

Impacts of Supervision, Information and Communication between Management Control and Administrative Management Procedures

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Abstracts: Supervision and Information and communication relate to control activities that are incorporated into control processes and operations for the purpose of evaluation and continuous improvement (CGR, 2016). It is an observational study of quantitative approach, causal explanatory level with a probability sample of 120 workers, which evaluate the measurement model and the construct of variables, whose data are analysed with PLS-SEM statistical tests. The measurement model assesses its applicability with the results of the validity and reliability indicators, which are above the threshold of 0.60 and 0.50. The evaluation of the structural model is carried out by means of the Bootstrapping inference statistical analysis. The results show that there are direct and indirect effects of supervision and information and communication of the mediation model, where the total direct effects of managerial control activities and administrative management performance coefficient $\beta_t=0.217$ and the total indirect effects are 0.491 and are highly significant.

Keywords: Monitoring, Management, Procedures.

1. INTRODUCTION

Internationally, the Internal Control System is an important tool that strengthens the management of business organizations (CGR, 2014), whose theoretical foundations were developed and published in the COSO report in the United States in 1992, where the following components are developed: control environment, risk assessment, control activities, information and communication and supervision (OLCEFSCT-BG, 2015), whose approaches have also been studied and their implementation has been recommended in state organizations. The department of studies and research of the CGR-Peru, establishes the SCI implementation model, where it indicates that the supervision component is incorporated into the processes and operations of the entity for purposes of evaluation and continuous improvement, (CGR, 2016) being fundamental to achieve effectiveness of the components of the other internal control components. In Peru, the CGR has developed extensive efforts since the years 2006, where the (Law No. 28716, 2006) Internal Control Law was given for public sector entities to perform evaluation of internal control, in addition to developing, approving and implementing for its operation, in order to strengthen management systems and its operational activities, to date these purposes remain latent, training, motivation within public servants are still not effective, the positive attitude towards compliance with internal control procedures continue to be deficient. The facilities of the Tacna Health Network belong to the public sector and must implement and develop management control activities, information and communication and supervision in the management of their administrative activities, considering that in many cases they are assumed by health care personnel whose understanding of them is scarce, causing their attitude not to be entirely positive, hence the deficiencies in the achievement of indicators in the management of human resources control activities, treasury and logistics, which are the administrative activities with limited supervisory actions and for the same reason, their performance is deficient, which motivates the present research with the purpose of evaluating the impact of supervision and information and communication on the level of compliance with internal control in the administrative managements with the approach of the SCI model of the public sector, (CGR, 2016).

Within the background of the study variables, there are many studies on the evaluation of internal control in

public entities such as (Mendoza W., Delgado M., Garcia T., Barreiro I., 2018), on "Internal control and its influence on the administrative management of the public sector, in Ecuador, determined that improving the internal control mechanisms in the administrative management allow improvements in the cycle of expenditures, approvals, execution and accountability those that are directly linked to the processes. of purchases, logistics, storage among others. (Zamarra, J.; Gutiérrez E., Castañeda, E., Pérez, D., 2020), evaluates the relationship of the audit opinion with the variation of the financial information, concluding that the correlation is high in the correction of information in the audit company, especially if the computer system BIG4 is used, which translates into the issuance of favorable opinions. As can be seen the application of information and communication systems in control actions is positive. (Manchaca, 2018), (Nuñez, 2018) study the Influence of internal control in administrative management where they confirm that internal control significantly and linearly positively influences the management of organizations in all its components. In the study of supervisory behavior on sustainable performance of employers, (Jiang M., Shuja I., Muhammad A., Shamim, Farooq A., Sikandar A., 2020), using PLS techniques, determined significant relationship between supervision and sustainable behavior of employees in SMEs companies. Likewise, managerial control guarantees the quality of information in financial management, as demonstrated in the study of "Accounting reconciliation and its impact on the quality of financial information in UE 009-Lambayeque" by (Castilo, 2022). The concurrent control actions are part of the independent managerial control, as they are the controls implemented by the people who exercise managerial control as part of their permanent functions in the processes and procedures of public or private management, states, (Paima, 2020) in the public management of the Amazonian Hospital of Yarinacocha", (Torres, 2022) in Health Centers of Callao in 2021, indicates that both variables are of great importance in institutional management and that they are closely related, found a high degree of functioning of internal control that influences administrative management at a high level, as (Blas, 2021) states that there is a high, positive and significant relationship in the internal control variable and administrative management ($Rho: 0.849; p < 0.05$), which concludes that the greater the internal control actions in the programming and procurement activities, the better the effectiveness and efficiency indicators in the procurement process of MINSA.

In the theoretical development of internal control, we have the publication in translation of the COSO I report, in the USA in 1992, many authors have extensively developed this theory, (COSO, 2013), (Estupiñan, 2017), where the main thing is that they have established the objectives of the implementation of internal control in an organization, these are to a) achieve effectiveness and efficiency in the internal operations of the company; b) achieve reliability and quality in financial reporting, c) compliance with established regulations and affecting the organization. Likewise, the five classic components of internal control have been established (Blas, 2021): control environment, risk assessment, internal control activities, information and communication, and supervision and monitoring. In the public sector internal control is defined as a set of measures, activities, plans, guidelines, standards, records, procedures and methods, including the environment and settings, developed by the authorities and their servants in order to avoid potential risks that may affect their activities and results (CGR, 2014).

Management Control Activities are related to those policies and procedures established by the entity to reduce risks that may affect the achievement of the entity's objectives (Law No. 28716, 2006). These are the control activities that must be implemented by those in charge of management or directorates, known as executive levels, whose controls are permanent, through the physical verification of documents, compliance with established standards and procedures, which must be implemented by the workers in their charge. The information and communication component indicates that these activities in administrative management are important to be implemented at all levels of the organization to conduct, manage and control operations, as well as to report information to reduce latent risks. In public entities, it includes the information (internal and external) that the entity requires for the performance of internal control responsibilities that support the achievement of its objectives (Law No. 28716, 2006), state entities must implement records, processing, integration and dissemination of information through the transparency portal. For timely information they must use comprehensive databases and computer developments, in the case of the public sector, for financial management it is the SIAF, for asset control it is the SIGA, among others. These IT tools provide reliability, transparency and efficiency to the entity's management processes and to the institutional ICS (Law No. 28716, 2006).

In the supervision and monitoring activities, (Estupiñan, 2017) indicates that they are implemented in all operations on an ongoing basis, including supervisory activities that allow directing or managing on an ongoing basis the performance of employees towards the achievement of institutional goals and objectives. In the study of (OGWIJI, J. and LASISI, I., 2022) on "Internal control system and fraud prevention of listed financial services companies in Nigeria: a PLS-SEM intelligent approach, shows us that internal control, is used to manage risk and prevent fraud and errors in order to avoid business losses and business liquidation. It is recommended, among other things, that the management of financial services companies should maintain the control environment used, the system of supervision and monitoring, as they have a greater effect on fraud prevention. Information and communication, Supervision, is related to the control activities that are incorporated into the company's control processes and operations for the purpose of evaluation and continuous improvement (CGR, 2016). Supervisory actions for compliance with controls and to performance, guide the individual to achieve their tasks and motivation to overcome their deficiencies (Jiang M., Shuja I., Muhammad A., Shamim, Farooq A., Sikandar A., 2020), therefore, the support of supervisory actions is fundamental in the achievement of management indicators.

The performance of administrative activities for the present study are the tasks entrusted or delegated to the Health Center staff to perform the functions of cashiering, procurement of goods and services, human resources, and human resources.

The administrative management of the Treasury-Cashier activities, procurement process of goods and services and control of human resources, in relation to the internal control activities, are the effectiveness in complying with the established control procedures. In the performance evaluation, the effectiveness indicators are measured, which is the degree of compliance with the proposed goals, to what extent the institution as a whole or a specific area meets its strategic goals without necessarily taking into account the resources available for them. On the other hand, effectiveness is a concept that only takes into account the degree of achievement of the proposed objectives (Bonney & Armijo, 2005). Performance refers to the proportion that arises between the means used to obtain something and the result obtained. The benefit provided by something, or someone is also known as performance (Julian Perez Porto and Maria Merino, n.d.), is a management indicator that is related to the achievement of the institutional mission, where with the scarce resources available, these are optimized to achieve the projected objectives. Responsibility means keeping commitments and being careful when making decisions or doing something. Responsibility is also the fact of being responsible for someone or something. On the other hand, responsibility is taking care of oneself and others in response to the trust that people place in each other. When we assume responsibility, we express the sense of community and the commitment we make to others (Meanings.com., n.d.).

In the case of the study conducted in health facilities, responsibility with health care users is fundamental because resources are scarce and demands are very high, therefore, the staff must be very sensitive, benevolent and humane in their daily care and take care of the scarce resources provided by the state.

According to the described fundamentals, the premise of the study is that in the internal control activities, the supervision (Z1) and information and communication (Z2) actions implemented in the organization influence the management control activities (X) and the achievement of the administrative management indicators (Y) of the facilities of the Tacna Health Network. The theoretical model corresponds to the evaluation of the mediating effect of two variables that form a construct, therefore, the two mediating variables govern the nature (i.e., the underlying mechanism or process) of the relationship between two constructs.

The mediating variables of supervision and information and communication (Law No. 28716, 2006) must be effective in order to have a positive impact on administrative management. 28716, 2006) have to be effective to achieve positive impact on administrative management and is an external or exogenous factor within the organization because the supervision activities are performed independently by personnel established to perform these activities on a regular and scheduled basis in order to ensure that the activities objectives and goals in the administrative gestation are met, likewise, the control activities of information and communication, (CGR, 2014) also acts as an external or exogenous factor, since these are implemented and processed by the organic unit of

information and communication, which has a hierarchical level equal to the administration management, who have the mission to manage the information programmed to communicate permanently for the decision making of the managers in the organization, so they are considered mediating variables between the variables management control activities and performance of administrative management that are causal factors that influence the achievement of performance indicators of administrative management and therefore the success of institutional achievements, which fit in the function of mediating variables according to (Bustamante, 2015).

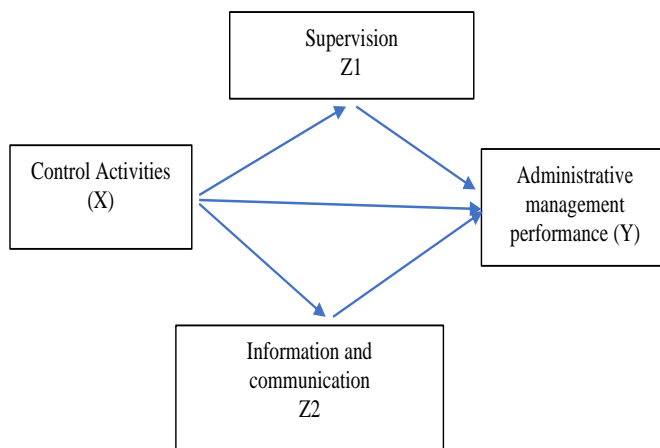


Figure 1: Diagram of the Theoretical Model structure with mediating variables.

2. MATERIEL AND METHODS

The type of study is observational of explanatory causal level since its data are analyzed according to their natural behavior, of transversal and projective design (Hernandez, 2003), due to the need to identify internal control procedures, evaluate them and propose a structural model of the functioning of internal control and administrative management, it is important to seek explanations of the behavior in the compliance of internal control in the performance of administrative activities.

The study population is the Tacna Health Network, which is an Executing Unit of the Tacna Health Region in Peru that is in charge of providing preventive and recuperative health services through health posts and centers, especially for patients affiliated to the SIS and those who do not receive private health care. They are organized into nine micro health networks for a total of 72 health facilities. The sample was purposive, and two health facilities were selected from the network: La Esperanza health center with 55 workers and Viñani health center with 65 workers, composed of health professionals and technicians and administrative personnel appointed and/or hired. They work within the labor regime of the public sector, their main obligations as public servants: a) Comply diligently with the duties imposed by the public service, b) Safeguard the interests of the state and use its resources with austerity, c) Attend punctually observing the established work schedules, d) Know and be trained in the work of the position to have a better performance, e) Have good treatment and loyalty to the public service, f) Keep absolute confidentiality of confidential information, g) Report any criminal or immoral act in the exercise of public service. They are in charge of the collection and control procedures of the directly collected resources (RDR), which is regulated by the DNTP of the MEF, (Directive No 001, 2020) for its management by the Cash Unit, as well as, the administrative functions of the procedures of the registration of commitment, accrued and paid in the SIAF-SP, in the Acquisition of goods and services of the UE-402-Health Network, regulated in the (Directive No. 002-2021, 2021). In all cases, prior and concurrent control must be carried out to implement the action of the accrual phase in the SIAF-SP. In addition, this rule regulates the issuance of purchase orders and services, receipt of goods and service conformity, the process of recording the accrual in the SIAF and prior control.

The techniques used to obtain the data are the survey with structured questionnaires, the review of documents of the internal control procedures in the activities of the administration management and the interviews for the introduction with those responsible for the organization and those responsible for the areas of human resources, logistics and financial management activities. The instruments were previously validated for their application in a pilot test to ensure that they would be objective, understandable and responsive to the characteristics of the activities of the health facilities. In causal explanatory social research, many investigations have been carried out using Smart PLS techniques, in the areas of personnel management, marketing and business management, such as the study by (Pedraza, 2020) "The climate and job satisfaction of human capital: differentiated factors in public and private organizations", which uses the causal explanatory observational method with the SEM-PLS methodology. As well as this study there are many more in the lines of business management: (Casillas S., Garcia A.; Cabezas M., Basilotta V., 2021), (Deqing,T; Junhui; B., 2015), (Gimeno, F.; Santos J.; Palacios M. and Garza, H., 2021).

Partial least squares structural equation modeling (SEM-PLS) is a statistical technique used to analyze multivariate variable relationships in order to test structural models of variables (Martines, M.; Fierro, E., 2018) for explanatory causal level studies, gives option to the analysis with an alternative, robust and more flexible approach to the traditional one. In the PLS-SEM technique, structural multivariate variables are analyzed (Bustamante, 2015) where mediating and moderating variables are given. The variable called mediator intervenes between two other variables that form related constructs (Fawad Latif, 2021). In this case, the influence of the supervision variable is analyzed in relation to the activities of administrative management in establishments of the Tacna Health Network, mediated by the effect of two variables: managerial control and information and communication where the effects of the relationship strength of both variables are analyzed. The data have been processed using the PLS-SEM technique (Martinez, 2018) the one used for complex studies of cause-effect variable relationships in order to explain the observed data and predictive analysis as the most relevant objective of the research. The data have been organized by each latent and formative variable in the Smart PLS 4.00 software, in this the empirical theoretical model raised in the study is designed, in order to verify if the data achieve reliability and validity of the model. The first step of the model is the evaluation of the measurement model, which was applied, and the results are shown in Table 1, which compose the determination of the reliability and trustworthiness of the research instruments, which are evaluated in Cronbach's alpha, these higher than 0.708 equal to the composite reliability, and the average extracted variance greater than 0.50, which are higher than the threshold established in this technique. These results show that the instruments are reliable and have validity for the study of the construct of variables proposed.

Table 1: Reliability and construct validity

	Alfa Cronbach	Composite Reliability	Variance extracted AVE
Management Control	0.862	0.895	0.549
Information and communication	0.862	0.898	0.597
Supervision	0.785	0.854	0.540
Administrative Management	0.900	0.918	0.528

Table 2 shows the results of the evaluation of the measurement model of the formative variables construct from P1 to P18, where the factor loadings are greater than 0.689 corresponding to the latent variables Management control (P1 to P7), Information and communication (P8 to P13), Supervision (P14 to P18) and administrative management (G3, G4, G8, G10, G12, G13, G15, G19, G22 and G23) the factor loadings of the dependent variables are higher than 0.649. The reliability results of Cronbach's alpha and composite reliability of all latent variables are higher than 0.785 > 0.708 and the variance extracted (AVE) are higher than 0.528 > 0.50. From the above results we can conclude that the measurement instruments of the variables are reliable and valid, as well as the measurement model designed for the structural model for the actions measuring Supervision and information

communication in the relationship of compliance with the activities of managerial control and administrative management performance, are consistent and the model works.

Table 2: Evaluation of the E_RST mediating variable and construct measurement model

Constructs latent	Formative variables							Reliability and construct validity		
								Alfa Cronbach	Composite Reliability	Variance extracted AVE
Management Control	P1 0.796	P2 0.731	P3 0.766	P4 0.708	P5 0.779	P6 0.678	P7 0.721	0.862	0.895	0.549
Information and communication	P8 0.659	P9 0.828	P10 0.840	P11 0.798	P12 0.695	P13 0.797		0.862	0.898	0.597
Supervision	P14 0.689	P15 0.697	P16 0.706	P17 0.753	P18 0.820			0.785	0.854	0.540
Administrative Management	G3 0.698	G4 0.682	G8 0.745	G10 0.743	G12 0.822	G13 0.762	G15 0.733	0.900	0.918	0.528
	G19 0.649	G22 0.680	G23 0.739							

3. RESULTS

The results of the research are described, for which the normality test is performed, where the variables analyzed do not have normal distribution ($p=0.000$), so the data will be analyzed using PLS-SEM techniques. Evaluating the behavior of the variables, the structural model of effects of mediating variables and the causal relationships of the variables managerial control and the performance of administrative management, testing the hypotheses raised.

3.1 Evaluation of the internal control activities of E_RST.

Table 3 shows the behavior of the internal control activities in the managerial control component, where 64.40% of the workers evaluate that management control activities are sometimes and almost always complied with, i.e. that authorization and approval procedures are complied with, the cost benefit is evaluated in the segregation of functions, the performance of workers and actions are controlled, there is a MOF where workers' responsibilities are established, the resources used or assigned are accounted for periodically and functions are segregated to minimize the risks of error or fraud. Information and communication activities, 78.80% of workers indicate that sometimes and almost always are fulfilled in those that are relevant and periodic that are established in the internal rules of the CS and national standards. In the supervision actions, 75.70% of workers indicate that they are sometimes and almost always complied with, i.e., that the managers and directors continuously implement prevention and monitoring actions, record and communicate deficiencies to the personnel, and prioritize deficiencies to overcome them. Employee self-evaluation is promoted for improvement actions. In the general average, internal control activities are developed or fulfilled in 72.30% sometimes and almost always, influenced by management control in 38.9%, Information and communication 33.30% and Supervision 27.80%.

Table 3: Evaluation of the performance of internal control activities E_RST

IC Component			Evaluation of internal control					Total
			Never	Sometime	Sometimes	Most of the time	Always	
Management Control	Frequency		26	242	328	213	31	840
	%		3.1%	28.8%	39.0%	25.4%	3.7%	100.0%

		%total	1.2%	11.2%	15.2%	9.9%	1.4%	38.9%
Information and Communication		Frequen cy.	23	114	336	231	16	720
		%	3.2%	15.8%	46.7%	32.1%	2.2%	100.0%
		% total	1.1%	5.3%	15.6%	10.7%	0.7%	33.3%
Supervision		Frequen cy.	15	103	285	169	28	600
		%	2.5%	17.2%	47.5%	28.2%	4.7%	100.0%
		% total	0.7%	4.8%	13.2%	7.8%	1.3%	27.8%
Total		Frequen cy.	64	459	949	613	75	2160
		% total	3.0%	21.3%	43.9%	28.4%	3.5%	100.0%

ERST= Establecimientos de Red Salud Tacna

3.2. Evaluation of Compliance with E_RST Administrative Management Indicators.

Table 4 shows the evaluation of administrative management indicators such as compliance with efficiency indicators, where 79.60% of the workers indicate that they comply with the established objectives and goals and that the personnel selection processes are rigorous and comply with the admission of personnel with competencies and capacities for the positions, as well as with information and communication of the activities of the health facilities in a timely and quality manner. In terms of performance indicators, 71.90% consider that the indicators established to measure performance, i.e., planning, programming, execution, achievement of goals and established objectives, are complied with in a regular to efficient manner and are reported periodically. In relation to the responsibility indicators, 78.90% of the workers state that the responsibility indicators assigned in the ROF and MOF are regular to efficient, especially with the attention to users and interpersonal relations among workers, they show commitment to perform their tasks, they apply themselves to know the institutional objectives to identify and improve strategies to achieve them. In the general results, it can be seen that the administrative management has levels of compliance from regular to efficient in 77.10%, where the efficiency indicators contribute 40%, performance 30% and responsibility 30%.

Table 4: Evaluation of compliance with administrative management indicators E_RST

GA indicators		Assessment of GA indicators					Total
		Very deficient	Deficient	Regular	Efficient	Very efficient	
Efficiency	Frequency.	11	59	212	170	28	480
	%	2.3%	12.3%	44.2%	35.4%	5.8%	100.0%
	% total	0.9%	4.9%	17.7%	14.2%	2.3%	40.0%
Performance	Frequency.	8	36	130	129	57	360
	%	2.2%	10.0%	36.1%	35.8%	15.8%	100.0%
	% total	0.7%	3.0%	10.8%	10.8%	4.8%	30.0%

Responsibility	Frequency.	7	54	173	111	15	360
	%	1.9%	15.0%	48.1%	30.8%	4.2%	100.0%
	% total	0.6%	4.5%	14.4%	9.3%	1.3%	30.0%
Total	Frequency.	26	149	515	410	100	1200
	%	2.2%	12.4%	42.9%	34.2%	8.3%	100.0%

3.3. Structural Model Evaluation

Table 5 shows the statistical results of the analysis of the direct and indirect effects of the mediation model of the latent variables of supervisory actions (S) and information and communication (IC) on the relationship between the variables managerial control (MC) and administrative management (AM). To contrast the hypotheses raised, the statistical results are calculated with the Smart PLS software, which determines the path coefficients (β) which allows us to know if the predictor variables contribute to the explained variance of the endogenous variable (VI) and the Bootstrapping analysis allows us to analyze the stability of the estimates with 5000 iterations, using the statistical inference test of Student's T, and determine the significance levels ($p < 0.05$), to predict if (β) is significant or not. Thus, the coefficients evaluated in the structural model are a) Standardized path coefficient (β); b) Coefficient of determination R^2 which is equal to β^2 and c) Effect size f^2 .

Table 5 Analysis of the direct and indirect effect of the Supervision and information and communication mediation model between managerial control and administrative management of E_RST

Hypothesis	Relation	β	SE (DS)	t value	p value	Confidence Interval 95%		R^2 B squared	f^2	Decision
						LI	LS			
	Direct effect									
H1	There is a relationship between management control and supervision	0.698	0.057	12.318	0.000	(0.574)	(0.796)	0.482	0.951***	Accepted H1
H2	There is a relationship between Management Control and Information and Communication.	0.678	0.063	10.689	0.000	(0.537)	(0.796)	0.460	0.851***	Accepted H2
H3	There is a relationship between Supervision and Administrative Management	0.293	0.095	3.094	0.002	(0.110)	(0.485)	0.086	0.120	Accepted H3
H4	There is a relationship between information and communication and administrative management.	0.421	0.084	5.014	0.000	(0.243)	(0.576)	0.177	0.260	Accepted H4

H5	Management Control and Administrative Management	0.217	0.072	3.016	0.003	(0.070)	(0.353)	0.047	0.068	Direct effect
	Indirect effect									
HG1	Management control Supervision Administrative management	0.205	0.073	2.819	0.005	(0.073)	(0.361)	0.042		Accepted HG
HG2	Management control Information and communication Administrative Management	0.286	0.064	4.431	0.000	(0.157)	(0.414)	0.082		Accepted HG
	Total indirect effect	0.491	0.078	6.254	0.000	(0.337)	(0.646)	0.241		Accepted HG

3.4. Hypothesis Testing

Table 6 shows the results of the statistical analysis using the statistical test (PLS-SEM) that determines the indirect effects of the mediating variables: Supervision and information and communication. This is the impact of supervision and information and communication actions on the relationship of managerial Control with administrative management performance, where the standardized path beta1 $\beta_1=0.205$ with standard deviation is 0.073, $t = 2.819$ and $p = 0.005 < 0.05$ which is highly significant, plus the impact of information and communication activities on performance, $\beta_2=0.286$ with $SD=0.064$, $t =4.431$ and $p=0.000 < 0.05$, which is also highly significant. In addition, the total direct effects of Managerial control activities and administrative management performance standardized beta coefficient is $\beta_t=0.217$ and $p=0.000 < 0.05$ and the total indirect effects show standardized coefficient is $\beta_t=0.491$ and $p=0.000 < 0.05$ which is highly significant, the statistical results analyzed, allow us to affirm that *supervisory actions and information and communication procedures are mediating variables that indirectly influence between the procedures of managerial control activities and the performance of administrative management in ERS-Tacna.*

Table 6: Results of Statistical Analysis (PLS-SEM) of mediation variables and total effect

Total effect (CG -> GA)		Indirect effect Total (CG -> GA)		Indirect effects						
B	P value	B	P value		β	SD	T value	P value	Confidence interval 95%	R ²
0.491	0.000	0.217	0.003	HG: CG->S -> GA	0.205	0.073	2.819	0.005	(0.073 -0.361)	0.042
				HG: CG ->IC->GA	0.286	0.064	4.431	0.000	(0.157-0.414)	0.082

Note: Managerial Control ->Supervision ->Administrative Management = CG->S -> GA

Management control ->Information and communication ->Administrative management = CG ->IC ->GA

3.5. Specific hypotheses proposed:

H1: There is relationship of managerial control with supervision.

H2: There is a relationship between managerial control and information and communication.

H3: There is a relationship between supervision and administrative management.

H4: There is a relationship between information and communication and administrative management.

3.5.1. Specific hypothesis 1:

Table 6 shows the statistical results of the direct relationship presented of managerial control activities with supervisory actions of ERS-Tacna, where the standardized beta coefficients is positive $\beta = 0.698$ with a standard deviation of 0.057; $t = 12.318$; and $p = 0.000 < 0.05$, which is highly significant and allows us to state that there is a direct relationship between managerial control activities and supervisory actions, also the $R^2 = 0.482$, which indicates that the strength of relationship between both variables is 48.20% which is moderate. The $f^2 = 0.951$, which indicates that the effect of managerial control on supervisory activities is very large.

3.5.2. Specific hypothesis 2:

Table 6 shows the statistical results of the direct relationship presented of managerial control activities with information and communication activities of ERS-Tacna, where the standardized beta coefficients is positive $\beta = 0.668$ with a standard deviation of 0.063; $t = 10.689$; and $p = 0.000 < 0.05$, which is very significant and allows us to affirm that there is a positive direct relationship between management control activities and information and communication activities, also the $R^2 = 0.460$, which indicates that the strength of relationship between both variables is 46.00% which is moderate. The $f^2 = 0.851$, which indicates that the effect of managerial control on CI is large.

3.5.3. Specific hypothesis 3:

Table 5 shows the statistical results of the direct relationship presented of supervision actions with administrative management activities of ERS-Tacna, where the standardized beta coefficients is positive $\beta = 0.293$ with a standard deviation of 0.095; $t = 3.094$; and $p = 0.002 < 0.05$, which is very significant and allows to affirm that there is positive direct relationship between supervision actions and administrative management activities, also the $R^2 = 0.086$, which indicates that the strength of relationship between both variables is 8.60% which is very low. The $f^2 = 0.120$, which indicates us that effect of S on GA is small.

3.5.4. Specific hypothesis 4:

Table 6 shows the statistical results of the direct relationship presented of information and communication activities with administrative management activities of ERS-Tacna, where the standardized beta coefficients is positive $\beta = 0.421$ with a standard deviation of 0.084; $t = 5.014$; and $p = 0.000 < 0.05$, which is very significant and allows us to affirm that there is a positive direct relationship between information and communication activities and administrative management activities, also the $R^2 = 0.177$, which indicates that the strength of relationship between both variables is 17.70% which is very low. The $f^2 = 0.260$, which indicates that the effect of CI on GA is moderate.

4. DISCUSSION OF RESULTS

In the evaluation of the general average of the descriptive behavior of the variable, it was found that internal control activities are developed sometimes and almost always, in 72.30% of which management control actions influence in 38.9%, information and communication activities in 33.30% and supervision in 27.80%.

The general objective is to determine the effects of supervision and information and communication actions as mediating variables between managerial control procedures and administrative management performance in facilities of the Health Network-Tacna, in the analysis it has been evaluated first the measurement model of the construct and then the structural model (Joe Hair; G. Tomas M. Hult; Christian M. Ringle; Marko Sarstedt, 2017), which according to the results obtained in Table 6, it is shown that the validity and reliability indicators of the construct are higher than the threshold of 0.60 of Cronbach's alpha and composite reliability, also the average

variance extracted (AVE) are also higher than the minimum of 0.50, likewise the factor loadings of all indicators of the variables: managerial control, Supervision, information and communication and Administrative management are higher than the minimum of 0.60, which shows that the mediating reflective variables: supervisory actions and information and communication activities within the comprehensive and strategic management of companies and public institutions should be implemented so that the formative variables Managerial control and Administrative management, (Zanoni, 2012). This Model is based on the theory of internal control established in the COSO report, which indicates that the component of control activities is developed through independent managerial control implemented by accredited managers of the organization in the process of administrative management, therefore, its activities are directly and significantly related (Mendoza W., Delgado M., Garcia T., Barreiro I., 2018). The monitoring supervision constructs developed effectively allow permanent evaluation of the activities within the planned and programmed guidelines (OLCEFSCT-BG, 2015) and information and communication activities allow establishing coordination actions and synchronized operations to perform the process operations those that contribute the achievement of institutional objectives (Luna,G, Alcibar F., Zalazar J.,Andrade C., 2019). It is also based on the theory of planned action, given that the components of internal control are acted by the accredited individuals and these depend on their attitude and behaviors towards the internal control practices established by the organization, thus (Ajzen I, and Maden, 1986) indicate, "that even if one has a favorable attitude towards a behavior, the probability of carrying it out depends, among other factors, on the perception of control by the individual over his conduct".

Following the SEM- PLS method, we evaluated the structural model of the impact of supervision and information and communication actions on the implemented managerial control procedures and administrative management performance, using Bootstrapping statistical inference analysis. Table 6 shows the statistical results of analysis of the direct and indirect effects of the mediation model, where the total direct effects of the activities of managerial control and administrative management performance the standardized beta coefficient is $\beta_t=0.217$ and the total indirect effects is $\beta_t=0.491$ and in both the $p\text{-value}=0.000 < 0.05$ which are highly significant, these statistical results allow us to conclude that *supervisory actions and information and communication procedures are mediating variables that indirectly influence between the procedures of managerial control activities and administrative management performance in ERS-Tacna.*

In addition, we tested the specific hypotheses, through the results of standardized Beta (β) and (R^2): where There is direct relationship of managerial control activities with supervisory actions, positive and highly significant and the strength of relationship is 48.20% which is moderate and effect ($f^2 = 0.951$), which is very large. There is a direct relationship between managerial control activities and information and communication activities, which is positive and highly significant where the strength of relationship is 46.00% which is moderate and the effect ($f^2 = 0.851$) which is large. There is a direct relationship between supervisory actions and administrative management activities, which is positive, highly significant and the strength of the relationship is 8.60%, which is very low, and the effect ($f^2 = 0.120$) is small. There is a direct relationship between information and communication activities and administrative management activities, which is positive and very significant, and the strength of the relationship is 17.70%, which is very low, and the effect ($f^2 = 0.260$) is moder.

These results are similar to the following research related to the subject, (Paredes, 2013) in his study "Evaluation of internal control..." concludes, it was identified in the five components of internal control in the study entity are in 58% implementation, in the study of (Mendoza W., Delgado M., Garcia T., Barreiro I., 2018), on "Internal control and its influence in the administrative management of the public sector, this influence has improved the performance of the execution of public resources, the internal control mechanisms in the administrative management, (Zanoni, 2012) in his thesis for master's degree, on "Internal Controls in the Plastics industry", proposes a structure of internal controls, based on the COSO methodology, which will achieve to improve a great competitive advantage, in the competitive plastics market. In the research of (Manchaca, 2018) on internal control and administrative management in the district municipality alto de la alianza de Tacna, where it shows that the use of internal control is regular and due to the regular control actions in administrative management where the "Organization" stands out, the study of (Nuñez, 2018) on influence of internal control in the management of private clinics in the districts of Puno and Juliana year 2016, where it shows that internal control significantly, directly and

positively influences the management of private clinics, whose operation is vital for the achievement of health care objectives of users, finally, in the study of supervisory behavior in the sustainable performance of employers (Jiang M. , Shuja I., Muhammad A., Shamim, Farooq A., Sikandar A., 2020), using PLS techniques, determined significant relationship between supervision and sustainable behavior of employees in SMEs, as well as conflict resolution have positive effect on the relationship of supervision and sustainable behavior of employees.

CONCLUSIONS

There are total direct effects of the activities of managerial control and administrative management established by the standardized beta coefficient of 0.217 and the total indirect effects is $\beta_t=0.491$ and in both the p value=0.000 < 0.05 which are positive and significant, which shows that the actions of supervision and the procedures of information and communication are mediating variables that influence in an indirect way between the procedures of the activities of managerial control and administrative management in the facilities of the Tacna Health Network.

There is a direct relationship between managerial control activities and supervisory actions, which is positive and highly significant, and the strength of the relationship is 48.20%, which is moderate and whose effect is very large ($f^2 = 0.951$).

There is a direct relationship between management control activities and information and communication activities, which is positive and highly significant, the strength of the relationship is 46.00%, which is moderate, and the effect is large ($f^2 = 0.851$).

There is a direct relationship between supervisory actions and administrative management activities, which is positive and highly significant; the strength of the relationship is 8.60%, which is very low, and the effect is small ($f^2 = 0.120$).

There is a direct relationship between information and communication activities and administrative management activities, which is positive and highly significant, and the strength of the relationship is 17.70%, which is very low, and the effect is moderate ($f^2 = 0.260$).

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