

## PROCEDURE TO EVALUATE THE LEVEL OF MATURITY AND EFFICIENCY OF THE INTERNAL CONTROL

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### SUMMARY

It is a substantial objective of the economic and social model of a nation that the business system is constituted by well-organized and competitive companies that generate maximum satisfaction for the population. The present research creates the bases for the evaluation of the Internal Control System, of obligatory fulfillment for all the entities, that creates diverse actions that will contribute to a better administrative and accounting control. Its objective is to provide information regarding the degree of progress in the implementation of the components of the Internal Control System in the business sector. The methodology used with an approach of the Socioeconomic Management Model, as well as the analysis of the results of the implementation of the internal control was obtained with the application of the evaluation form of the system, in a hospital entity, the results of the maturity and efficacy index. In general, they demonstrate a satisfactory and effective implementation of this system, becoming aware of and internalizing the importance of internal control as part of management, in order to achieve a more reliable entity whose service provides greater satisfaction to the citizen.

**KEYWORDS:** Internal control; Evaluation form; Socioeconomic Management Model; Hospital entity.

## INTRODUCTION

In the business system, the Socio-Economic Management Model (SEAM for its acronym in English) stands out for its contribution of added value to improving the efficiency of business decision-making systems in the core or heart of this model is the concept of integral quality (or integrated quality), which is a priority of this and the human factor as the lever to solve and improve the integral quality. The performance of the organization requires motor strategy, dynamic human potential and a control system of economic resources, aspect that is closely related to the Internal Control System (SCI), which for a long time its scope was limited to economic areas (areas of accounting and finance activities), the rest of the operational areas and in fact their workers did not feel involved. Not all managers of our organizations saw in the SCI a management tool capable of being used to achieve the effectiveness of the operations that had been proposed.

Currently the management of the SCI has evolved into a widely developed business function, studies on the subject, made in recent times (Moya Guerrero, 2005, Nieves Julbe, 2010, Aguilier Serrano, 2012, Espino Valdés, 2014, Vega de la Cruz y Nieves Julbe, 2015, Vega de la Cruz and Nieves Julbe, 2016, Naranjo Gil, 2016, Maciel, Stumpf & Kern, 2016), come together to recognize a set of factors of the first order, such as:

- The need for the SCI to be integrated into the development of the set of activities that are part of the mission of the organization, so that it is imbricated in the normal work processes and at the same time, it is identified as a continuous and singular process, becoming a system.
- The need for the objectives of the SCI to correspond and refer to the macro purposes of the organization, essentially linked to its efficiency and effectiveness
- The need to unify the meaning that the SCI has for all the members of the organization and other people involved.

This research analyzes the state of the SCI's performance in a business entity, based on the stipulations of the resolution that governs the SCI and proposes a model of maturity of the capacity of the company SCI management to measure its effectiveness

with the usefulness of it flourishing as a useful tool for diagnosing the current situation in companies in this area, also it allows to establish measurable improvement objectives, since the results are valued numerically and this facilitates the monitoring of the evolution of the level of maturity, the proposal responds to the latent need of business entities to improve their control system to achieve effectiveness in their operations.

## **DEVELOPMENT**

Internal Control System as a facilitating force in the Management Model Partner - Economic The existing resolutions in the SCI, establish the basic rules and principles of obligatory observance for the subjects of the actions of audits, supervision and control of that body, constituting a standard model of the SCI that is formed by five interrelated components, within the framework of the basic principles and the general characteristics; These are the following: Control environment, Risk management and prevention, Control activities, Information and communication and Supervision and monitoring, all structured in standards. The control environment component sets the guidelines for the legal and harmonious functioning of the bodies , organizations, organizations and other entities, for the development of the actions, reflecting the attitude assumed by the top management and the rest of the group in relation to the importance of the SCI. It is structured in the following standards: planning, annual work plans, monthly and individual (P), integrity and ethical values (IV), demonstrated suitability (I), organizational structure and assignment of authority and responsibility (EO), policies and practices in the management of human resources (HRP). The component Management and prevention of risks establishes the bases for the identification and analysis of the risks that the organs, organisms, organizations and other entities face to reach their objectives. The component is structured in the following standards: risk identification and change detection (IRDC), determination of control objectives (OC) and risk prevention (PR). The control activities component establishes the policies, legal provisions and procedures of control necessary to manage and verify the quality of the management, its reasonable security with the institutional requirements, for the fulfillment of the objectives and mission of the organs, organisms, organizations and other entities. It is structured in the following rules: coordination between areas, separation of tasks, responsibilities and levels of authorization © documentation, timely and adequate registration of transactions and events (D): restricted access to

resources, assets and records (AR) , rotation of personnel in key tasks (PR), control of information and communication technologies (ICT) and performance and performance indicators (Ide). Recent studies improve management control tools (Pérez Lorences and García Ávila 2014). The Information and communication component requires that bodies, organizations, organizations and other entities must have timely, reliable information and define their information system appropriate to their needs. characteristics. It is structured in the following standards: information system, flow and communication channels (SI), content, quality and responsibility (CCR) and accountability (RC). The component Supervision and monitoring is aimed at the detection of errors and irregularities that were not detected with the control activities, allowing to make the necessary corrections and modifications. It is structured in the following standards: evaluation and determination of the effectiveness of the SCI (E) and prevention and control committee (CP). In the Socio-Economic Management Model it is stated that performance is not achieved only with good ideas of human potential, also needs control, ie self-control combined with a reporting system, based on this statement in this article emphasizes the need for the evaluation is made by comparing the situation of the organization evaluated with the scenarios for each one of the nineteen SCI standards described above, which allows visualizing the level of maturity reached and establishing or updating the strategies, policies and guidelines necessary to achieve it, as well as improving the management style. These elements of this system are taxed transversally in the SEAM, by avoiding the production of five hidden costs (absenteeism, work accidents, staff turnover, product quality and direct productivity) as the elements of the control environment allow to treat absenteeism. and accidents at work, on the other hand, one of the rules of the Control activities is responsible for the rotation of personnel and the behavior of these three costs impact on the direct productivity and quality of the products, these latter costs are supported in the evaluation of performance, Management and prevention of risks and Supervision and monitoring.

### **Procedure for the evaluation of the level of maturity and effectiveness of internal control**

Estimated time for the realization of this evaluation it can vary from one to two weeks depending on the size and complexity of the business entities and the knowledge of this by the Prevention and Control Committee. The term efficacy has been addressed by several authors such as Doimeadiós Reyes and Rodríguez Llorian, 2015; Monteoliva, Ison and

Pattini, 2014, this being the degree to which the objectives and goals of a plan are achieved, that is, how much of the expected results were achieved. Effectiveness requires concentrating the efforts of an entity in the activities and processes that really must be carried out for the fulfillment of the objectives formulated specifically for the effectiveness and maturity of the internal control. The proposed procedure is proposed (figure 1) conformed by three phases and seven steps to determine the level of maturity and effectiveness of the SCI, this is explained below.

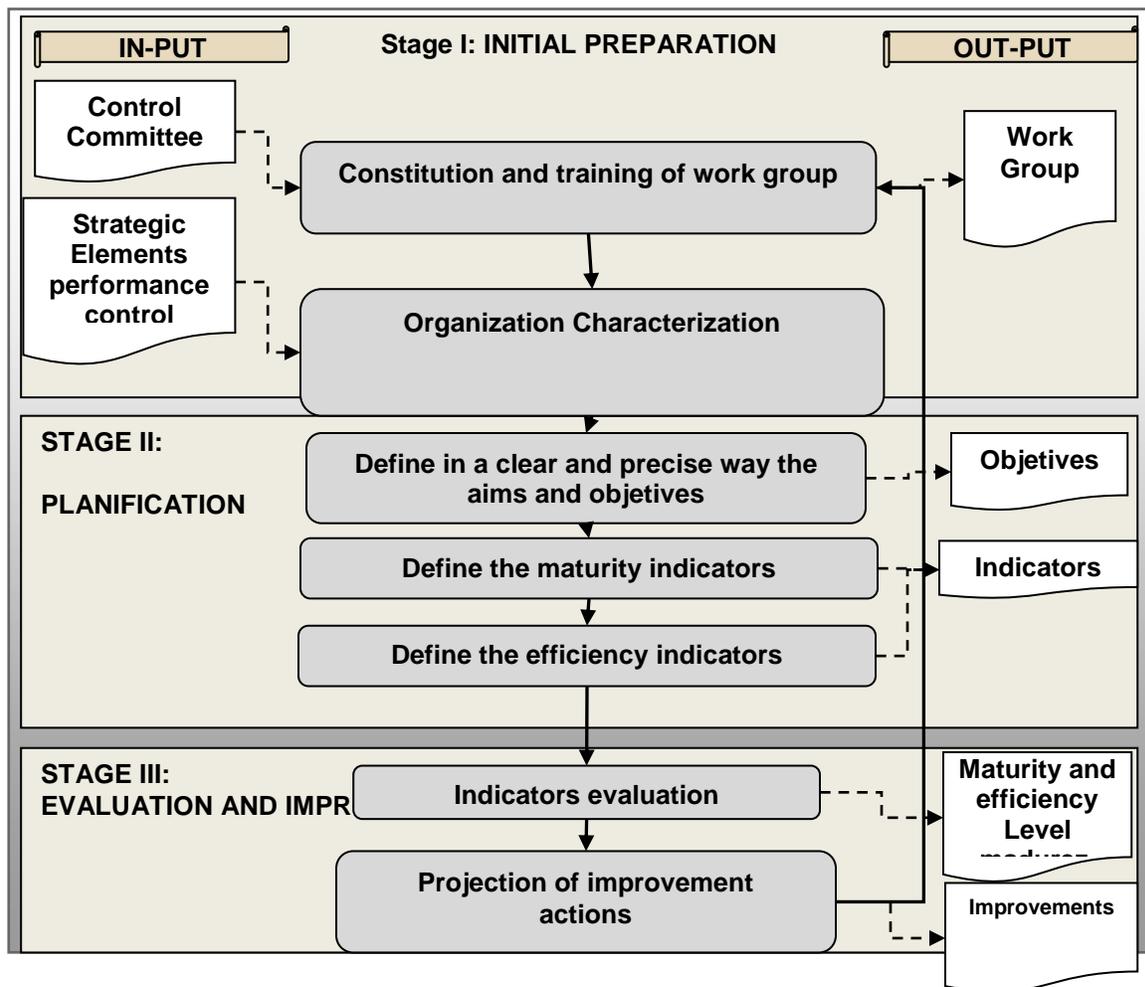


Figure N° 1. Tool to evaluate the maturity and efficiency level of internal control  
Source: Own Elaboration

## **Stage I. Initial preparation of conditions**

It is necessary for the correct application of the procedure to achieve the commitment and need of the management to improve its internal control system.

Objective: create the conditions for the implementation of the evaluation procedure, with the constitution of the work group, the assurance of the starting conditions, the characterization of the entity and establish the indispensable requirements to develop the validation of the procedure as well as to enable familiarization with its particularities and allow a closer approach to its organizational culture.

### **Step 1. Constitution of the work team**

Content: To constitute the work group to evaluate the level of maturity and effectiveness of internal control, it is recommended that the work group should:

be composed of a team of 7 to 15 people, with the participation of the members of the board of directors and a representation of all the areas of the entity that make up the prevention and control committee. have trained people (appoint a head of the work group) in management tools, management control, performance evaluation, which can guarantee the diversity of knowledge of team members.

Through brainstorming and group work, the design schedule of the internal control evaluation system is drawn up and approved, its initial tasks will be linked to the training of the work group.

### **Step 2. Characterization of the Organization**

Content: Define elements that characterize the business entity, a brief historical review, strategic elements, organizational structure, management levels, and existing processes are recommended, as well as analyzing key elements for the evaluation as results of the self-control Guide issued by the governing body of the SCI, performance evaluations and management indicators of the entity.

## **Stage II. Planning**

Once the vital elements to develop the evaluation have been defined, evaluation planning is carried out where the objectives, activities and tasks are specified; we need to know how to measure the level of maturity and effectiveness of internal control. In all cases, senior management will be responsible for measuring these indicators.

Objective: determine how to measure the levels of evaluation of the indicators.

### Step 3. Define specific goals and objectives in the evaluation

Content: the specific objectives of the evaluations to be carried out in this procedure are defined in order to verify to what extent the desired state of the procedure is achieved, making it possible to avoid that it passes to the implementation phase with an erroneous model, these are:

1. Define those elements of internal control to which the degree of maturity will be determined.
2. Determine the degree of maturity and current effectiveness of the defined elements.
3. Establish the gaps between the current and desired state.
4. Establish a diagnosis and recommendations on the state of internal control capacity in the company.

### Step 4. Define maturity indicators using the evaluation form (table N ° 1)

**Table N° 1. Evaluation Form**

Tool to measure maturity and efficiency level of internal control		
Environment Control		
<b>Plans for yearly monthly and individual, work plans</b>	One does not have an Institutional Strategic Plan, nor yearly, monthly or individual, development plan carried out individually.	0
	One has an Institutional Strategic Plan, if it corresponds to the monthly and individual plan, approved and or up dated, also the general office of planning or Budget or equivalent has developed directives and procedures, but does not have with approved procedures for its follow up and evolution, so it is not carried out.	20
	The institutional strategic, yearly, monthly or individual plans contain the development of the indicated methodology, mission, vision, strategic guidelines, general and specific objectives, there are also follow up and evolution activities (reports of half yearly or yearly) but the reports are not handed over to the head nor to the upper management.	40
	It complies with option 2 and also has a monitoring mechanism of fulfillment of plans, it also incorporates the logic framework, indicators, aims, base lines, chronograms and resources and also informs the record holder and the heads, on the results of the follow up and evaluation (fulfillment level and or phase shifts, problems observed etc.)	60
	It complies with option 3 and makes corrective measures which allow the fulfillment of the plans, it has also been carried out together with the office of planning and Budget, personnel named and trained and or outsourcing which has to do with the national policies (modernizing and decentralization of public management, administrative simplification, electronic government, anticorruption etc. and also the head and the upper echelon dictate measures to improve problems detected in the follow up and evaluation	80
	It complies with option 4 and it is also fed back by the plans to improve them in the future and also the head and the upper echelon dictate measures of medium and long term to avoid the problems detected in the follow up and evaluation	100
<b>Integrity and</b>	The Cuban State does not have an Ethic Code, Organic Rules, Procedures Manual,	0

<b>ethic values</b>	Collective Work Agreement, the Specific behaviour Conduct, if it were so and its Internal Discipline Regime	
	The Ethics code is in process.	20
	The Code is approved by norms issued by the entity.	40
	It is according to option 2 and has been informed by means which reach the whole entity	60
	It is according to option 3 and also receives and transmits complaints re the non fulfillment of ethic codes.	80
	It is according to option 4 and takes corrective measures to avoid repetition of complaints re the non compliance with the code.	100
<b>Capacity demonstrated</b>	There are no procedures and or internal directives re the processes or personnel selection, nor is there a monthly or yearly training plan.	0
	A committee has been formed to create the plan for monthly training, there are internal procedures and or directives up dated and approved which regulate the selection of personnel.	20
	It is in accordance with option 1 and also internal procedures and or directives are applied and informed, the monthly plan is made but not so the yearly one.	40
	It is in accordance with option 2 and also the responsible resources area or equivalent , supervises its fulfillment, they are also making both plans and are connected with the strategic plan of the entity and the plans and results of training during the last two years.	60
	It is in accordance with option 3 and also the yearly training plan and is done according to what programmed, it also verifies that the institution has personnel trained and competent and that the results of such evaluations be informed to those responsible	80
	It is in accordance with option 4 and also the new versions and updating of the training plan and are fed back from previous plans and evaluations, also the selection of personnel are evaluated, fed back and improved by the head and upper echelon.	100
<b>Organizing Structure and asignation of responsible authority</b>	The organizative structure has not been done.	0
	It has been done and formalized with the legal rules and procedures designed , where the obligations of the posts are established.	20
	The formal framework of authority and responsibility is done, just like different relations of posts and functions in accordance with the processes.	40
	It is in accordance with option 2 and is informed in the entity.	60
	It is in accordance with option 3 and the head and the echelon render administrative and technical services for the correct functioning of the responsibilities.	80
	It is in accordance with option 4 and also has an adequate participation in the upper management to evaluate, feed back and improve the functioning of responsibilities.	100
<b>Policies and Pratices in the Management of human resources.</b>	It is not applied nor is the management model of human resources of the entity known.	0
	The management model of human resources in the entity is in the implementation process.	20
	It is in accordance with option 1 and is also applied initially in different aspects such as selection processes, gaps, competence profiles, paying to formation of values, to the development in function of increasing capacities	40
	It is in accordance with option t is in accordance with option 2 and there have been developed internal directives which mus ton behalf of those in charge a systematic control and evaluation of the fulfillment established in their subordinates plans	60
	It also has personnel trained in management of competences of human resources and the processes and results are improved.	80
	It is in accordance with option4 and also the improvements have allowed the modification of the internal norms which regulate he management of human resources.	100
<b>Management and Prevention of Risks</b>		
<b>Identification of</b>	There is no policy to identify and evaluate risks.	0

<b>risks and detection of the change</b>	The policy of identification and evaluation of risks has been partially or totally developed and are determined and are determined for each process activity and operation to be developed , but are not approved by the upper echelon.	20
	It is in accordance with option 1 and is approved by the upper echelon.	40
	It is in accordance with option 2 and the risk committee is always in session.	60
	It is in accordance with option 3 and also issues reports on risk evaluation.	80
	It is in accordance with option 4 and there is also a feed back and improvement in entity risk evaluation.	100
<b>Determination of control objectives</b>	There are no activities to analyze risks.	0
	Risk analyses are done but without following a methodology approved by the head and upper echelon for the analyses and answers to risks.	20
	A risk diagnosis is done on Se realiza un diagnóstico de riesgos en base a la metodología aprobada por el titular y la alta dirección para la valoración y respuestas a riesgos y determinan los objetivos de control	40
	Complies with option 2 and leaving documentary evidence of the process	60
	Complies with option 3 and also carries out actions t reduce identified risks	80
	Complies with option 4 and also adopts preventive measures to avoid future identified risks.	100
<b>Plan for the prevention of risks</b>	The Plan for Risks Preventions has not been done.	0
	It is constituted and used for the systematic fulfillment of control objectives and is structured per area or entity activity.	20
	Complies with option 1 and also responds to the confection to identify the risks, possible negative manifestations, measures to be applied, responsible; executive and fulfillment date of the measures	40
	Complies with option 2 and are also evaluated by the Prevention and Control Committee and approved and approved by the direction organism.	60
	Complies with option 3 and also periodically analyzes the active participation of the workers in acts that may require it and are divulged, in the interest of transmitting the experience and the alert that may derive , to the whole system.	80
	Complies with option 4 and also analyses the effectiveness of the measures by means of self control and improve the actions for the fulfillment of objectives and mission.	100
<b>Control Activities</b>		
<b>Coordination between areas, separation of tasks, responsibilities and levels of authorization</b>	The control of coordination between areas and separation of tasks in the administrative and financial areas is not done.	0
	The coordination between areas and separation of tasks is done in the administrative and financial areas but without having manuals and procedures approved for this.	20
	It complies with option 1 and, in addition, it is balanced with responsibility and established in specific manuals and procedures approved by senior management and the owner.	40
	Complies with option 2 and also complies with the coordination between areas and separation of duties of functions in application of approved manuals and procedures	60
	Complies with option 3 and also informs the responsible areas about possible breaches, observations and / or deficiencies	80
	Complies with option 4 and also evaluates, feeds back and improves coordination between areas, separation of tasks	100
<b>Documentation, record oport1 and adequate transactions and facts</b>	The transactions, operations and economic events that take place have no documentary support	0
	The transactions, operations and economic facts that are carried out, have both printed and digital documentary support	20
	It complies with option 1 and also executes in accordance with the general or specific authorization of the administration and register according to its classification, at the time of execution, to guarantee its relevance, opportunity and usefulness	40
	Complies with option 2 and also has general and specific procedures approved by senior management	60

	Complies with option 3 and performs analysis of efficiencies in transactions and facts in addition	80
	Complies with option 4 and, in addition, measures are taken to identify risks and procedures are improved	100
<b>Restricted access to resources, assets and records</b>	No activity has been carried out to identify the areas, processes and / or activities that generate value and / or bottleneck and there are no controls for access to the various resources in the entity	0
	There are established but not approved procedures for using, guarding, controlling and accessing the resources of the entity: facilities, economic resources, information technology, assets, registers and patrimonial equipment 20	20
	Specific studies have been carried out in those areas, processes and / or activities that create value and / or bottle necks, and there are established and approved procedures to use, guard, control and access the resources of the entity: facilities, economic resources, information technology, assets, registers and heritage equipment and apply	40
	Complies with option 2 and also carries out tasks of verification and reconciliation of the accounting records with the administrative support information (banks, physical inventories, bottom line and personnel reports)	60
	Complies with option 3 and has also taken measures to strengthen the areas, processes and / or activities that create value and / or mitigate risks in the areas, processes and / or activities that generate bottles neck, in addition to other verification tasks and conciliation, are made with extreme information through agreements for database use	80
	Complies with option 4 and also evaluates, provides feedback and improves controls for accessing resources and monitors the application of improvement measures	100
<b>Rotation of staff in key tasks</b>	Staff turnover is not practiced in key areas of the entity	0
	The rotation of the personnel agreed by the collegiate management body is carried out	20
	Complies with option 1 and also has procedures designed by the entity for the rotation	40
	Complies with option 2 and also evaluates the efficiency and effectiveness of these operations	60
	Complies with option 3 and also takes into account job satisfaction	80
	Complies with option 4 and also takes into account the results for the continuous improvement of the effectiveness of operations	100
<b>Control of information and communication technologies</b>	There is no Computer Security Plan for the control of ICT	0
	The Computer Security Plan is worked and has guidelines but not approved	20
	The plan of Computer Security Plan and the guidelines are approved and is in accordance with current legislation	40
	It complies with option 2 and, in addition, the plan is being implemented or is in the process of being implemented, as well as ICT controls.	60
	Complies with option 3 and has also reviewed the monitoring of the plan and monitoring and monitoring compliance with the guidelines	80
	Complies with option 4 and, in addition, ICTs have been evaluated, fed back and improved according to the recommendations resulting from monitoring	100
<b>Performance and performance indicators</b>	There is no evaluation of institutional performance nor are there procedures for evaluating the performance of staff	0
	The assessment of institutional and personal performance is carried out but there is no approved procedure	20
	The evaluation of the institutional and personal performance is carried out, through performance management indicators of some organic units, with approved procedures to carry them out	40
	Complies with option 2 and also in accordance with the institutional budget, institutional strategic plan and annual plan with the monthly plan and is made known to all staff	60
	Complies with option 3 and, in addition, the incumbent and senior management have the implementation of recommendations resulting from the evaluation of institutional performance and also the evaluation of staff performance, serve to identify training needs, promotion and promotion, awards and incentives,	80

	scholarships among others	
	Complies with option 4 and also follows up, feedback and improve the aspects evaluated in the evaluation of institutional and personal performance	100
<b>Information and Communication</b>		
<b>Information System, flow and communication channels</b>	There is no information system (physical and electronic), internal communication to support internal control, or transparency portal in the entity	0
	There are approved procedures for the operation of the information system and means that facilitate internal communication (intranet and email) but not with directives, or internal procedures approved for the client, or specific procedures approved for the development of the use of external communication media (web page and transparency portal)	20
	It complies with option 1 and also the information is preserved in physical media (archives, libraries, documentation center) and / or digital and the entity has procedures and means that facilitate internal (email and intranet) and external communication, in addition with approved directives and procedures for use with institutional standards	40
	Complies with option 2 and also the information is reviewed and analyzed and synthesized for decision making, in addition the internal communication means are used regularly and the transparency portal has a responsible official	60
	Complies with option 3 and has also made better decisions thanks to information systems and contributes to the achievement of objectives and results of the entity, administrative and operational areas inform senior management about institutional performance, results and initiatives of the institutional management and is updated with complete information according to the requirements of the law of transparency and access to public information	80
	Complies with option 4 and has also evaluated feedback and improved information systems, internal communications and transparency portal	100
<b>Content, quality and responsibility</b>	There is no information system	0
	The integrated information system exists and articulates the information of the areas in a reliable, timely, sufficient, relevant and with the required quality	20
	It complies with option 1 and also the information system integrates documents with specific regulations and procedures establishing uses and responsibilities	40
	Complies with option 2 and also the responsible area performs the registration, classification, technological and computer management and publication and permanent dissemination of information	60
	Complies with option 3 and also the areas go to the integrated administrative management system or equivalent system for review, study, consultation and detection of work advertising, lessons learned, successful experiences among others	80
	Complies with option 4 and also the entity uses the information generated to evaluate, feedback and improve the functions of the areas	100
<b>Accountability</b>	There is no accountability practice of the holder of the entity	0
	The owner of the entity complied with having submitted the last account surrender	20
	Complies with option 1 and there is a policy and / or procedure for accountability of the owner but they are not approved	40
	Complies with option 2 and there is a policy and / or procedure of accountability of the holder are approved in directives	60
	Complies with option 3 and also uses institutional means (transparency portal) to render accounts on the aspects set out in the law on transparency and access to public information	80
	Complies with option 4 and the account is rendered continuously over time	100
<b>Supervision y Monitoring</b>		
<b>Evaluation and determination of the effectiveness of the Internal Control System</b>	There is no measurement of the evaluation of the internal control system, nor monitoring and monitoring actions	0
	The organization carries out the monitoring and evaluation of the internal control system and supervisory and monitoring actions are carried out but without a framework (design and methodology) approved by the entity	20
	Complies with option 1 and is also regulated and has specific procedures for	40

	supervision and monitoring actions approved by the entity	
	Complies with option 2, implements and determines the instrument as a baseline, as indicators and results, and reports on these results in a timely manner	60
	Complies with option 3, and also informs the corresponding levels, the owner and senior management and also recorded deficiencies and / or problems for the necessary corrective action	80
	Complies with option 4 and in addition, the necessary corrective measures are adopted, as well as evaluating, providing feedback and providing improvements to the supervision and monitoring process	100
<b>Prevention and control committee</b>	The internal control committee has not been constituted	0
	The internal control committee is constituted and integrated by the management level of the entity for decision making	20
	Complies with option 1, in addition, the committee calls for work sessions with the respective signed minutes	40
	Complies with option 2 and the committee has also drawn up and approved its work plan	60
	Complies with option 3 and also meets with assistance from the management level and decision making	80
	Complies with option 4 and also complies with agreements established in previous minutes	100

Source: Own elaboration as from Standard Model of Internal Control in Latin-American Countries

**Content:** The Prevention and Control Committee in its evaluation and monitoring role, specifies the dimension of the ICS assessment process and presents compliance with the general procedure for the implementation of the instrument in Table 1, using the methodology established by the authors in Table 2, with each of nineteen norms and five components and three phases of the SCI, generating its observation and recommendation, this evaluation is carried out according to the qualification ranges (table 3).

**Table N° 2. Jerarquization for the evaluation of Internal Control**

Analysis of Maturity Level and Efficiency of Internal Control																		
Internal Control																		
Strategic Control					Management Control									Operative Control				
Control of Environment				Management and Prevention of risks			Control Activities					Information Communication				Supervision and Monitoring		
P	IV	I	EO	PRH	IRDC	OC	PR	C	D	AR	RP	TIC	Ide	SI	CCR	RC	E	PC

Source: Own Elaboration

**Table N° 3. Steps of maturity status**

Maturity Scale				
Level	Degree	Criteria	Range	Color
<b>Immature</b>	0	The control elements do not exist.	0	
<b>Initial</b>	20	The control elements conditions are defined, but not formalized, so they are not satisfactorily done	1-20	
<b>Basic</b>	40	The control elements are documented and authorized they are satisfactorily acceptable.	21-40	
<b>Satisfactory</b>	60	The conditions of the control element are functioning There is documental evidence of their fulfillment, in a high degree.	41-60	

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<b>Advanced</b>	80	The control element conditions are functioning. There is documental evidence of the efficiency, they are fully complied	61-80	
<b>Optimized</b>	100	The control elements conditions are in a constant improvement. There is documental evidence of internal and external instances of continuous improvement by external evaluators or controllers.	81-100	

Source: Own Elaboration

The calculation of the indicators is determined as follows (Equation 1):

$$Nmad = \frac{\sum_1^i Pi}{Ni} \quad \text{Equation 1}$$

Nmad: level of maturity components and / or type of control and / or internal control

Pi: Degree of maturity granted by standards and / or components and / or type of control

Ni: number of standards and / or components and / or type of control

### Step 5. Define the Efficiency indicators

Content: In a similar way we proceed to calculate the level of effectiveness of the internal control elements, the requirements for compliance with the management indicators have been strategically located at the maturity levels: achievement of the SCI objectives, attending to the requirements of Table 4 and similarly using Equation 1:

Table N° 4. Efficiency States

Efficiency Scale		
Level	Range	Color
<b>Non efficient</b>	<b>0-40</b>	
<b>Efficient</b>	<b>41-60</b>	
<b>Very efficient</b>	<b>61-100</b>	

Source : Own Elaboration

### Stage III. Evaluation and improvement

#### Step 6. Analysis of indicators of the level of maturity and effectiveness

Content: To carry out the evaluation, the level of maturity of each of the phases or types of control, of the components and of the standards is determined, once the matrix has been filled out by the management team.

Once the weights are obtained, the level of maturity of the internal control will be sought, according to the derivation rules established in the procedure. In a similar way, it is done for the level of efficiency, as explained in the previous stage. Assessing the gaps between the current state and the desired state that is based on the highest level.

### Step 7. Projection of improvement actions

Content: The program of implementation of the improvements must be specified, for which the action plans or specific programs are established, as well as the technical and organizational means necessary for their effective execution. The different specific programs become projects, which must be programmed and deployed in a time horizon that ranges from the short to the long term. For each improvement program implemented, a control system must be established, with the aim of adopting corrective or preventive actions to minimize the deviations found. The methodology in Table 5 is recommended

Table N° 5. Strategies for improvement actions

LEVEL	Improvements
Immature	Implant the internal control system
Initial	Organize and generalize the importance of effectivity of internal control.
Basic	Place the internal control processes not only at directors level, but in all levels.
Satisfactory	Continue in an effective way the implementation of the Self Control Guide
Advanced	Install processes for continuous improvement for the permanent strengthening of the internal control system and integrate the operations.
Optimized	Maintain the position.

Source: Own Elaboration

- Evaluation of the level of maturity and effectiveness of internal control in a hospital entity
- Within the business entities, the hospital entities are an important component of the health care system, they demand to improve their control system and therefore their socioeconomic model. These health institutions for the development of their operations have medical personnel and other organized professionals, facilities for the admission of patients, offer medical and nursing services and other services with an uninterrupted work regime. Recent studies demonstrate the importance of perfecting this system (Morasso 2013).
- Specifically in the territory under study there are thirty-nine thousand two hundred and forty workers linked to the health sector, and it has fifteen hospital entities, broken down into eight, three surgical clinics, one pediatric, one maternal and two psychiatric and most of these services are located in the hospital entity under study. The

management team was established by the top management of the hospital entity. The results of the evaluation are shown in table 6 and 7.

Table N°6: Analysis of the level of maturity in the Hospital

Internal Control (41.7)																		
Strategic Control (36.7)						Management Control (48.3)						Operative Control (40)						
Control Environment (60)					Management and prevention of risks (13.3)			Control Activities (63.3)					Information and communication (33.3)			Supervision and monitoring (40)		
P (20)	IV (60)	I (80)	EO (80)	PRH (60)	IRDC (20)	OC (20)	PR (0)	C (60)	D (80)	AR (60)	RP (0)	TIC (80)	Ide (100)	SI (20)	CCR (80)	RC (0)	E (20)	PC (60)

Source : Own Elaboration

Correspondingly, the entity's management designs and implements its SCI in compliance with the provisions of the governing bodies in this matter, this entity implements the SCI rules, but with deficiencies.

Table N° 7. Efficiency Analysis of efficiency level in the Hospital

Efficiency of Internal Control- Efficient																				
Strategic Control							Management Control										Operative Control			
Control environment					Management and risk prevention		Control Activities							Information and communication			Supervision and monitoring			
P	I	V	I	E	PR	IRDC	O	P	C	D	A	R	R	TI	Ide	S	CC	RC	E	PC

Source : Own Elaboration

The SCI model is fulfilled satisfactorily and effectively, that is, with deficiencies in terms of documentation, continuity and systematic compliance, poor fidelity with the activities actually carried out, the implementation of the guide must be continued effectively, of self-control issued for hospital entities. The deficiencies must be resolved urgently, so that the system is efficient. The main gaps are shown in Figure 2 and 3. A set of measures evidenced in the Action Plan is proposed in Table 8, where all the rules and components of the ICS are taxed, by way of example those measures are shown. Critical elements of the system patented in documents for justification and inspection.

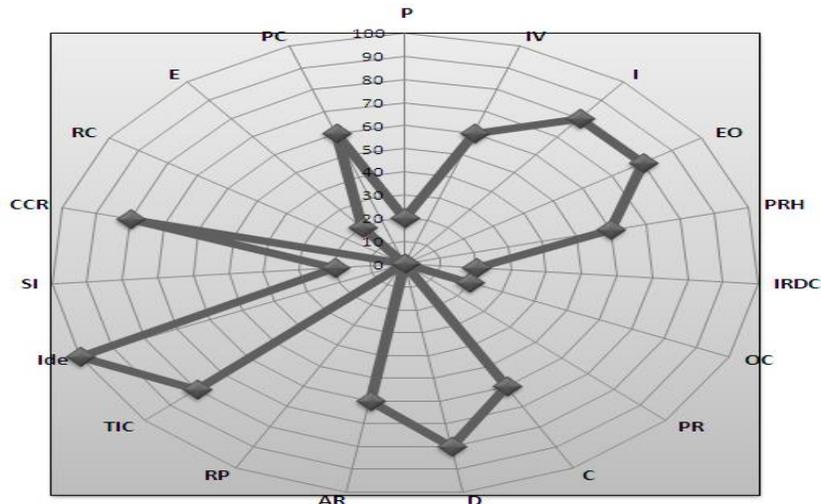


Figure N°2. Breaches for maturity level of the SCI elements  
Source: Own Elaboration

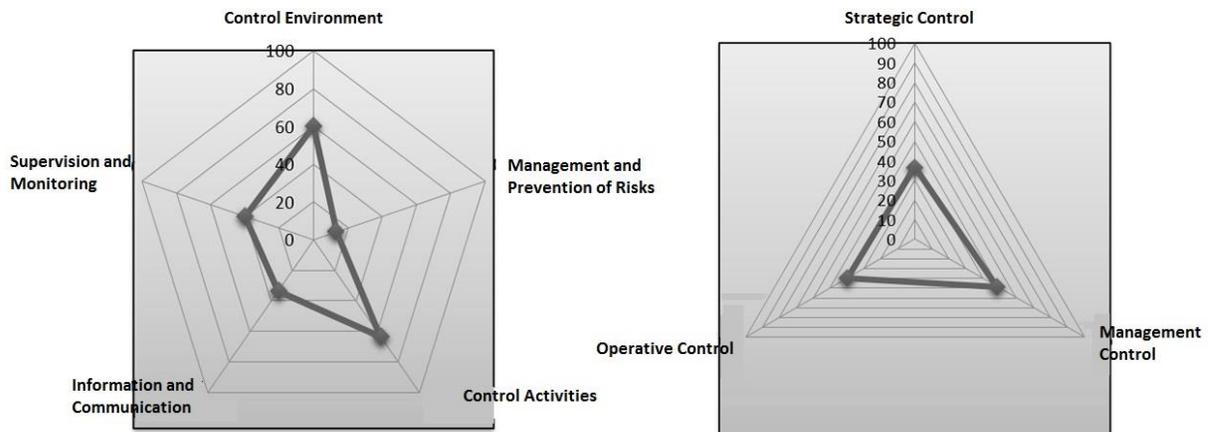


Figura N° 3. Breaches of maturity level of the SCI components  
Source: Own Elaboration

Table N° 8. Evidences of Measures Plan

Norms	Evidence Document	Responsible for application and custody	Application Areas	Evaluation of the implementation	Proof
<b>Risk Prevention</b>	Make a Risk prevention Plan in each area and of the entity. cada área y each area of the	General Director y Responsible of the Component	All hospital areas and subordinated areas	Heads of each area	Plan for Prevention per area and of the Entity. Acts of de Prevention per areas of workers

	entity				participation.
	Prove that Self Control has been considered as a measure for Prevention Plans.	General Director y Responsable of the Component	All hospital areas and subordinated areas	Heads of each area	Prevention Plan per area and of the Entity
<b>Rotation of personnel in key tasks</b>	Rotation Plan for workers in key tasks or due to few personnel, increase of periodical actions of supervision and control.	Director, Responsable Component	All entity areas and subordinate offices.	Chief Economy Department and area heads.	Rotation Program of personnel in Entity key tasks. Evidences of the fulfillment of the program planned. Evaluation acts of the results. Evaluation of rotated personnel.
<b>Accountability</b>	Procedure on accountability System	Director, Responsable Component	Direction	Director, Responsable for the Component	Fulfillinggl with the appropriate procedure
	Reports on accountability of the areas in an integral way on the proof of their management and decisions made. I	Director, Responsable for the Component	Committee for the council Direction, committe for Prevention and control of areas, meetings with workers.	Director, Responsable for the Component	Reports on accountability.
	Chronogram approved for Accountability	Director, Responsable for the Component	Direction	Director, Responsable for the Component	Act which shows the analysis of Accountability.

Source: Own Elaboration

In recent decades, the evaluation of internal control has been carried out through the Self-Control Guide and various control reports, which although they are relevant tools are limited exclusively to the identification of compliance with the elements associated with their components and the determination of a value of compliance with standards. It is the authors' criterion that the proposed tool solves the previous deficiencies by allowing the critical points for internal control to be identified in the critical components and in the norms that compose it. The use of this tool helps determine the level of management of internal control, reduce hidden costs to add value to the effectiveness of the entity through the SEAM and allows the development of objective and concrete action plans, through the

detected weaknesses, which will focus on integral solutions that impact simultaneously on various elements of internal control within organizations.

## **CONCLUSIONS**

1. The tool presented for the evaluation of the level of maturity and effectiveness of internal control is a novelty in the management of this and enriches the conception of SEAM by impacting on the reduction of hidden costs in the entity.

2. The application of the proposed procedure in the organization under study, demonstrated its feasibility allowing concluding that they did not have the necessary elements to fully implement the elements of internal control. The diagnosis of the level of maturity and effectiveness of the internal control was classified as satisfactory and effective.

## **REFERENCES**

Please refer to articles in Spanish Bibliography.

## **BIBLIOGRAPHICAL ABSTRACT**

Please refer to articles Spanish Biographical abstract.