

Comparative study of modernization of public management and maintenance program of Higher Education Institutes in a region of Peru

ABSTRACT

The objective of research was to determine the relationship between public management modernization and the maintenance program of higher education institutes in the La Libertad region, 2022. A basic research, quantitative approach, non-experimental design, causal comparative level, with a sample of 71 directors for public Higher Education institutes and 65 directors for private institutes. Results showed there is a significant ($p < 0,05$) and positive ($\rho = 0.757^{**}$) relationship between modernization of public management and maintenance program of Institutes. In conclusion, difference between two case studies is evident, since private case one has a better opportunity and comfort throughout process.

Keywords. State modernization, maintenance management, programac-management.

INTRODUCTION

At the global level, the Economic Commission for Latin America and the Caribbean ECLAC (2018) affirms that the institutional capacity of governments, that is, public administration, is based on processes of strengthening public management systems and human capital in the public sector. Undoubtedly, good public policies are complemented by strengthened public institutions. In countries such as Portugal and Spain, the modernization of public management has developed by leaps and bounds in recent times from the perspective of (Varela, 2021). The changes in an institutional branch are mostly positive when the objectives for which they were initiated are met. This does not escape the State as a welfare attorney of the population, materializing in public management towards the citizen, the problem lies when this management becomes inefficient and incapable of solving problems (Soledispa, Zea and Santistevan, 2020). Demanding the population a change not only of officials or personnel of public institutions but of the system in general, this eagerness to adapt public management to make it better is increasingly known as modernization of public management where it is considered that it is the responsibility of officials to know, understand and apply each pillar of the national policy of modernization of public management proposed by the State (Cárdenas and Sánchez, 2021).

In the last decade, the education system of all countries has prioritized policies for institutions to improve the quality of education, especially higher education (Kevans, 2020). Not being the only priority, in the world within the education sector points out that it is of great importance to have a quality infrastructure, which complies with the minimum parameters of resistance and current construction regulations to ensure the good protection of the physical and emotional integrity of students, teachers, administrators, and other people because they are the ones who are also exposed to a risk if an educational infrastructure is found in

deterioration (Tocto, 2021). Meanwhile, in the sphere of Latin America, they emphasize that in the State of Chile the modernization of public management was implemented since 1990, with important reforms in public administration oriented towards the managerial paradigms of the new public management such as implementing high-level platforms for the attention of citizens (Latina, Leal, Stecher and Soto, 2021), in addition, almost 70% of Chileans perceive that they have a better life than their parents had in income, housing and work (Bicentennial National Survey, 2018). Therefore, the new models of public management in Ecuador sought efficiency, transparency and citizen participation, taking into account the best practices of private management and adapting them to their environment (Barragán, 2022).

At the national level, where the last advance of the system of modernization of public management was Supreme Decree No. 004-2013-PCM, this policy establishes that modern public management is a results-oriented management understood as a management in which public officials are concerned with understanding the needs of citizens (**Executive order 004-2013-PCM, 2013**). At the same time in Peru, on the maintenance of the premises of higher education institutes, **Executive order 261-2020-EF** authorized the transfer of more than 14 million in favor of 25 regional governments for the financing of goods, services, conditioning and maintenance of infrastructure to institutes of higher education (**Executive order 261-2020-EF, 2020**).

This research is focused on modernizing public management and maintaining the premises of higher education institutes in the La Libertad region, where Regional Agreement No. 088-2021-GRLL/CR states that said government has the competence to adopt agreements that lead to the execution of urgent measures to meet the basic quality conditions for Higher Education Institutes in the department of La Libertad. However, it can still be observed that there are public management systems that do not have an organizational culture articulated and built on public values. Proof of this is that public institutions are practically subjugated by politics and their individual interests (Soto, 2021).

Problems that occur in the region of La Libertad, the main reasons being the non-observance of a modernization of public management in programs of maintenance of premises of institutes of higher education, that is, the regional government does not respond effectively to the needs or situations of infrastructure and public management that these educational premises require at the time, problems that are the subject of this study. **Thus, higher education institutes of La Libertad and its public management lack maintenance and modernization.**

The present study had a theoretical justification, because it provided and supported information on the current situation about the modernization of public management and maintenance program of the premises of institutes of higher education, based on a comparison according to the results obtained from other research carried out on workers in the area of public management and the maintenance of higher education premises at national and international level, which allowed to enrich the knowledge on the subject. At the social level, this research serves as evidence in the elaboration of guides associated with a modernization of public management that aim to improve the maintenance program of the premises of institutes of higher education, in such a way that the welfare of both public sector workers and

students and citizens in general is sought. those who receive this management as well as those who go to these study premises, being important elements when talking about the indicator of modernization of public management, since this population is the one who evaluates such attention (Hernández and Mendoza, 2018)

The practical implication of the study is given by its contribution through the measurement of instruments, which allowed to contrast results and take into account the needs of the premises of institutes of higher education in the La Libertad region, providing contributions for the modernization of public management in maintenance programs of the premises of institutes of higher education in the La Libertad region, thus avoiding a patrimonial detriment due to mismanagement and the implications that its corporate purpose entails in the improvement of public management for users. At the methodological level, the study presents a non-experimental cross-sectional correlational design. The instruments, methods, techniques and procedures may be useful for other studies that have similarity, in public or private institutions. In such a way that the research was carried out using one instrument on the modernization of public management and the other for the maintenance program of the premises of higher education institutes in the La Libertad region. Serving as a guide for future research (Hernández and Mendoza, 2018).

That is why the general objective of this research was: To determine the relationship between the modernization of public management and the maintenance program of the premises of higher education institutes in the La Libertad region, 2022. And, as specific objectives: Identify the level of modernization of public management of the premises of higher education institutes of the La Libertad region, 2022. Identify the level of the maintenance program of the premises of higher education institutes of the La Libertad region, 2022. Determine the relationship between open government and the maintenance program of the premises of higher education institutes of the La Libertad region, 2022. Determine the relationship between e-government and the maintenance program of the premises of higher education institutes of the La Libertad region, 2022. To determine the relationship between administrative simplification and the maintenance program of the premises of higher education institutes of the La Libertad region, 2022. Determine the relationship between the inter-institutional articulation and the maintenance program of the premises of higher education institutes of the La Libertad region, 2022.

METHODOLOGY

Type and design of research

Type of research

Research was basic, quantitative approach, non-experimental design, correlational, cross-sectional, descriptive, causal and comparative research:

Variables and operationalization

Variable 1. Modernization of public management

Conceptual definition

Supreme Decree No. 004-2013-PCM and Ministerial Resolution 125-2013 PCM, attributes to the set of policies aimed at modifying and innovating the organizations of the state starting from the highest level, to the grassroots organizations, in which the state has a scope for the attention of the citizen, trying to specify the policies governed by the government with the purpose of reducing poverty, Improve health and education through productive consensus and the environment in general.

Operational definition

This variable was operationalized through 4 dimensions: open government, e-government, administrative simplification and inter-institutional articulation. In order to determine the relationship between the modernization of public management and the maintenance program of the premises of higher education institutes in the La Libertad region. So it was necessary to apply a questionnaire consisting of 20 questions, with Likert-type answer options.

Variable 2. Maintenance Program

Conceptual definition

Norabuena (2021) refers to maintenance as the tasks necessary to ensure that working conditions meet quality parameters. Therefore, from the aforementioned and when analyzing the results, it is confirmed that the better the management of the supervision is developed and at the same time it is efficient in accordance with the established plans, it will be possible to have a higher degree of quality of the service on the maintenance in the educational facilities, thus generating that the students are satisfied with what is offered.

Operational definition

This variable was operationalized through 4 dimensions: design, programming, execution and evaluation. In order to determine the relationship between the modernization of public management and the maintenance program of the premises of Institutes of Higher Education in the La Libertad Region. Therefore, it was necessary to apply a questionnaire consisting of 20 questions, with Likert-type answer options.

Population, sample, sampling and unit of analysis

The population was made up of 71 directors of the Premises of Institutes of Higher Education of the La Libertad Region the public institutes, however, for the private one there was a population of 65 institutes in La Libertad.

Selection criteria

Inclusion criteria: in this criterion, the directors of public and private Higher Education Institutes in the La Libertad region have been selected for the period 2022.

Exclusion criteria: workers of public and private Higher Education Institutes in the La Libertad region have been excluded in the period, 2022.

The sample, because it is a small population, was considered a census sample with the 71 directors of the Premises of the Public Higher Education Institutes and 65 of the private Higher Education of the La Libertad Region 2022.

The sampling used was non-probabilistic at the convenience of the author, being a small population, choosing all the directors of the Premises of Institutes of Higher Education, both public and private, of the La Libertad Region 2022. The analysis was the Director of the Premises of Public and Private Higher Education Institutes of the La Libertad Region 2022.

Data collection techniques and instruments

In the present study, the technique to be used was the survey. The instrument was the questionnaire, made based on a set of closed questions that groups the dimensions considered for the variable, presents five answer options, for the assessment of the same was used the Likert scale.

The questionnaire corresponding to variable 1: Modernization of public management: groups 4 dimensions: open government, electronic government, administrative simplification and inter-institutional articulation. In order to determine the relationship between the modernization of public management and the maintenance program of the premises of higher education institutes in the La Libertad region, 2022. Therefore, it was necessary to apply a questionnaire consisting of 20 questions, with Likert-type answer options.

The questionnaire corresponding to variable 2: Maintenance program: groups 4 dimensions: design, programming, execution and evaluation. In order to determine the relationship between the modernization of public management and the maintenance program of the premises of higher education institutes in the La Libertad region, 2022. Therefore, it was necessary to apply a questionnaire consisting of 20 questions, with Likert-type answer options.

Validity and reliability

In this study, validity was performed through the criteria of three specialists.

Construct validity

Factor Analysis was used. Therefore, in order to verify the validation of the instruments, the following requirements must be met: the KMO adequacy calculation must exceed 0.5, the

Bartlett sphericity test at its significance level must be less than 0.05 and the commonality must be greater than 0.4.

Reliability

To perform the reliability of the instrument, a pilot test was used for which 20 directors of the Premises of Higher Education Institutes of the La Libertad Region 2022 were taken as a sample, the results were calculated in the statistical software SPSS V26 using the Cronbach's Alpha Coefficient test.

In the questionnaire applied to measure the modernization of public management, the Cronbach's Alpha Coefficient was used, a value of (0.942) and 0.949 was obtained for both institutes, which indicates that the instrument has a very acceptable level of reliability.

Similarly, for the maintenance program, a Cronbach's alpha of 0.917 and 0.937, respectively, was obtained for the public and private maintenance programs, specifying a high reliability that is considered acceptable.

Data analysis methods

Descriptive statistics: tables to distribute both the frequencies and the percentages of each variable and dimension.

Inferential statistics: the SPSS V26 statistical software was used, in which the Kolmogorov-Smirnov Test was calculated with a significance level of 5%, applied according to the sample size. While to contrast the hypotheses of the study, Spearman's Correlation Coefficient was used.

RESULTS

In Table 1, of the total number of directors of Public Higher Education Institutes, 29.6% focus on a modernization of poor public management; of which 16.9% is based on low level and 12.7% regular maintenance program; In addition, 45.1% are located at the regular level the modernization of public management, where 5.6% focus on low, 36.6% regular and 2.8% high; finally, 25.4% in a modernization of good public management; where 1.4% low, 12.7% fair and 11.3% high. On the other hand, it was possible to demonstrate the existence of a significant relationship between the correlation of the variables in public Higher Education, since a ($\rho=0.757^{**}$) was obtained and indicates a high positive correlation and a bilateral Sig. of 0.00 less than 5%, affirming the alternative hypothesis and refuting the H_0 .

Table 11. Cross table the modernization of public management and the maintenance program of the premises of institutes of Public Higher Education of La Libertad, 2022.

		ISTPUV2: Maintenance Program			Total	Spearman's Rho	
		Low	Regular	High			
ISTPUV1: Modernization of public management	Deficient	f	12	9	0	21	rs: 757** p: 0.000 N: 71
		%	16,9%	12,7%	0,0%	29,6%	
	Regular	f	4	26	2	32	
		%	5,6%	36,6%	2,8%	45,1%	
	Good	f	1	9	8	18	
		%	1,4%	12,7%	11,3%	25,4%	
Total	f	17	44	10	71		
	%	23,9%	62,0%	14,1%	100,0%		

In Table 2, of the total number of directors of Private Higher Education Institutes, 4.7% focus on a modernization of poor private management; of which 3.1% is based on low level and 1.6% regular maintenance program; In addition, 40.6% is located at the regular level the modernization of private management, where 1.6% focuses on low level, 29.7% regular and 9.4% high; finally, 54.7% in a good modernization of private management; where 15.6% regular and 39.1% high. On the other hand, it was possible to evidence the existence of a significant relationship between the correlation of the variables in private Higher Education, since a ($\rho=0.823^{**}$) was obtained and indicates a high positive correlation and a bilateral Sig. of 0.00 less than 5%, affirming the alternative hypothesis and refuting the H_0 .

Table 22. Cross table the modernization of public management and the maintenance program of the premises of institutes of Higher Education Deprived of Liberty, 2022.

		ISTPUV2: Maintenance Program			Total	Spearman's Rho
		Low	Regular	High		
ISTPUV1: Modernization of public management	Deficient	f 2	1	0	3	rs: 0.823** p: 0.000 N: 65
		%3,1%	1,6%	0,0%	4,7%	
	Regular	f 1	19	6	26	
		%1,6%	29,7%	9,4%	40,6%	
	Good	f 0	10	25	35	
		%0,0%	15,6%	39,1%	54,7%	
Total		f 3	30	32	65	
		%4,7%	46,9%	48,4%	100,0%	

Table 3, of the total of respondents who were part of the study, regarding the modernization of public management in the Institute of Public Technological Higher Education, it focuses with greater implication on the regular level with 45%, followed by 30% deficient level and 25% good; As for the most relevant Private Higher Technological Institute, it focuses on a good level with 55%, 40% regular and 5% deficient. Regarding the dimensions of open government with greater relevance is located in regular for the public institute of 58% and for the private 77% good, a great difference is evident. Similarly, in terms of e-government, 58% are at the regular level and 66% in the private sector. Likewise, in administrative simplification, 61% is located at the regular level and 55% good for the private institute, and finally in terms of the inter-institutional articulation with greater predominance is located in regular with 58% and 79% good in the private. It makes a big difference in both institutes, since in the private one there are better conditions.

Table 33. Level of modernization of public management of the premises of higher education institutes in the La Libertad region.

		V1: Modernization of public management		D1: Open Government		D2: E- Government		D3: Administrative simplification		D4: Inter- institutional articulation	
		f(i)	%	f(i)	%	f(i)	%	f(i)	%	f(i)	%
PUBLIC IST	Deficient	21	30%	7	10%	4	16%	5	7%	8	11%
	Regular	32	45%	41	58%	41	58%	43	61%	41	58%
	Good	18	25%	23	32%	19	27%	23	32%	22	31%
PRIVATE IST	Deficient	3	5%	3	5%	4	6%	4	6%	4	6%
	Regular	26	40%	12	18%	18	28%	25	39%	10	15%
	Good	36	55%	50	77%	43	66%	36	55%	51	79%

Regarding table 4, in the maintenance program with respect to the public technological higher education institute, with greater relevance it focuses on 62% at a regular level, however, in the private institute with greater relevance it is located high with 48%, in the same way in terms of dimensions, in the design with greater relevance it focuses on high with 48% and 79% for both institutes respectively, On the other hand, regarding the programming dimension with greater relevance, it focuses on a regular level at 56% and 49% at the same level respectively, in addition, in the execution with greater relevance it is located at the regular level and in the second with 60% at high; Finally, the evaluation with the highest incidence is 62% fair and 52% high, respectively.

Table 44. Level of the maintenance program of the premises of institutes of higher education of the regional La Libertad.

		V2: Maintenance Program		D1: Design		D2: Programming		D3: Execution		D4: Evaluation	
		f(i)	%	f(i)	%	f(i)	%	f(i)	%	f(i)	%
	Low	17	24%	4	6%	10	14%	15	21%	3	4%
PUBLIC IST	Regular	44	62%	33	47%	40	56%	34	48%	44	62%
	High	10	14%	34	48%	21	30%	22	31%	24	34%
	Low	4	6%	4	6%	5	8%	4	6%	6	9%
PRIVATE IST	Regular	30	46%	28	15%	32	49%	22	34%	25	39%
	High	31	48%	33	79%	28	43%	39	60%	34	52%

In Table 5, of the total number of directors of Public Higher Education Institutes, 9.9% focus on poor open government; of which 8.5% is based on low level and 1.4% regular maintenance program; In addition, 57.7% are located at the regular level of open government, where 15.5% focus on low, 40.8% regular and 1.4% high; finally 32.4% in a good open government modernization; where 19.7% regular and 12.7% high. On the other hand, it was possible to demonstrate the existence of a significant relationship between the correlation of open government and the maintenance program of the premises of institutes of Public Higher Education of La Libertad, since a ($\rho=0.654^{**}$) was obtained and that indicates a moderate positive correlation and a bilateral Sig. of 0.00 less than 5%, affirming the alternative hypothesis and refuting the H_0 .

Table 55. Cross Table of Open Government and Maintenance Program of Liberty Public Higher Education Institutes.

		ISTPUD1: Open Government			Maintenance Program Total	Spearman's Rho
		Deficient	Regular	Good		
ISTPUD1: Government	Deficient	f 6	1	0	7	rs: 0.654** p: 0.000 N: 71
		% 8,5%	1,4%	0,0%	9,9%	
	Regular	f 11	29	1	41	
		% 15,5%	40,8%	1,4%	57,7%	
	Good	f 0	14	9	23	
		% 0,0%	19,7%	12,7%	32,4%	
Total		f 17	44	10	71	
		% 23,9%	62,0%	14,1%	100,0%	

In Table 6, of the total number of directors of Private Higher Education Institutes, 4.6% focus on poor open government; of which it focuses on a low level of the maintenance program; In addition, 18.5% are located at the regular level of open government, where 1.5% focus on low, 15.4% regular and 1.5% high; finally 76.9% in a good open government modernization; where 30.8% regular and 46.2% high. On the other hand, it was possible to demonstrate the existence of a significant relationship between the correlation of open government and the maintenance program of the premises of institutes of Higher Education deprived of Liberty, since a (rho=0.671**) was obtained and indicates a moderate positive correlation and a bilateral Sig. of 0.00 less than 5%, affirming the alternative hypothesis and refuting the Ho.

Table 66. Cross table of open government and maintenance program of the premises of institutes of Higher Education Deprived of Liberty.

		ISTPUD2: Maintenance Program			Spearman's Rho	
		Low	Regular	High		
ISTPUD1: Government	Deficient	f 3	0	0	3	rs: 0.671** p: 0.000 N: 65
		% 4,6%	0,0%	0,0%	4,6%	
	Open Regular	f 1	10	1	12	
		% 1,5%	15,4%	1,5%	18,5%	
	Good	f 0	20	30	50	
		% 0,0%	30,8%	46,2%	76,9%	
Total		f 4	30	31	65	
		% 6,2%	46,2%	47,7%	100,0%	

In Table 7 of the total of the directors of the Institutes of Public Higher Education, 15.5% focus on poor e-government; of which 11.3% focus on a low level and 4.2% regular maintenance program; In addition, 57.7% are located at the regular level of e-government, where 11.3% focus on low, 43.7% regular and 2.8% high; finally 26.8% in a good e-government modernization; where 1.4% is at a low level, 14.1% fair and 11.3% high. On the other hand, it was possible to demonstrate the existence of a significant relationship between the correlation of electronic government and the maintenance program of the premises of institutes of Public Higher Education of La Libertad, since a ($\rho=0.669^{**}$) was obtained and that indicates a moderate positive correlation and a bilateral Sig. of 0.00 less than 5%, affirming the alternative hypothesis and refuting the H_0 .

Table 77. Cross table of e-government and maintenance program of the premises of Public Higher Education Institutes of Liberty.

		ISTPUD2: Program			Maintenance Total	Spearman's Rho
		Low	Regular	High		
ISTPUD2: Government	Deficient	f	8	3	0	11
		%	11,3%	4,2%	0,0%	15,5%
	E- Regular	f	8	31	2	41
		%	11,3%	43,7%	2,8%	57,7%
	Good	f	1	10	8	19
		%	1,4%	14,1%	11,3%	26,8%
Total	f	17	44	10	71	
	%	23,9%	62,0%	14,1%	100,0%	

rs: 0.669**

p: 0.000

N: 71

In Table 8, of the total number of directors of Private Higher Education Institutes, 6.2% focus on poor e-government; of which 4.6% focus on a low level and 1.5% regular maintenance program; Also, 27.7% are located at the regular level of e-government, where 1.5% focus on low level, 23.1% regular and 3.1% high; subsequently 66.2% in a good e-government modernization; where 21.5% is located at a regular level and 44.6% high. On the other hand, it was possible to demonstrate the existence of a significant relationship between electronic government and the maintenance program of the premises of institutes of Higher Education deprived of liberty, since a ($\rho=0.739^{**}$) was obtained and that indicates a moderate positive correlation and a bilateral Sig. of 0.00 less than 5%, affirming the alternative hypothesis and refuting the H_0 .

Table 88. Cross table of electronic government and the maintenance program of the premises of institutes of Higher Education Deprived of Liberty.

		ISTPUD2: Program		Maintenance	Total	Spearman's Rho
		Low	Regular	High		
ISTPUD2: Government	Deficient	f 3	1	0	4	rs: 0.739** p: 0.000 N: 65
		%4,6%	1,5%	0,0%	6,2%	
	E- Regular	f 1	15	2	18	
		%1,5%	23,1%	3,1%	27,7%	
	Good	f 0	14	29	43	
		%0,0%	21,5%	44,6%	66,2%	
Total		f 4	30	31	65	
		%6,2%	46,2%	47,7%	100,0%	

Table 9, of the total number of directors of Public Higher Education Institutes, 7% focus on poor administrative simplification; of which 4.2% focus on a low level and 2.8% regular maintenance program; Also, 60.6% are located at the regular level of administrative simplification, where 16.9% are adjusted at the low level, 42.3% regular and 1.4% high; subsequently 32.4% in a good modernization of administrative simplification; where 2.8% is located at a low level, 16.9% fair and 12.7% high. On the other hand, it was possible to demonstrate the existence of a significant relationship between administrative simplification and the maintenance program of the premises of institutes of Public Higher Education of La Libertad, since a ($\rho=0.653^{**}$) was obtained and that indicates a moderate positive correlation and a bilateral Sig. of 0.00 less than 5%, affirming the alternative hypothesis and refuting the H_0 .

Table 99. Cross table of the administrative simplification and maintenance program of the premises of institutes of Public Higher Education of La Libertad.

		ISTPUD2:		Maintenance		Spearman's Rho	
		Program		Total			
		Low	Regular	High			
ISTPUD3: Administrative simplification	Deficient	f	3	2	0	5	
		%	4,2%	2,8%	0,0%	7,0%	rs: 0.653**
	Regular	f	12	30	1	43	p: 0.000
		%	16,9%	42,3%	1,4%	60,6%	N: 71
	Good	f	2	12	9	23	
		%	2,8%	16,9%	12,7%	32,4%	
Total	f	17	44	10	71		
	%	23,9%	62,0%	14,1%	100,0%		

Table 10, of the total number of directors of Private Higher Education Institutes, 6.2% focus on poor administrative simplification; of which 4.6% focus on a low level and 1.5% regular maintenance program; In addition, 38.5% are located at the regular level of administrative simplification, where 1.5% are adjusted at the low level, 29.2% regular and 7.7% high; consecutively 55.4% in a good modernization of administrative simplification; where 15.4% is at a regular level and 40% high. On the other hand, it was possible to demonstrate the existence of a significant relationship between administrative simplification and the maintenance program of the premises of institutes of Higher Education deprived of liberty, since a ($\rho=0.793^{**}$) was obtained and indicates a high positive correlation and a bilateral Sig. of 0.00 less than 5%, affirming the alternative hypothesis and refuting the H_0 .

Table 1010. Cross table of the administrative simplification and the maintenance program of the premises of institutes of Higher Education Deprived of Liberty.

		ISTPUV2: Maintenance Program			Total	Spearman's Rho	
		Low	Regular	High			
ISTPRD3: Administrative simplification	Deficient	f	3	1	0	4	
		%	4,6%	1,5%	0,0%	6,2%	rs: 0.793**
	Regular	f	1	19	5	25	p: 0.000
		%	1,5%	29,2%	7,7%	38,5%	N: 65
	Good	f	0	10	26	36	
		%	0,0%	15,4%	40,0%	55,4%	
Total		f	4	30	31	65	
		%	6,2%	46,2%	47,7%	100,0%	

Table 11, of the total number of directors of Public Higher Education Institutes, 11.3% focus on poor inter-institutional articulation; of which 8.5% focus on a low level and 2.8% regular maintenance program; Likewise, 57.7% are located at the regular level of modernization of the inter-institutional articulation, where 14.1% are adjusted at the low level, 42.3% regular and 1.4% high; finally, 31% in a good modernization of the inter-institutional articulation; where 1.4% is at a low level, 16.9% fair and 12.7% high. On the other hand, it was possible to demonstrate the existence of a significant relationship between the institutional articulation and the maintenance program of the premises of institutes of Public Higher Education of La Libertad, since a ($\rho=0.699^{**}$) was obtained and that indicates a moderate positive correlation and a bilateral Sig. of 0.00 less than 5%, affirming the alternative hypothesis and refuting the H_0 .

Table 1111. Cross table of the inter-institutional articulation and the maintenance program of the premises of institutes of Public Higher Education of La Libertad.

		ISTPUD4: Maintenance Program			Spearman's Rho	
		Low	Regular	High		
ISTPUD4: inter-institutional articulation	Deficient	f 6	2	0	8	rs: 0.699** p: 0.000 N: 71
		% 8,5%	2,8%	0,0%	11,3%	
	Regular	f 10	30	1	41	
		% 14,1%	42,3%	1,4%	57,7%	
	Good	f 1	12	9	22	
		% 1,4%	16,9%	12,7%	31,0%	
Total		f 17	44	10	71	
		% 23,9%	62,0%	14,1%	100,0%	

Table 12, of the total number of directors of Private Higher Education Institutes, 6.2% focus on poor inter-institutional articulation; of which 4.6% focus on a low level and 1.5% regular maintenance program; Likewise, 15.4% are located at the regular level of modernization of the inter-institutional articulation, where 13.8% are adjusted at the regular level and 1.5% are high; finally, 78.5% in a good modernization of the inter-institutional articulation; where 1.5% is at a low level, 30.8% fair and 46.2% high. On the other hand, it was possible to demonstrate the existence of a significant relationship between the inter-institutional articulation and the maintenance program of the premises of institutes of Higher Education deprived of liberty, since a ($\rho=0.765^{**}$) was obtained and that indicates a moderate positive correlation and a bilateral Sig. of 0.00 less than 5%, affirming the alternative hypothesis and refuting the H_0 .

Table 1212. Cross table of the inter-institutional articulation and the maintenance program of the premises of institutes of Higher Education Deprived of Liberty.

		ISTPUV2: Program		Maintenance		Spearman's Rho	
		Low	Regular	High	Total		
ISTPRD4: inter-institutional articulation	Deficient	f	3	1	0	4	rs: 0.765** p: 0.000 N: 65
		%	4,6%	1,5%	0,0%	6,2%	
	Regular	f	0	9	1	10	
		%	0,0%	13,8%	1,5%	15,4%	
	Good	f	1	20	30	51	
		%	1,5%	30,8%	46,2%	78,5%	
Total		f	4	30	31	65	
		%	6,2%	46,2%	47,7%	100,0%	

DISCUSSION

Regarding the general objective, it was possible to show that there is a relationship between the modernization of public management and the maintenance program of the premises of the institutes of higher education in the La Libertad region, where it was possible to contrast the correlation of the variables in both Institutes of Higher Education, since it was obtained a ($\rho=0.757^{**}$) and (0.823^{**}) indicating a high positive correlation and a bilateral Sig. of 0.00 lower than the 5%. Therefore, the existence of the correlation between the variables is evident, that is, to an efficient or improvement of the modernization of the management located, there will be an improvement in the maintenance programs of the institutes. In addition, of the total of the directors of the Public Higher Education Institutes, 45.1% are located at the regular level of the modernization of public management, where 36.6% are located at the regular level in the maintenance program. However, of the total of the directors of the Institutes of Private Higher Education, 54.7% in a good modernization of private management; where 15.6% regular and 39.1% high.

These results are similar to those of Mota and Espejo (2020) that the analyzed data allowed to reference the influence of the NGP and the PNGP in the educational systems, evidencing the existence of a clear trend towards a standardized model of education, both in Brazilian and Spanish public education. For his part, Maguiña (2018) emphasizes that there is evidence of an association of a significance less than 0.05, therefore the null hypothesis is rejected, determining that the modernization of public management influences the administrative management of the Local Educational Management Unit 01, 2018. This is based on the definition that public government is the requirement towards an active relationship between

the State and citizens and this must guarantee valuable actions by promoting citizen participation, public transparency and other mechanisms (Muñoz, 2022).

From the point of view of Aguilar (2016) it is reinforced with the theory of the agency that implies the concentration on the problems related to the fact that contracts are issues of relevance to ensure the possibilities of assurance and effectiveness of administrative conduct, under competitions that allow competitiveness according to the availability of time. In the same way, according to Iguñiz (2015) emphasizes educational policy in modernization through the diversification of Peruvians, through rational, cultural aspects that allow the search for a clear educational vision with the inclusion and integral development of the characteristics of the human being. It is also fortified with the regulations of the law 485766 is understood as Modernization of public management to the processes and guidelines established in Supreme Decree No. 004-2013-PCM and Ministerial Resolution 125-2013 PCM.

Regarding the level of modernization of public management of the premises of higher education institutes in the La Libertad region, of the total of respondents who were part of the study, the modernization of public management in the Institute of Public Technological Higher Education, focuses with greater implication in the regular level with 45%, as for the Higher Private Technological Institute with greater relevance, it focuses on a good level with 55%. It focuses on the dimensions that are articulated with aspects of government such as open, electronic government, simplification and institutional articulation. Regarding the dimensions of open government with greater relevance is located in regular for the public institute of 58% and for the private 77% good, a great difference is evident. In the first institute it is evident that the processes of modernization of public management are not carried out properly, since sometimes it does not recognize the citizen as its purpose and its *raison d'être*, but on the contrary, and that personnel of officials are managed for each job that are suitable for each job, However, some are not prepared to respect ethical principles for issues of corruptibility, however, in the private sector the situation is different since they comply with the legal regulations of the State but the investment of all the modernization and implementation is borne by the investor, based on educational quality. Similarly, in terms of e-government, 58% are at the regular level and 66% in the private sector. It emphasizes that it is estimated that the staff has knowledge and experience for the development of their functions, through the adaptation of goods and provision of services of a social nature, which implies a quality service with warmth for the training of technical professionals who are competitive and capable of developing in the workplace. On the other hand, it should be noted that in this aspect it also implies the consideration of modern processes of production of goods and services. However, all these aspects in the private sector are different, since they consider their policies and strategies according to the type of service provided. In addition, according to Rodríguez de Caires, 2020, regarding the e-government dimension, it is based that it must have a core of transparency, citizen participation and collaborative participation in public management. In addition, it is defined by Fullin and Da Silva (2020) that attention is paid to citizens and that they can actively participate in decisions that will ultimately affect or influence them. Likewise, in the administrative simplification 61% is located at the regular

level and 55% good for the private institute, it is evident that the modernization of the state is in process for the optimization of administrative simplification and the implementation of technology and statistics to know the attention in an optimal way the needs of citizens in order to improve policies that allow a good development and achievement of the excellence of professionals, however in the private sector this aspect is already evident, since technological platforms are more updated and according to the forefront of technological advances.

In addition, in terms of the inter-institutional articulation with greater predominance, it is located in regular with 58% and 79% good in the private. It makes a great difference in both institutes, since in the private one there are better conditions, it is evident in this aspect that the modernization of management implies the control of citizenship, in a transparent manner, according to the budget allocation based on results, and that they must give priority to inclusion and equal opportunities policies, for the growth and personal development of citizens academically, in order to have better job opportunities and quality of life. However, in the private sector these aspects are already evident, since the personnel who provide the education are qualified according to the specialty that allows the performance of their functions in a rational technical manner through the development of activities in a personal way considering the quality and professional competitiveness. These results agree with that of Chenet et al. (2019) who after analyzing two institutes considers the difference significantly since the mean after applying the student's t test of mean difference applied to independent samples of the ISPP "La Salle" was obtained 2,187, was higher than that of the ISPP "José María Arguedas" of 1,783. This is supported by the definition of Novales (2022) who considers that the efficient solution can be a collaboration with an efficient distribution of risk, but also emphasizes the development of activities between the public and private sectors. However, Ugarte (2014), pointed out that the modernization of public management corresponds to the actions of change that must be carried out in public institutions, through sustained change in the procedures of planning, organization, process control according to the need to cover the urgencies of society.

Regarding the level of the maintenance program of the premises of institutes of higher education of the regional La Libertad, the maintenance program with respect to the public technological higher education institute, with greater relevance focuses on 62% at a regular level, however, in the private high with 48%, emphasizes the design, programming, implementation and evaluation. In the same way in terms of dimensions, in the design with greater relevance focuses on high with 48% and 79% for both institutes respectively, this allows staff training and that maintenance is done in a timely manner during the holidays and that is every year, however, the maintenance commission is not named at meetings. On the other hand, in the private sector, qualified personnel are sought to carry out maintenance in terms of designs, infrastructure and others, always in order to achieve the objectives. It is based on Leiton's (2015) that refers to a strong design, but must be planned oriented to be accessible to maintenance, this must be registered and documented. On the other hand, regarding the programming dimension with greater relevance focuses on a regular level in 56% and 49% at the same level respectively, it is evident that both the public and private establish institutional goals and have knowledge of the maintenance programming of

PRONIED, since they are focused on intellectual development in an ethical and social manner. considering the strategies to comply with the activities already scheduled during the academic year. Find your livelihood with that of Pérez (2021) that refers to a schedule of activities, depending on the planning of preventive maintenance in the short, medium and long term, and that is based on an order to perform the different activities.

In addition, in the execution with greater relevance it is located at the regular level and in the second with 60% high; In both cases the established hierarchies are clear and that the administrative spaces are implemented and equipped for the execution of maintenance that is carried out in the holiday seasons, for this qualified and competitive personnel are sought according to the established and operational conditions in the different functional classrooms both public and private. Find your livelihood, with the Human Development Center of Fundación Chile and financed by SOFOFA (2021) that the execution of the maintenance program is carried out effectively and efficiently the activities of the Maintenance program, respecting times and resources, according to the cycle. Finally, in the evaluation with the highest incidence it is located in 62% regular and 52% high, respectively. It is evidenced, the organizational continuity according to the agreements or designs established according to the functional positions for a good professional development, for this the teacher must be trained according to the requirement of each professional profile and that this allows the integration of the workers for the achievement of goals. It is reinforced with that of Caces (2019) that the evaluation of the maintenance of the educational premises, implies the consideration of the processes of strategic and operational planning, the infrastructure and computer equipment, the libraries, the same internal management of quality assurance. This is reinforced by that of Plasencia and Hidalgo (2021) who consider that they managed to evidence the existence of a relationship between the variables through Kendall's Tau-b = 0.561, and Rho = 0.754, (high positive relationship), that managerial competencies are directly and positively related to the change management of Public Technological Higher Education Institutes. all this is based on that of Norabuena (2021) that allows better environmental conditions in jobs and that they comply with quality parameters. Therefore, the existence of a higher degree of quality of service over maintenance in educational facilities is evident, thus generating that students are satisfied with what is offered (Qualitymant Group, 2020).

Regarding the existence of the relationship between open government and the maintenance program of the premises of higher education institutes of the La Libertad region, Table 12 shows the correlational contrast in both public and private Higher Education Institutes, since it was obtained a ($\rho=0.732^{**}$) and (0.669^{**}) and a bilateral Sig. of 0.00 less than 5%. Therefore, the existence of the correlation between dimension 1 and variable 2 is evident. In addition, results were obtained, in table 3, of the total of the directors of the Public Higher Education Institutes, 57.7% are located at the regular level of open government, where 15.5% focus on low level, 40.8% regular and 1.4% high; and in Table 4, of the total of the directors of the Private Higher Education Institutes, 57.7% were obtained in a regular open government modernization; where 11.3% low and 43.7% regular. It agrees with the results of, Vera (2019) that in the research the integration was achieved that allow to enhance the processes of continuous improvement and operation to act, acts as a dynamic axis and generate a favorable

and significant influence in the Ecuadorian public university. This finds its support with that of Coellar (2016) that the use of open governments implies the automation of processes and monitoring to make them more efficient according to the physical manipulation of documents with management results, operation and indicators.

Regarding the relationship between electronic government and the maintenance program of the premises of higher education institutes of the regional La Libertad, the correlational contrast in both Institutes of Higher Education both public and private, the existence of the correlation between dimension 1 and variable 2 is evident. On the other hand, in terms of statistics, of the total of the directors of the Institutes of Public Higher Education, 57.7% are located at the regular level of electronic government, where 11.3% focus on low level, 43.7% regular and 2.8% high; and in table 6, of the total of the directors of Private Higher Education Institutes, 66.2% in a good e-government modernization; where 21.5% is located at a regular level and 44.6% high. It is similar to the studies of Fajardo and Cervantes (2020) that the modernization of education in Colombia as a contribution of virtuality emphasizes the digital era, which allows the influence of ICT and that the objectives can be met. It is fortified with the theory of responsible government, which considers accountability to understand that the main challenge facing ethics is no longer the formal recognition of the existence of ethical values and principles in public life (Lima, 2015). Also, Vergara and Rincón (2017), specify that transparency is a key factor, because it is based on a relationship of trust between public and private entities and the governed society. On the other hand, Baca (2021) emphasizes that electronic government allows achieving social goals and objectives, through transparency and efficiency of the correct use of resources and goods that are had, based on two aspects, the first, to work under the format of capitalist power focused on the control of citizenship and the worship of politics; and the second, born of the mechanisms of power already established in the territory.

Regarding the relationship between administrative simplification and the maintenance program of the premises of higher education institutes of the regional La Libertad, the correlational contrast in both Institutes of Higher Education both public and private, evidences the existence of the correlation between dimension 1 and variable 2. Regarding the descriptive statistics, of the total of the directors of the Institutes of Public Higher Education, 60.6% are located in the regular level of administrative simplification, where 16.9% are adjusted at the low level, 42.3% regular and 1.4% high; however, in Table 8, of the total of the directors of the Private Higher Education Institutes, 60.6% in a good modernization of administrative simplification; where 2.8% low, 12.7% is at a regular level and 32.4% high. It agrees with Paredes (2020) that $\rho = 0.898$ was obtained, indicating that administrative management has essential tools that make it more effective at the Technical University of Ambato and allows optimization in the execution of processes, in order to increase the efficiency of the service received by students and teachers. Also, Maizondo (2020) in their results demonstrated that the modernization process has the purpose of providing quality in the service of attention to managers, teachers and users in general. this is strengthened by the conceptualization of the Organization for Economic Cooperation and Development (OECD,

2019), that administrative simplification is a tool that encourages innovation, increases entrepreneurship and improves public management by creating more effective procedures.

Finally, the relationship between the inter-institutional articulation and the maintenance program of the premises of higher education institutes of the La Libertad regional was determined, the correlation in both Institutes of Higher Education both public and private, because it was obtained a ($\rho=0.699^{**}$) and (0.793^{**}) and a bilateral Sig. of 0.00 less than 5%, respectively. Therefore, the existence of the correlation between D3 and V2 is evident. Similarly, in the descriptive table 9, of the total of the directors of the Institutes of Public Higher Education, 57.7% are located at the regular level of modernization of the interinstitutional articulation, where 42.3% regular. However, of the total number of directors of private higher education institutes, 55.4% are in a good modernization of inter-institutional articulation; where 15.4% is located in regular and 40% regular of the maintenance program. It has similarities with the results of Blas et al. (2022) that modernity allows an efficient State, recovers the trust of society and minimizes bureaucratic processes based on transparency and that there is an open government, accountability, access to information, and electronic government, are the most viable options for the modernization of the Peruvian State, as well as democratizing power, and it is also important to have better informed and more participatory citizens. And, on the other hand, with the results of García (2021), it does not agree since in the results a correlation >0.05 was obtained, therefore, there is no significant correlation between Academic Management and Infrastructure and Equipment. It finds its sustenance with the Critical theory of Public Ethics is empowerment, that is, it is about getting that, through giving binding force to the codes of Public Ethics. And, in addition, Bobadilla (2020) considers that inter-institutional articulation is a decision based on its recent greater use in the specialized literature referring to the public sector. It also focuses on the conceptualization of the Ministry of Education of Peru – MINEDU (2014), which refers to the maintenance of the premises as the tasks that must be established continuously in the facilities, buildings and furniture to guarantee their original conditions of quality, function and welfare of the school population.

CONCLUSIONS

He was able to show that there is a relationship between the modernization of public management and the maintenance program of the premises of the southern education institutes of the La Libertad region. A regular level of moderating of public management and a good level of moderation of private management were observed. The level of modernization of the public management of the premises of higher education institutes in the La Libertad region was both regular and good. Regarding the dimensions of open government, it is located in regular for the public institute and good for the private. As for electronic government, it is located at the regular level in the public Institute and in the private at a good level, administrative simplification, inter-institutional articulation are located in regular and good in the private. The level of the program of maintenance of the premises of institutes of higher education of the regional La Libertad, with respect to the institute of higher technological

education public focuses on a regular level, if not, in the private at a high level, emphasizes the design, programming, execution and evaluation. It was possible to demonstrate the existence of the relationship between open government and the maintenance program of the premises of higher education institutes of the La Libertad region. Se evidences the existence of the correlation between dimension 2 and variable 2. On the other hand, in terms of statistics, of the total of the directors of the Institutes of Public Higher Education, it is located at the regulatory level and the modernization of good electronic government. Se evidences the existence of the correlation between dimension 3 and variable 2. The total number of directors of public higher education institutes is at the regular and good level of administrative simplification. Se evidences the existence of the correlation between D4 and V2. Similarly, in descriptive terms, of the total number of directors of public higher education institutes, it is located at the regular level of modernization of inter-institutional coordination and a modernization of good inter-institutional articulation.

Ethical Approval and Consent:

In this study, the criteria established in the Code of Ethics in Research of the César Vallejo University (RVI N°0126-2017), code of ethics were considered, within which it is contemplated:

Autonomy: Practitioners participating in the research had the ability to choose their participation or withdrawal from the research at the time they requested it.

Professional and scientific competence: the researcher meets the appropriate levels of preparation as demanded by the research, which guarantee the scientific rigor of the research process.

Justice: equal treatment of the participants in the study was granted, without any exclusion, for the best development of the same.

Probity: we acted honestly throughout the investigation, presenting the results reliably, avoiding making alterations to them.

Respect for intellectual property: the researcher respected the intellectual property rights of the other researchers, avoiding committing total or partial plagiarism in the study, under the law of 28289 of article 219 of the penal code.

Responsibility: the researcher assumes the consequences derived from the acts of the research process carried out.

Informed written consent was obtained from Participants of the study.

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