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Optimization of project management in public investment and provision of services for early childhood education institutions - Peru

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Abstract

The objective of the research is to improve the quality of education by providing better alternative solutions such as facilities, resources, and services to students and teachers. It is developed according to the Interpretative-Naturalistic paradigm, qualitative approach, basic type, descriptive level, and Phenomenological-Hermeneutic design. The participants make up a heterogeneous group, with the early education teachers of the different IE of the jurisdiction of UGEL 04, since it facilitated the permission for the respective interviews of the different teachers of the level in Management of public investment projects and service delivery in an Initial Educational Institution of Puente Piedra, 2022. The population consisted of 100 teachers from different early education institutions and the sample consisted of 40 participants, which was chosen for the convenience of the author. After this process, the reliability of the instrument was tested using a pilot test, and the data obtained were analyzed using Cronbach's Alpha statistical test, resulting in a value of 0.91, indicating that the instrument is in the excellent reliability scale. Statistics that helped to verify the research were elaborated.

Keywords: *Public management, public investment, service delivery, early childhood education.*

1. Introduction

Public investment projects are of great importance in education, as they allow for the construction and improvement of educational infrastructure, the acquisition of materials and equipment, and the implementation of educational programs and projects (Ugarte and Loaiza, 2023). In the case of initial-level educational institutions in Peru, these projects are especially relevant, as they contribute to guaranteeing access to quality education from the first years of life. In addition, investment in education is fundamental for the social and economic development of the country, as it allows the formation of critical and creative citizens who are committed to their environment (Carhuanayocc et al., 2022).

However, project management and service delivery in education present significant challenges. In many cases, they are faced with budgetary constraints, lack of training, and insufficient human resources (Morón y Limas, 2023). In addition, the lack of coordination among the different actors involved in project management and service delivery can lead to delays, inefficiencies, and quality problems. Therefore, it is necessary to implement

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effective strategies to optimize project management and service delivery in early childhood educational institutions. To achieve a more efficient management of public investment projects and service delivery in early childhood educational institutions, it is necessary to implement the following strategies:

- Strengthening the planning and monitoring of educational projects and services.
- Improved coordination among the different stakeholders involved in project management and service delivery.
- Training and education of human resources involved in project management and the provision of services.
- Implementation of systems for evaluating and monitoring the quality of educational projects and services.

These strategies can contribute significantly to improving the efficiency and quality of project management and service delivery in Peru's early childhood education institutions. By doing so, access to quality education from the earliest years of life can be guaranteed, which can have a positive impact on the country's social and economic development. Optimizing the management of public investment projects and the provision of services in early childhood education institutions is crucial for the development of education in Peru (Yaacoub et al., 2023). Despite the challenges in project management and service delivery, the implementation of effective strategies can lead to better results. The importance of public investment in education cannot be underestimated, and efforts must be made to ensure that these investments are managed efficiently and effectively. By prioritizing the optimization of project management and service delivery, Peru can make further progress in improving the quality of education for its citizens.

2. Materials and Method

In the present study, quantitative research, descriptive-correlational level, and non-experimental design were carried out; that is to say, the questionnaire was applied one for each variable and at a given time. The study was conducted with the early education teachers of the different IE of the jurisdiction of the UGEL 04, since it facilitated the permission for the respective interviews of the different teachers of the level in Management of public investment projects and service delivery in an Initial Educational Institution of Puente Piedra, 2022. The population consisted of 100 teachers from the different initial level IE and the sample consisted of 40 participants, which was chosen for the convenience of the author. For data collection, the observation technique, the survey, and the questionnaires were used as instruments to collect information directly and indirectly (Hernandez, 2018). The instruments were validated by the expert judgment technique, for which support was requested from three teachers with doctoral degrees in education to analyze each of the items of the instruments, with positive results, since they determined that the instrument developed was applicable (Ferreyra, 2022). After this process, the reliability of the instrument was tested using a pilot test, and the data obtained were analyzed using Cronbach's Alpha statistical test, resulting in a value of 0.91, indicating that the instrument is in the excellent reliability scale. On the other hand, the analysis plan of the present research was carried out in the following way, first a database was designed in Excel and stored in the drive taking into account the scores for each indicator. Finally, the conclusions reflect on how the gaps in the management of public investment projects the provision of services for educational institutions, and the proposals for improvement for educational institutions at the early childhood level in Peru are being addressed (Piza et al., 2019).

3. Results

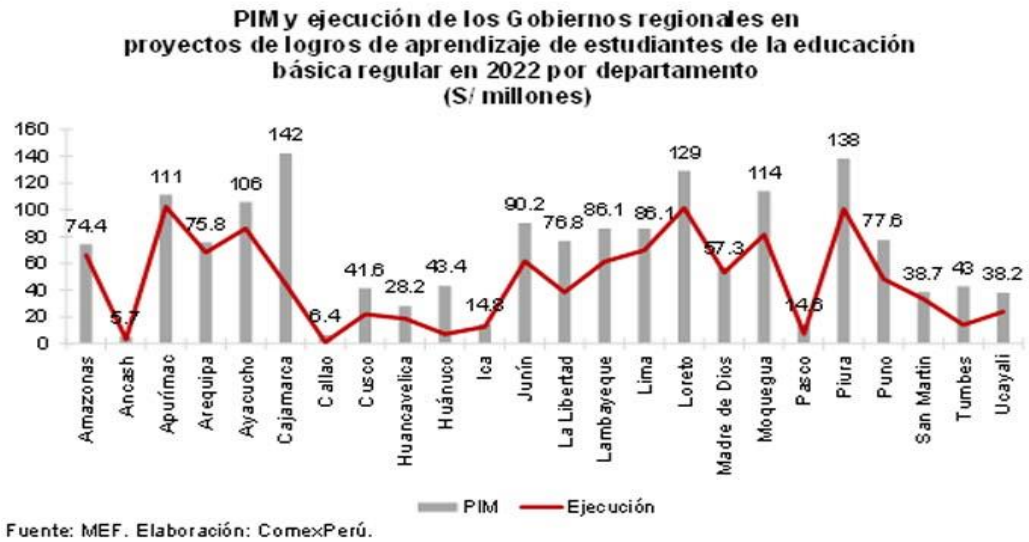
Public investment projects play a decisive role in providing the necessary infrastructure and services to educational institutions, especially at the pre-school level (Morón y Limas, 2023). These projects aim to improve the quality of education by providing better facilities, resources, and services to students and teachers. Educational institutions require a significant amount of investment to create an environment conducive to learning and development (Ugarte y Loaiza, 2023). It is therefore essential to ensure that public investment projects are optimized to achieve the desired results.

Optimization of public investment projects is crucial to ensure that the resources allocated to educational institutions are used effectively and efficiently (Carhuanayocc et al., 2022). Optimization involves identifying critical areas requiring investment, prioritizing projects, and monitoring project implementation to ensure that objectives are met. Optimization also helps to minimize wasted resources and reduce the time required to complete projects. This is particularly important in the context of educational institutions, where delays in project implementation can have a significant impact on student learning outcomes (Gomez-Sanchez-Soto et al., 2022).

Statistical results can be a valuable tool for optimizing public investment projects for educational institutions (Damonte et al., 2022). By analyzing data on past project performance, statistical methods can identify areas where improvements can be made, such as cost reduction, time management, and quality improvement. Statistical analysis can also help predict the results of future projects, which can aid in decision-making and resource allocation (Rivas-Delgado y Libaque-Saenz, 2022). The use of statistical results can lead to more effective and efficient management of public investment projects, resulting in improved service delivery to educational institutions and better learning outcomes for students (Valderrama, 2015).

Effective management of public investment projects is critical to ensure the provision of quality services in educational institutions at the early childhood level. In Peru, an analysis of investment processes and project management practices was conducted to identify areas for improvement and optimize the management of public investment projects (Nikolaichuk et al., 2023). The analysis revealed several key areas requiring attention and improvement, including project planning, budgeting, monitoring, and evaluation, as shown in Table1:

Table 1. PIM and Execution of regional governments in projects on learning of elementary education students in 2022 by Department (S/millions)



Note: Prepared by ComexPeru.

To address these challenges, statistical tools were implemented to improve the efficiency of public investment projects. For example, the use of statistical process control (SPC) was introduced to monitor and control project performance, identify variations, and make the necessary adjustments (Ivanov et al., 2023). This approach allowed project managers to identify potential problems early on and take corrective action before they became major problems. In addition, the use of statistical quality control (SQC) was implemented to ensure that project results met quality standards and specifications, as shown in Table 2, initial education has a low significance level in public investment project management.

Table 2. Initial education level in public investment project management.

LIMA 2022

LIMA: NUMBER OF EDUCATIONAL FACILITIES BY TYPE OF MANAGEMENT AND GEOGRAPHIC AREA, BY STAGE, MODALITY AND EDUCATIONAL LEVEL OFFERED, 2022

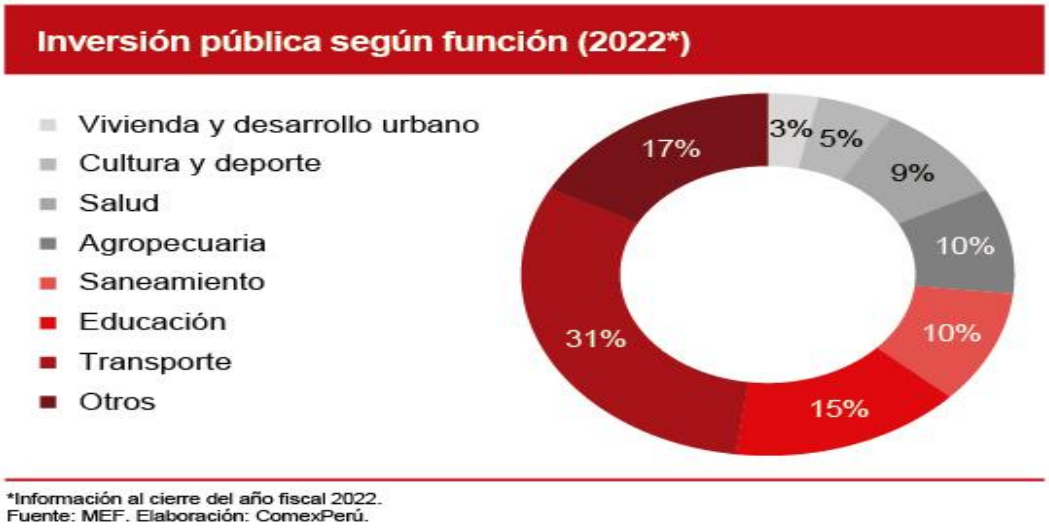
Stage, modality, and level of the IIEE working in the place	Total	Management		Area		Public		Private	
		Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
Total	**7.636**	**2.029**	**5.607**	**7.625**	**11**	**2.020**	**9**	**5.605**	**2**
Regular Basic 1/	**7.025**	**1.842**	**5.183**	**7.014**	**11**	**1.833**	**9**	**5.181**	**2**
Just inicial	2.185	790	1.395	2.183	2	788	2	1.395	-
Just Primary	512	214	298	511	1	213	1	298	-
Just Secondary	340	118	222	340	-	118	-	222	-
Initial and Primary	1.477	160	1.317	1.473	4	156	4	1.317	-
Primary and Secondary	802	340	462	800	2	339	1	461	1
Initial and Secondary	18	2	16	18	-	2	-	16	-
Initial, Primary, and secondary	1.691	218	1.473	1.689	2	217	1	1.472	1
Just Alternative Basic	**102**	**6**	**96**	**102**	**-**	**6**	**-**	**96**	**-**
Just Special Basic 2/	**90**	**69**	**21**	**90**	**-**	**69**	**-**	**21**	**-**
Just Productive-Technical	**236**	**76**	**160**	**236**	**-**	**76**	**-**	**160**	**-**
Just Sup. Non-University 3/	**179**	**35**	**144**	**179**	**-**	**35**	**-**	**144**	**-**
Pedagogical	28	1	27	28	-	1	-	27	-
Technological	146	31	115	146	-	31	-	115	-
Artistic	5	3	2	5	-	3	-	2	-

The implementation of statistical tools has yielded positive results in the optimization of public investment project management for educational institutions in Peru. For example, the use of SPC has resulted in a reduction in project cycle times and improved project results, while the use of SQC has resulted in higher-quality products (Gryzunova et al., 2022). These statistical tools have also enabled project managers to make data-driven decisions, leading to greater transparency and accountability in project management. Overall, the integration of statistical tools in project management has proven to be an effective strategy for improving the efficiency and effectiveness of public investment projects in Peruvian educational institutions (Damonte et al., 2022).

In recent years, there has been a growing focus on optimizing the management of public investment projects and service delivery for early childhood educational institutions in Peru. To achieve this objective, it is necessary to conduct a comprehensive analysis of the service delivery processes currently in place (Rivas-Delgado y Libaque-Saenz, 2022). This involves identifying key areas where improvements can be made to improve the quality and efficiency of service delivery. By understanding existing processes and identifying areas for improvement, it is possible to implement statistical tools that can help optimize service delivery and improve the outcomes of educational institutions (Ratigan, 2021).

One of the key areas for improvement identified in the analysis of service delivery processes is the need to streamline administrative procedures. This may involve reducing the amount of paperwork required for various tasks, simplifying bureaucratic processes, and implementing digital solutions to improve efficiency. By reducing administrative burdens, educational institutions can focus more on providing high-quality educational services to students, which is the ultimate goal of public investment projects (García et al., 2021), as shown in Table 3.

Table 3. Public investment by function (2022*)



Note: Prepared by ComexPeru

To implement these improvements effectively, statistical tools can be used to analyze data and identify areas where changes can be made to optimize service delivery. For example, statistical analysis can be used to identify trends in service delivery, such as areas where there are bottlenecks or delays. This information can then be used to implement specific improvements to address these problems and improve the overall quality and efficiency of service delivery (Oviedo et al., 2019). By using statistical tools to optimize service delivery, educational institutions can deliver improved student outcomes, which is critical to the long-term success of public investment projects (Medina, 2021). The optimization of public investment projects and services for educational institutions is decisive for the development of a country's educational system (Maraví, 2020). The use of statistical results has proven to be effective in identifying key areas for improvement and implementing efficient strategies. In Peru, the implementation of statistical tools has led to significant improvements in investment processes, project management, and service delivery for early childhood education institutions (Oviedo et al., 2019). Other countries must adopt similar approaches to optimize their public investment projects and services for educational institutions to ensure the provision of quality education for all.

4. Discussion

One of the key strategies to optimize the management of public investment projects and the provision of services for early childhood education institutions in Peru is to increase budget allocation and improve resource management (Li et al., 2021). Adequate funding is needed to ensure that these institutions have the necessary resources to provide quality education and services to students. This includes allocating funds for necessary infrastructure improvements, such as building repairs and upgrades, as well as investing in educational resources and materials (Komarynska et al., 2020). In addition, effective resource management is crucial to ensure that funds are used efficiently and effectively, avoiding waste and ensuring that resources are allocated where they are most needed.

Another strategy to optimize the management of public investment projects and service delivery for early childhood education institutions in Peru is to implement efficient project planning and execution processes. This includes developing clear project plans, timelines, and milestones, and ensuring that adequate resources are allocated to each project (Nhat y Dung, 2021). Effective project management can help ensure that projects are completed on time and within budget while ensuring that they meet the needs of

students and educators (Standaert et al., 2020). This can help ensure that educational institutions can provide the services and resources needed to support student success.

Strengthening collaboration and communication among stakeholders is also a crucial strategy for optimizing the management of public investment projects and service delivery for early childhood educational institutions in Peru. This includes fostering partnerships between educational institutions, government agencies, and other relevant stakeholders, such as community-based organizations and non-profit organizations. Effective communication and collaboration can help ensure that all stakeholders work towards a shared vision for education in Peru while ensuring that resources are used efficiently and effectively (Villanueva, 2021). This can help ensure that educational institutions can provide the services and resources needed to support student success while contributing to broader educational goals in Peru.

Optimizing the management of public investment projects and service delivery for early childhood educational institutions in Peru can be achieved through various strategies. Increasing budget allocation and resource management, implementing efficient project planning and execution processes, and strengthening collaboration and communication among stakeholders are crucial steps to achieve this goal. By implementing these strategies, the government can ensure that early education institutions receive the necessary resources and support to provide quality education to students. This will not only benefit the students but will also contribute to the overall development of the country.

5. Conclusions

The optimization of public investment project management and service delivery for educational institutions in Peru is a critical initiative aimed at improving the quality of education in the country. The project was initiated to address the challenges faced by educational institutions at the initial level, including inadequate infrastructure, insufficient resources, and inadequate service delivery. The project is an integral part of the government's efforts to improve the education sector in Peru and ensure that all children have access to quality education.

The objectives of the project are to improve the management of public investment projects and service delivery for early childhood educational institutions, increase the efficiency and effectiveness of public spending, and improve the quality of education in Peru. The project aims to achieve these objectives through a variety of activities, including the development of a comprehensive management system for public investment projects, the provision of technical assistance to educational institutions, and the implementation of capacity-building programs for relevant stakeholders.

Optimizing the management of public investment projects and the provision of services for Peru's educational institutions is of great importance for the country's development. Education is a fundamental human right and a key driver of economic growth and social progress. By improving the quality of education at the initial level, the project can contribute to reducing poverty, promoting social inclusion, and improving the country's competitiveness. The project is also aligned with the United Nations Sustainable Development Goals, particularly Goal 4, which aims to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all (Barcena et al., 2018).

The analysis of current management practices in public investment and service delivery projects for early childhood education institutions in Peru revealed several areas for improvement. One of the most significant findings was the lack of effective communication and coordination among the different stakeholders involved in these projects, which generated delays and inefficiencies. In addition, there were problems with

transparency and accountability of project management, with limited monitoring and evaluation mechanisms. These challenges highlighted the need for a more streamlined and integrated approach to project management in the education sector.

Through the identification of challenges and opportunities, several key areas for improvement were identified. One of the most important opportunities was the potential for greater collaboration and partnership among different stakeholders, including government agencies, educational institutions, and community organizations. By working together, these groups could leverage their resources and expertise to improve the quality and efficiency of public investment projects and service delivery. In addition, there was a need for greater investment in training and capacity building for project managers and other stakeholders to ensure that they have the skills and knowledge necessary to perform their roles effectively.

Based on these findings, proposed solutions and strategies were developed to optimize the management of public investment projects and service delivery for early childhood education institutions in Peru. These included the development of a comprehensive project management framework, with clear guidelines and standards for communication, coordination, monitoring, and evaluation. In addition, emphasis was placed on improving transparency and accountability in project management through the use of technology and data-driven decision-making. Finally, there was a commitment to invest in training and capacity building for project managers and other stakeholders to ensure that they have the necessary skills and knowledge to perform their roles effectively. These proposed solutions and strategies have the potential to significantly improve public investment project management and service delivery in the education sector in Peru, ultimately benefiting students and their communities.

To optimize the management of public investment projects and the provision of services for educational institutions in Peru, it is essential to implement the proposed solutions (Carhuanayocc et al., 2022). These solutions can include streamlining administrative processes, improving communication between stakeholders, and providing training and resources for project managers and service providers. It is crucial to ensure that these solutions are tailored to the specific needs and contexts of each educational institution, as well as the broader political and economic environment. By implementing these solutions, educational institutions can improve their efficiency and effectiveness in delivering high-quality services to students and communities.

In addition to implementing the proposed solutions, it is essential to monitor and evaluate the progress and results of the project. This monitoring and evaluation process should be ongoing, with periodic assessments of the project's impact on educational institutions and their communities. By tracking progress and identifying areas for improvement, stakeholders can make informed decisions about the direction of the project and allocate resources effectively. This monitoring and evaluation process should involve input from all relevant stakeholders, including educational institutions, government agencies, and community members.

Finally, to ensure long-term project success, it is crucial to prioritize continuous improvement and adaptation to changing needs. Educational institutions and project managers must remain attentive and responsive to emerging challenges and opportunities, including changes in the political and economic environment, technological advances, and evolving community needs. By remaining flexible and adaptable, educational institutions can continue to provide high-quality services that meet the changing needs of their students and communities. Periodic evaluations of project progress and outcomes can inform these adaptations, ensuring that resources are allocated effectively and efficiently.

It can be said that the Optimization of the Management of Public Investment Projects and Service Delivery for Initial Level Educational Institutions in Peru has been a crucial

project aimed at improving the management of public investment projects and service delivery for educational institutions. Through the analysis of current management practices, the identification of challenges and opportunities, and the proposed solutions and strategies, the project has provided valuable information on areas in need of improvement. Implementation of the proposed solutions, monitoring and evaluation of the project, and continuous improvement and adaptation to changing needs are recommended for future improvements in the management of public investment projects and service delivery of educational institutions in Peru. Overall, the project has been a significant step towards achieving better management practices and the provision of quality education for Peru's children.

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