects is examined, considering citizen satisfaction and perceived impact on the community. The degree of citizen participation is also evaluated, highlighting the frequency and quality of participation in meetings and the perception of influence on final decisions.

Descriptive analysis of the results

Given that the variables under study have an ordinal nature, Spearman's rank correlation coefficient has been used to evaluate the degree of association between them, the results of which can be seen in tables 2 to 8. This statistical approach allows us to capture non-uniform relationships. linear between the variables, which is crucial in contexts where the perceptions and attitudes of the participants can vary significantly depending on subjective factors.

Table 2. Results of the frequency distribution of the Participatory Budget and Dimensions

Level	V1- Participatory Budget		Dimension 1 Preparation		Dimension 2 Concentration		Dimension 3 Coordination		Dimension 4 Formalization	
	f	%	f	%	f	%	f	%	f	%
Low	5	11.9	6	14.2	5	11.9	5	11.9	9	21.4
Half	25	59.2	23	54.8	23	54.8	28	66.7	19	45.2
Highb	12	28.8	13	31	14	33.3	9	21.4	14	33.3
Total	42	100	42	100	42	100	42	100	42	100

Note. f: frequency; %: percentage; V1: variable 1

According to the data in Table 2, the highest level of frequency reached in the PP variable is medium (59.2%); This level is also the most frequent in the dimensions Preparation (54.8%), Concertation (54.8%), Coordination (66.7%) and Formalization (45.2%).

Table 3. Results of the frequency distribution of the Public Investment Project and Dimensions

Level	V2 – Project Public Investment		Dimension 1 Planification		Dimension 2 Execution		Dimension 3 Direction		Dimension 4 Control	
	f	%	f	%	f	%	f	%	f	%
Low	4	9.5	6	14.3	8	19.0	25	59.5	0	0.0
Half	24	57.1	30	71.4	22	52.4	17	40.5	0	0.0
Highb	14	33.4	6	14.3	12	28.6	0	0.0	42	100
Total	42	100	42	100	42	100	42	100	42	100

Note. f: frequency; %: percentage; V2: variable 2

According to the data shown in Table 3, the highest level of frequency reached in the PIP variable is medium (57.1%); This level is also the most frequent in the dimensions Planning (71.4%), Execution (52.4%). The

frequency is mostly at the low level for the Direction dimension (59.5%) and is only high in the Control dimension (100.0%).

Table 4. Results Crossing of variables Participatory Budget and Public Investment Projects

		Participatory Budget			Total	
		Low	Half	High		
Public Investment Project	Low	Count	3	1	0	4
		% within PP	60,0%	4,0%	0,0%	9,5%
	Half	Count	2	21	1	24
		% within PP	40,0%	84,0%	8,3%	57,1%
	High	Count	0	3	11	14
		% within PP	0,0%	12,0%	91,7%	33,3%
Total	Count	5	25	12	42	
	% within PP	100,0%	100,0%	100,0%	100,0%	

Note. PP: Participatory Budget

According to the data in table 4, at the low level of the PP, 60% reach a low level in the PIP; At the average level of the PP, it is observed that 84% reach the average level in public investment projects. For the high level of the participatory budget, a high level is observed in the high level of the public investment project (91.7%).

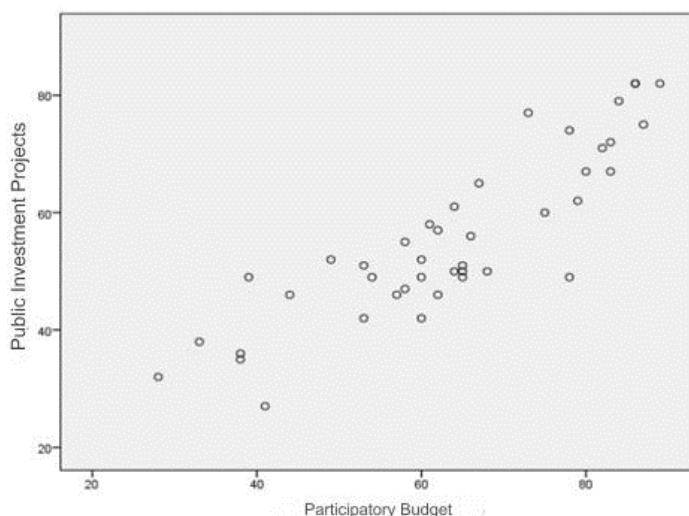


Figure 1. Scatter diagram between the variables under study

Figure 1 clearly illustrates a positive association between the Participatory Budget (PP) and Public Investment Projects (PIP) variables. This type of association indicates that as PP effectiveness and implementation increases, a corresponding increase in PIP perception and performance is also observed. In other words, the two variables vary in the same direction, which suggests that an improvement in the processes of citizen participation, transparency, and decision-making in the context of the PP tends to translate into greater effectiveness and success of the PIPs.

Table 5. Crossing variable PP dimension Preparation and PIP

		Public Investment Project			Total	
		Low	Half	High		
Preparation Dimension	Low	Count	4	2	0	6
		% within PIP	100,0%	8,3%	0,0%	14,3%
		Count	0	20	3	23

Half	% within PIP	0,0%	83,3%	21,4%	54,8%
	Count	0	2	11	13
High	% within PIP	0,0%	8,3%	78,6%	31,0%
	Recuento	4	24	14	42
Total	% within PIP	100,0%	100,0%	100,0%	100,0%

Note. PIP: Public Investment Project

In table 5, the Participatory Budget Preparation (PP) dimension, 54.8% of respondents place their experience at a medium level. This level of perception is significantly reflected in the Public Investment Projects (PIP), where 83.3% of those who perceive the preparation of the PP at a medium level, also rate the PIPs at that same level.

This high degree of correspondence highlights the importance of Preparation in the PP process, which includes adequate planning, effective communication of the schedule, and preparing participants to make informed decisions. Effective preparation is an essential prerequisite to ensure that public investment projects are planned and executed successfully.

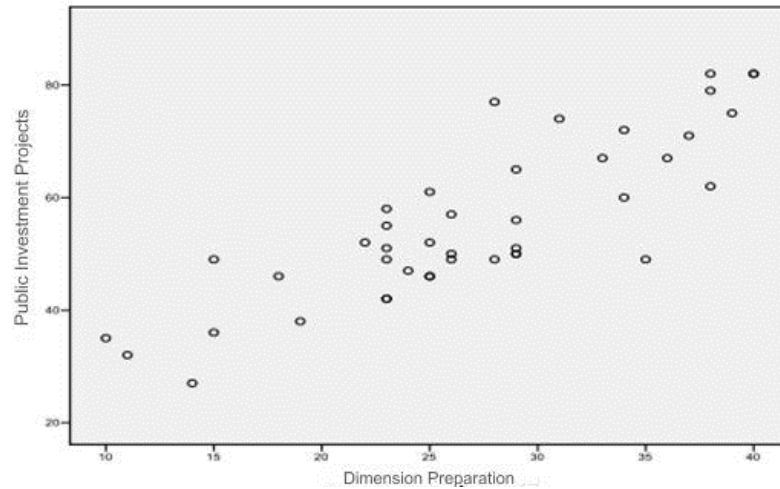


Figure 2. Scatter diagram between Preparation Dimension and Investment Projects Public

Figure 2 shows a clear positive association between the Participatory Budget Preparation (PP) dimension and Public Investment Projects (PIP). This association indicates that as preparedness in the PP process improves, there is also a corresponding improvement in the perception and effectiveness of PIPs. In other words, both variables tend to vary in the same direction, suggesting that stronger and more effective preparation under the PP contributes directly to the quality and success of public investment projects.

Table 6. Crossing variable PP dimension Concertación and PIP

		Public Investment Project			Total	
		Low	Half	High		
Dimension Concentration	Low	Count	1	2	2	5
		% within PIP	25,0%	8,3%	14,3%	11,9%
	Half	Count	3	21	4	28
		% within PIP	75,0%	87,5%	28,6%	66,7%
	High	Count	0	1	8	9
		% within PIP	0,0%	4,2%	57,1%	21,4%
Total	Count	4	24	14	42	
	% within PIP	100,0%	100,0%	100,0%	100,0%	

Note. PIP: Public Investment Project

In table 6, the Concertation dimension within the Participatory Budget (PP), it is highlighted that most respondents, with 54.8%, classify their experience at a medium level. This data becomes more relevant when its correspondence with Public Investment Projects (PIP) is examined. Specifically, for those who perceive the PP's agreement at a medium level, it is observed that a significant 79.2% also rate the PIPs at the same medium level.

This finding indicates a strong alignment between the perception of consensus in the participatory process and the evaluation of the performance of public investment projects. Concertation, which implies the ability of municipal authorities and citizens to reach agreements and commitments aligned with the objectives of local development, seems to have a direct impact on the quality and perceived effectiveness of the PIPs.

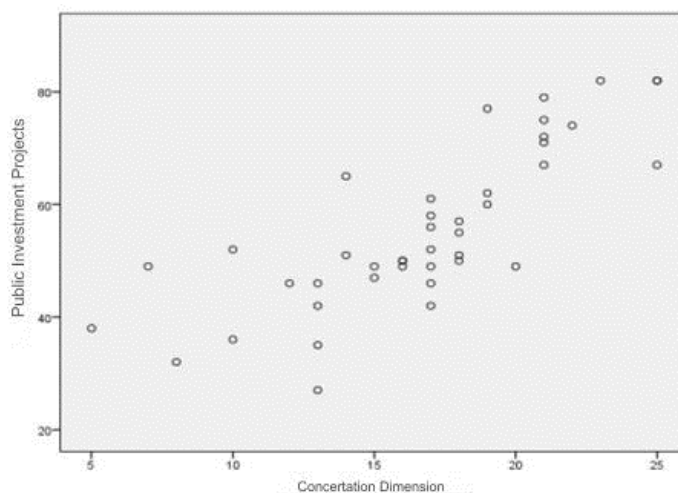


Figure 3. Scatter diagram between Concertation Dimension and Investment Projects Public

Figure 3 reveals a positive association between the Concertation dimension of the Participatory Budget (PP) and Public Investment Projects (PIP). This relationship indicates that, as the effectiveness of consultation within the PP increases, a parallel improvement is observed in the perception and execution of the PIPs. In essence, both variables vary in the same direction, which suggests that a more effective consultation process aligned with the needs of the community contributes directly to the quality and success of public investment projects.

Table 7. Crossing variable PP dimension Coordination between Levels and PIP

		Public Investment Project			Total	
		Low	Half	High		
Coordination Dimension between Levels	Low	Count	1	2	2	5
		% within PIP	25,0%	8,3%	14,3%	11,9%
	Half	Count	3	21	4	28
		% within PIP	75,0%	87,5%	28,6%	66,7%
	High	Count	0	1	8	9
		% within PIP	0,0%	4,2%	57,1%	21,4%
Total	High	Count	4	24	14	42
		% within PIP	100,0%	100,0%	100,0%	100,0%

Note. PIP: Public Investment Project

In the Coordination dimension within the Participatory Budget (PP), 66.7% of respondents consider that this is at a medium level. This level of coordination, which involves the integration and alignment of efforts between the different parties involved, is directly reflected in the Public Investment Projects (PIP), where 87.5% of the participants who perceive the coordination of the PP at a medium level also rate PIPs at the same level. This high percentage of correspondence suggests that the effectiveness of coordination in the PP is a crucial determinant for the perception of success in the PIP. Effective coordination ensures that different actors, both government and civil society, work in a synchronized manner, which is essential for the

effective implementation of public projects. When coordination is perceived as adequate, although not necessarily optimal, public investment projects tend to be better received and executed, which translates into greater community satisfaction.

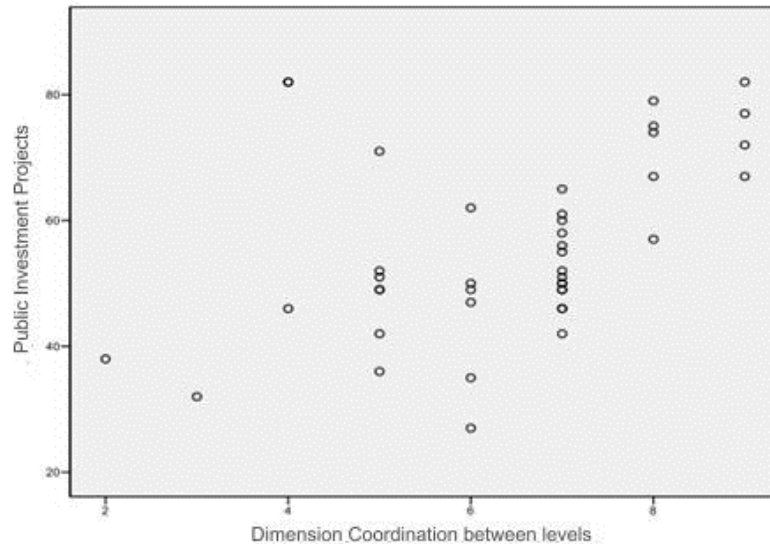


Figure 4. Scatter diagram between Coordination Dimension between levels and Public Investment Projects

Figure 4 shows a positive association between the Coordination dimension between levels in the Participatory Budget (PP) and Public Investment Projects (PIP). This association suggests that, as coordination between the different levels of government and other actors involved in the participatory process improves, there is also an improvement in the perception and effectiveness of PIPs. In other words, both variables tend to vary in the same direction, indicating that better coordination can contribute to more effective execution of public investment projects.

However, it is important to note that although the association is positive, the sparse shape of the point cloud suggests that this relationship is not particularly strong. This implies that, although there is a general trend that better coordination between levels is associated with better results in PIPs, other factors could be influencing the effectiveness of these projects, diluting the strength of this relationship.

Table 8. Crossing variable PP dimension Formalization and PIP

		Public Investment Project			Total	
		Low	Half	High		
Formalization Dimension	Low	Count	4	5	0	9
		% within PIP	100,0%	20,8%	0,0%	21,4%
	Half	Count	0	17	2	19
		% within PIP	0,0%	70,8%	14,3%	45,2%
	High	Count	0	2	12	14
		% within PIP	0,0%	8,3%	85,7%	33,3%
Total	Count	4	24	14	42	
	% within PIP	100,0%	100,0%	100,0%	100,0%	

In table 8, the dimension of Formalization of the Participatory Budget (PP), 45.2% of respondents classify their experience at a medium level. This perception of formalization, which includes adequate documentation and official monitoring of PP agreements and commitments, is significantly reflected in Public Investment Projects (PIP). Specifically, 70.8% of respondents who perceive the formalization of the PP at a medium level also rate the PIPs at that same level.

This high degree of correspondence indicates that the formalization of processes within the PP has a direct impact on the perception of the effectiveness and quality of the PIPs. Formalization is crucial to ensure that the commitments made during the participatory process are translated into concrete actions and that the

projects are executed according to plan. When formalization procedures are perceived as moderately effective, the resulting projects tend to reflect that same perception in terms of compliance and results.

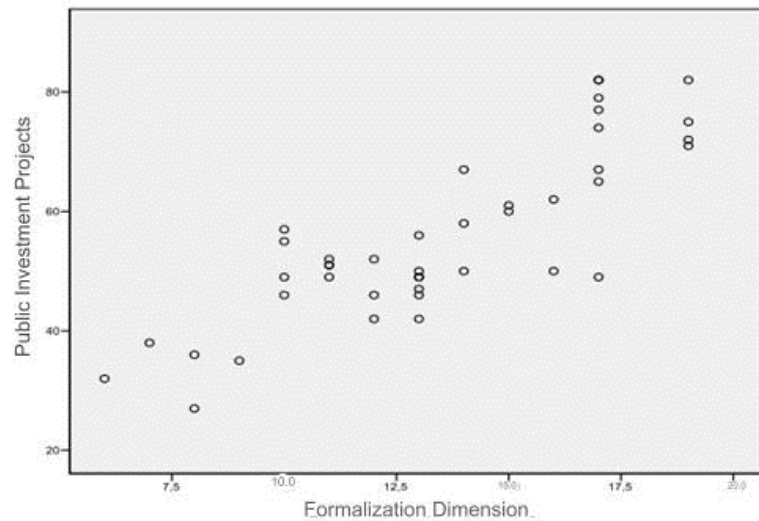


Figure 5. Scatter diagram between Formalization Dimension and Investment Projects Public

Figure 5 highlights a positive association between the Formalization dimension within the Participatory Budget (PP) and Public Investment Projects (PIP). This association indicates that as the formalization of processes in the PP improves, a corresponding improvement is observed in the perception and execution of PIPs. In other words, both variables vary in the same direction, which suggests that greater formalization in the participatory process contributes directly to the effectiveness and success of public investment projects.

DISCUSSION

The objective of this study was to analyze the relationship between the participatory budget (PP) and the effectiveness of public investment projects (PIP) in the Municipality of Anco Churcampa. The results obtained indicate that there is a positive and significant correlation between the perception of transparency in the PP and the perceived quality of the PIP. This finding suggests that when participatory processes are transparent and accessible to citizens, the execution of publicly funded projects is perceived more favorably. These results are in line with previous research that has demonstrated the importance of transparency in improving the effectiveness of public management.

Regarding the specific dimensions of the PP, such as preparation, agreement, coordination and formalization, the findings show that all of them have a significant impact on the perception of success of the PIP. The coordination dimension, in particular, proved to be a determining factor in the perception of the projects, which underlines the importance of close collaboration between the different levels of government and civil society in the participatory process. This finding is consistent with previous studies that highlight the need for effective coordination to ensure that projects reflect the true needs of the community.

The analyzes also revealed that the perception of the projects varies depending on the level of involvement in the PP process. Participants who were more involved in the preparation and decision-making stages tended to evaluate PIPs more positively. This highlights the importance of active and meaningful citizen participation in all stages of the process, from planning to implementation and monitoring of projects.

In terms of limitations, it is important to note that the study focuses on a single municipality, which could limit the generalizability of the findings to other regions or contexts. Furthermore, although the study design allowed significant correlations to be identified, its cross-sectional nature prevents establishing definitive

causal relationships between the variables studied. Future studies could benefit from a longitudinal approach to explore how changes in PP influence the perception of PIPs over time.

Finally, this study contributes to the existing literature by providing empirical evidence on the importance of participatory budgeting as a tool to improve transparency and effectiveness in the management of public investment projects. The findings highlight the need to strengthen participatory processes and ensure effective collaboration between all actors involved to maximize the positive impact of projects on local communities.

Limitation And Future Research Directions

Although the findings of this study provide valuable insight into the relationship between participatory budgeting (PP) and public investment projects (PIP) in the Municipality of Anco Churcampa, there are some limitations that should be considered when interpreting the results. First, the study was based on a cross-sectional design, which limits the ability to establish causal relationships between the variables studied. Although significant correlations are identified, the cross-sectional nature of the study prevents determining whether improvements in PP cause an increase in the effectiveness of PIPs. Future longitudinal studies could provide a clearer understanding of the causal relationships between these variables.

Second, the use of a structured questionnaire for data collection may have introduced response biases, as participants may have felt the need to provide socially desirable answers. Although measures are taken to ensure the confidentiality and accuracy of responses, the possibility of bias cannot be completely ruled out. Future studies could benefit from including more diversified data collection methods, such as in-depth interviews or focus groups, to complement the quantitative data and provide a more holistic view of participants' perceptions.

Furthermore, the study focused on a relatively small and specific sample from a single municipality, which could limit the generalizability of the findings to other contexts. Future research could explore the relationship between PP and PIP in different municipalities or regions, which would allow comparing results and evaluating the applicability of the findings in different settings.

Finally, although this study focused on the perceptions of authorities and civil society representatives, future research could include a broader range of actors, such as ordinary citizens and direct beneficiaries of public investment projects. This would allow a more complete perspective on how PP affects the satisfaction and perceived effectiveness of publicly funded projects.

CONCLUSION

This study offers an exhaustive exploration of the relationship between participatory budgeting (PP) and the effectiveness of public investment projects (PIP) in the Municipality of Anco Churcampa. The results confirm the importance of transparency and citizen participation in improving the perception and execution of the PIPs, underlining the solidity of the dimensions evaluated, such as preparation, consultation, coordination and formalization within the participatory process. Particularly notable is the positive correlation between greater transparency in the PP and a more favorable perception of PIPs, reinforcing the idea that well-structured participatory management is key to the success of publicly funded projects.

Furthermore, it was observed that participants more involved in the early stages of the PP, such as preparation and decision-making, tended to evaluate the PIPs more positively. This finding highlights the importance of encouraging active and meaningful participation in all phases of the process, from planning to implementation and monitoring of projects. On the other hand, the results revealed that effective coordination between different levels of government and civil society is a determining factor for the perception of success in PIPs, suggesting the need for closer collaboration to ensure that projects reflect the true community needs.

REFERENCES

- Abdullah, A. H., Razman, R., & Muslim, R. (2017). A Review on Critical Success Factors of Governance towards Sustainable Campus Operations. *IOP Conference Series: Materials Science and Engineering*, 226(1). <https://doi.org/10.1088/1757-899X/226/1/012057>
- Alscher, P., Ludewig, U., & McElvany, N. (2022). Civic Education, Teaching Quality and Students' Willingness to Participate in Political and Civic Life: Political Interest and Knowledge as Mediators. *Journal of Youth and Adolescence*, 51(10), 1886–1900. <https://doi.org/10.1007/S10964-022-01639-9>
- Arceneaux, C. L. (2022). Political Struggle in Latin America: The Impact of Globalization, Democracy, and Inequality. 1–44. https://doi.org/10.1007/978-3-031-07904-7_1
- Avellaneda, C. N., & Bello-Gómez, R. A. (2024). Handbook on subnational governments and governance. *Handbook on Subnational Governments and Governance*, 1–413. <https://doi.org/10.4337/9781803925370>
- Azevedo, R., Rocha De; Cardoso, R., Lopes, ; Cunha, A., Santos, M., Da, ; & Wampler, B. (2022). Participatory budgeting and budget dynamics in the public sector. *Revista de Contabilidade e Organizações*, 16, undefined. <https://doi.org/10.11606/issn.1982-6486.rco.2022.193141>
- Bátiz, M. L. G., & Arana, L. T. (2018). Participatory budgeting: A review of its study and development in Mexico. *Perfiles Latinoamericanos*, 26(52), 0–0. <https://doi.org/10.18504/PL2652-012-2018>
- Bayram Özdemir, S., Stattin, H., & Özdemir, M. (2016). Youth's Initiations of Civic and Political Discussions in Class: Do Youth's Perceptions of Teachers' Behaviors Matter and Why? *Journal of Youth and Adolescence*, 45(11), 2233–2245. <https://doi.org/10.1007/s10964-016-0525-z>
- BID, B. I. de D.-. (2018). Gasto público en América Latina registra ineficiencias de 4,4% del PIB: Estudio BID.
- Buele, I., Vidueira, P., Yagüe, J. L., & Cuesta, F. (2020). The participatory budgeting and its contribution to local management and governance: Review of experience of rural communities from the Ecuadorian Amazon rainforest. *Sustainability (Switzerland)*, 12(11). <https://doi.org/10.3390/su12114659>
- Cabannes, Y. (2015). The impact of participatory budgeting on basic services: municipal practices and evidence from the field. *Environment and Urbanization*, 27(1), 257–284. https://doi.org/10.1177/0956247815572297/ASSET/IMAGES/LARGE/10.1177_0956247815572297-FIG11.JPG
- Di Giorno, S., Dileo, I., & Busato, F. (2024). Shades of grand corruption among allocative efficiency and institutional settings. The case of Italy. *Socio-Economic Planning Sciences*, 93, 101911. <https://doi.org/10.1016/J.SEPS.2024.101911>
- Escamilla Cadena, A. (2019). Participatory budgeting at Mexico City: modalities and results. *Espiral (Guadalajara)*, 26(74), 167–200. <https://doi.org/10.32870/ESPIRAL.V26I74.7027>
- Filho, W. L., Abubakar, I. R., Mifsud, M. C., Eustachio, J. H. P. P., Albrecht, C. F., Dinis, M. A. P., Borsari, B., Sharifi, A., Levesque, V. R., Ribeiro, P. C. C., LeVasseur, T. J., Pace, P., Trevisan, L. V., & Dibbern, T. A. (2023). Governance in the implementation of the UN sustainable development goals in higher education: global trends. *Environment, Development and Sustainability*, 1–24. <https://doi.org/10.1007/S10668-023-03278-X/TABLES/3>
- G., A., & J., H.-K. (2017). Participatory budgeting: A methodological approach to address sustainability challenges.
- Harrison, T. M., & Sayogo, D. S. (2014). Transparency, participation, and accountability practices in open government: A comparative study. *Government Information Quarterly*, 31(4), 513–525. <https://doi.org/10.1016/J.GIQ.2014.08.002>
- Patterson, J., Schulz, K., Vervoort, J., van der Hel, S., Widerberg, O., Adler, C., Hurlbert, M., Anderton, K., Sethi, M., & Barau, A. (2017). Exploring the governance and politics of transformations towards sustainability. *Environmental Innovation and Societal Transitions*, 24, 1–16. <https://doi.org/10.1016/j.eist.2016.09.001>
- Policardo, L., & Carrera, E. J. S. (2018). Corruption causes inequality, or is it the other way around? An empirical investigation for a panel of countries. *Economic Analysis and Policy*, 59, 92–102. <https://doi.org/10.1016/J.EAP.2018.05.001>
- Suebvises, P. (2018). Social capital, citizen participation in public administration, and public sector performance in Thailand. *World Development*, 109, 236–248. <https://doi.org/10.1016/j.worlddev.2018.05.007>
- Zhao, B., Cheng, S., Schiff, K. J., & Kim, Y. (2023). Digital transparency and citizen participation: Evidence from the online crowdsourcing platform of the City of Sacramento. *Government Information Quarterly*, 40(4), 101868. <https://doi.org/10.1016/J.GIQ.2023.101868>