

## ANALYSIS OF THE INTEGRATION OF MANAGEMENT SYSTEM BASED ON THE BUSINESS ARQUITECTURE APPROACH IN HABANA LIBRE HOTEL

**Laura Quintana Martínez**  
Faculty of Industrial Engineering  
Technological University of Habana  
Marianao, La Habana, Cuba  
[lquinta@naceta.cujae.edu.cu](mailto:lquinta@naceta.cujae.edu.cu)

**Sheila Anabela Corona Sánchez**  
Faculty of Industrial Engineering  
Technological University of Habana  
Marianao, La Habana, Cuba  
[sheila@ororojo.alinet.cu](mailto:sheila@ororojo.alinet.cu)

**Annette Malleuve Martínez**  
Faculty of Industrial Engineering  
Technological University of Habana  
Marianao, La Habana, Cuba  
[amalleu@veind.cujae.edu.cu](mailto:amalleu@veind.cujae.edu.cu)

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### ABSTRACT

The problem of research lies in: How to help improve the strategic technological capability - based approach to Enterprise Architecture for system Integration Company? To solve the problem posed above is defined as General Objective: To apply the methodology of Strategic Management based approach to enterprise architecture for system integration business management (DEAE-ISDE) in the Habana Libre Hotel to contribute to integration of the steering system. For the development of the research tools such as: Checklist, Kendall's Concordance Coefficient, Diagram of Relations, Level of Integration of the Management System, among others. The main deficiencies were: the lack of an ICT that integrates the management of all indicators of efficiency and effectiveness, the lack of participation of the workers in the processes of changes, the lack of Integration of the activities of the strategic team because they do not have well defined the functions of each member, the low level of interoperability to automatically generate information from one application to another, deficiencies in strategic planning and the non-existence of a process for the management of technology surveillance. Eight improvement actions are proposed to eradicate the deficiencies found.

**KEY WORDS:** Strategic Management; Enterprise Architecture; Integration of the Management System.



## **INTRODUCTION**

In a globalized environment of growing competitiveness, such as the one we face, the successful management of organizations requires an integrating vision that unifies the set of decisions that impact on the business.

Daniel Alfonso (2007) states in his PhD thesis that the fundamental problem in the development of the management is to keep the subsystems integrated with the strategy, so that all efforts are concentrated and result in a high impact for the society.

Business Architecture is fundamental to align business processes together with the technological infrastructure of an organization, ensuring that the requirements of the same are fulfilled through the integration of subsystems, through the employment of integration of management system models, with the complementarity between these models and those of business architecture, since the The first ones provide solutions to be followed in order to contribute to the development of the organization and seconds support these for their better effectiveness based on the integrated management of Information and Communication Technologies (ICT). Therefore, ICTs are causing a great impact on the structure of the companies because they contribute to improve productivity, quality and competitiveness of them. They constitute a prime tool for the internal organization of any business; by simplifying and streamline management processes, make decisions, and facilitate direct contact with customers, suppliers and other entities of interest.

The integrated management of information and telecommunications technologies contributes to the integration of the management systems of the company from the start in practice tools that allow managing the enterprise architecture with a integration approach.

In Cuba, the tourism sector is currently recognized as one of the main branches of the national economy today reporting high levels of income to the country, so that the present investigation took place at the Hotel Habana Libre, belonging to the Hotel Chains Meliá and Gran Caribe.

The problem situation is given because there is no adequate projection strategy and there is a low performance of the technologies, due to the fact that the ICTs currently used are not integrated and do not take advantage to enhance the Hotel performance. Therefore the problem of the investigation lies in: How contribute to the improvement of strategic technological capacity based on the Enterprise Architecture for the integration of the company's management system?

To solve the problems raised above, it is defined as the objective general: Partially apply the methodology of Strategic Management based on the approach of Enterprise Architecture for the integration of the business management system (DEAEISDE) in the Hotel Habana Libre to contribute to the integration of the management system. In order to comply with the general objective, the following specific objectives were set:

1- Develop a theoretical framework on strategic management and architecture business

2- Diagnose the current status of the Hotel Habana Libre based on Phase I and II of the DEAE-ISDE methodology.

3- Propose improvement actions to contribute to the integration of the system of Company management with a business architecture approach.

## **DEVELOPMENT**

### **Theoretical framework on strategic management and business architecture**

The Strategic Management is configured as a planning system where it is important both the formulation and the implementation of the strategy, so that the management system represents a less structured process, flexible in nature and opportunist, being its essence the entrepreneurial and innovative attitude of the management team of the organization in such a way that they contribute to the motivation of the staff to work in together and achieve the proposed objectives. Through strategy, the company visualizes the response to the challenges and impacts of the environment to overcome a situation of adversity or take advantage of an organizational development opportunity (Alfonso, D., 2007, Bolaño et al., 2014).

The integration of the Management System represents the highest level of management where internal and external relationships are coordinated in order to achieve results of a high economic and social impact. It also pursues the purpose of merging all the subsystems with the strategy of the company, ensuring the fulfillment of the object business oriented to the future and the increase of competitiveness (Alfonso et al., 2011; Alfonso and Hernández, 2013; Queris et al., 2014).

Strategic integration requires the development of leadership, technology and finance to achieve high performance of the organization in terms of efficiency, quality and shared values. Every organization is related to other organizations and with society, so that the

project of producing goods and services It is a unique and coordinated effort to satisfy human needs, values, the priorities and the purposes (Carbonell, L., 2011, Mikes and Kaplan, 2015).

The authors consider that the integration of management systems of the company, is materializes through strategic integration and is based on the integration of all subsystems of the company united by a common goal to achieve the vision and add value to the product or service provided by the organization, relying on the employment of the technology and counting on the commitment of senior management. This integration increases the organizational development and the competitiveness of companies.

The Enterprise Architecture consists of an integral representation of the organization and of its constant evolution; which covers business vision, data, applications and technology as well as quality control of the processes and services provided by the organization, through which they describe and explain how they are integrated and work together aspects of business planning and operations, automation and technological infrastructure (Aguiar, L., 2015, Ortega, R., 2015, Rouhani et al., 2015).

Through the use of the enterprise architecture an integration and standardization for the business operational model, integrating the processes of business and information technology infrastructure. It does not focus only on satisfying immediate needs, provides a long-term view of the processes of a company, systems and technologies that can improve and increase capabilities (Arango et al., 2010; Malleuve et al., 2015).

The business architecture is made up of 4 dimensions:

Business architecture: it is the axis around which the other architectures revolve, because this defines the overall strategy of the company. Gives managers a vision clear organization, the current status and future of resources and the way in which will participate to fulfill the strategic vision

Technology architecture: it is the most difficult layer to implement, because this level includes the software and hardware that support the applications, as well as the storage mechanisms for data and information, data networks, centers of data processing and integrated technology services.

Application architecture: manages the functionalities and applications to be developed individually to later relate them directly to the business processes, according to the needs of the company. This architecture is responsible for the integral technical aspects of the product creation process, from the requirement until implementation.

Information architecture: represents the flow and modeling of information in a form cross-section for the whole entity, and shows how information resources are being

administered, shared and used by the organization. It is based on the description of the structure and management of the data, therefore, contributes to the knowledge of how processes are structured and how information should be managed and stored.

The authors consider the business architecture as the alignment of all levels of the company establishing the existing relationships between each of the areas that comprise it, includes elements of business strategy, business cases, models of business and support technologies, policies and infrastructures that make up a organization and can generate the creation of a competitive advantage in the company, contributing to conceive greater value, improve performance and communications with the to achieve business strategies based on teamwork.

Strategic management models and business architecture models are find related in a certain way because they have elements in common, as well as aspects that can interact to complement each other. The first models raise a future but not probable projection, which can be landed through the use of a business architecture in the organization, they address the need for feedback through the fulfillment of strategies, the counteracting the real changes with respect to the expected ones and also analyze the gaps that may arise along the way. The models do not emphasize the management of information while the enterprise architecture models define this management as one of its main layers, providing accessibility to information necessary, facilitating the interaction between the different agents and / or departments of the company, they have a large storage capacity allowing to store a large amount of information being useful this for any situation that arises and is required of the lifting of a desired information. So both sets of models are closely relate their complementarity in the organizations since strategic management models provide solutions or ways to continue contributing to the development of the organization while those of business architecture support these for their effectiveness, also contributing to the organizational development.

### **Diagnosis of the current status of the Hotel Habana Libre based on Phase I and II of the DEAE-ISDE methodology**

The methodology proposed is based on the approaches of the theory of the integration of the company's management system. It has a system approach because allows linking all the components of the organization in order to achieve the fulfillment of the mission and at the same time achieve the vision outlined by the organization, the contingency approach to

determine the analyzes to be carried out, as well as which are the most appropriate tools to achieve the objectives that are intended get. The process approach is also present, since, this methodology evaluates each of the stages that comprise it in the processes and changes. And finally the methodology is also based on the continuous improvement of the process of strategic direction in the companies managing the perspective of the Enterprise Architecture so it has a strategic focus and continuous improvement.

### **Phase I. Atmosphere**

Its objective is to identify compliance with the premises of the DEAEISDE model and measure the level of integration of the company's management system (NISDE), based on the relationships of the processes, both external and internal.

For the evaluation of the premises that the methodology requires, it was applied to 10 members of the hotel management board a survey and documents were consulted to verify the results obtained

#### **I. Defined processes**

80% of workers surveyed believe that the first premise is met since the entity has defined its processes and has a management manual where the procedures to be followed in each of them are described.

#### **II. Attitude and commitment of management and workers towards implementation of the change**

The top management of the hotel and its workers are committed to the implementation of the change, given that they consider that to promote the improvement of products and services they offer is a fundamental support for the development of information technology and communications to achieve the standardization of services associated with technologies computing, the standardization of hotel management systems and the complete automation of the information flow.

100% of respondents believe that change is important for improvement of the organization, for which reason they motivate their workers to carry out the changes. They suggest that most of their subordinates accept the change because of the need of it, however, there is a small group that sometimes shows resistance.

#### **III. Strategic Approach of the Management System**

The hotel's development plan has been prepared in principle based on the policy traced by Gran Caribe and Meliá, it focuses on actions, linked to the objectives of future development of the entity to ensure its technical, commercial and financial progress. The plan update approach developed part of the ratification that tourism is defined as one of the activities prioritized by the country, in the current conjuncture economic

100% of respondents say that they know and apply a management process where they are defined: mission, vision, strategic objectives and action plans for its reach.

#### **IV. Index of relevance of ICT in the organization greater than or equal to 0.3.**

The relevance index aims to evaluate the correspondence of the existing ICTs in the organization with respect to the strategic direction of the same.

The calculation of this index was made to analyze the fulfillment of premise four of the DEAE-ISDE methodology. To this end, three relationship matrices were drawn up the ICT of the organization and the mission, the vision and the strategic objectives.

**Table N°1. ICT-Mission relationship matrix**

<b>ICT</b>	<b>Mission</b>	<b>Offers safe hotel products and services.</b>	<b>Respect for environmental sustainability.</b>	<b>Satisfying customer demands.</b>
<b>Gescal</b>		2	3	3
<b>Mantener</b>		3	2	2
<b>Tempus</b>		0	0	0
<b>eHotel</b>		1	2	0
<b>eTES</b>		1	1	1
<b>Siempre</b>		1	1	1

**Source:** Own Elaboration

Table 1 shows that the Gescal, Siempre and Maintain technologies are the ones that more contribute to the fulfillment of the mission, being the element: respect for environmental sustainability to which most is taxed by all ICT.

Table 2 shows that Gescal is the technology that most influences because it favors to reach all the elements of the vision, mainly the aspect: to be a hotel of reference in quality management.

**Table N°2. ICT-Vision relationship matrix**

Visión ICT	Build positive and unique experiences for clients.	Being a reference hotel in quality management.	Highly qualified professionals.	Solid teamwork.	Satisfy the needs of the client.
Gescal	2	3	2	1	3
Mantener	1	2	2	1	2
Tempus	-	1	-	0	-
eHotel	1	2	2	-	2
eTES	0	1	1	-	1
Siempre	0	1	1	-	1

Source: Own Elaboration

**Table N°3. ICT-Objectives relationship matrix**

ICT	Objetivos	1	2	3	4	5	6	7
Gescal		3	2	1	3	3	3	3
Mantener		1	2	3	2	0	2	2
Tempus		-	1	-	0	2	1	1
eHotel		0	3	2	0	3	1	3
eTES		0	3	3	1	3	2	3
Siempre		2	3	3	2	3	2	3

Source: Own Elaboration

Table 3 shows that both Gescal and Siempre provide technological support to achieve the strategic objectives set. In addition, the objectives that are most they benefit from the use of existing technologies are: 2) Obtain a higher degree of efficiency and economic efficiency annually, complying with the contributions and amortizations committed; 6) Achieving an adequate integral performance of capital human, promoting management by competencies; and 7) Develop the flow of information of the hotel, promoting the improvement of the corporate Intranet and increasing services associated with new technologies based on customer satisfaction.

Table 4 shows that there is an ICT relevance index of 0.58, the which is classified as half checking the fulfillment of the premise when reaching a top value 0.3.

The relevance index is at a medium level which indicates that there is a good use of ICT to reach the strategic direction. But nevertheless, there are achievement gaps that can be enhanced with respect to the achievement of elements of vision through ICT that is the lowest of the probabilities of high relationship analyzed.



**Table N°4. Evaluation of the relevance index**

	ICT-Mission	ICT-Vision	ICT-Objetives
$\Sigma$ REA	7	10	28
N	18	24	40
PAR	0.39	0.42	0.7
$IP_{TIC}$	0.58		

Source: Own Elaboration

In this section it was possible to verify the fulfillment of the four premises for what is possible to apply the DEAE-ISDE methodology to increase the level of integration of the Hotel Habana Libre's management system. Before the application of this methodology, considers it important to carry out a diagnosis of the level of integration of the address

#### Measurement of the integration level of the steering system (NISDE)

For this purpose, two double-entry matrices (one internal and an external one), the first one reflects the interaction between the processes (keys and functional) and external entities (external clients, external suppliers and entities administrative, political, legal and social) and in the second the interconnection between all the processes of the hotel, describing in each of the cells the importance and performance of each of these relationships through a scale where 1 low -5 high. (Watch table 5 and 6)

**Table N°5. Assessment of key processes and functional processes**

	PC1	PC2
PC1: Accommodation.		I=3 D=4 R=12
PC2: Restoration.	I=3 D=4 R=12	
P3: Technical Services Management.	I= 5 D=4 R=20	I=4 D=4 R=16
P4: Purchasing Management.	I=4 D=2	I=5 D=3

	<b>R=8</b>	<b>R=15</b>
P5: Security and Protection.	I=4 D=3 <b>R=12</b>	I=3 D=3 <b>R=9</b>
P6: Human Resources Management.	I= 5 D=3 <b>R=15</b>	I=5 D=4 <b>R=20</b>
P7: Investment Management and Technological Maintenance.	I=5 D=3 <b>R=15</b>	I=4 D=4 <b>R=16</b>
P8: Financial Accounting Management. Q9: Quality and Environment Management.	I= 5 D=4 <b>R=20</b>	I=5 D=4 <b>R=20</b>
P10: Commercial Management.	I=5 D=3 <b>R=15</b>	I=4 D=4 <b>R=16</b>
P11: Information and Communications Management.	I= 4 D=3 <b>R=12</b>	I=3 D=3 <b>R=9</b>
P12 Management of Direction.	I=5 D=5 <b>R=25</b>	I=5 D=4 <b>R=20</b>

Source: Own Elaboration

Table N°6. Assessment of key processes and external entities

	Regulatory entities			Provider entities										Client entities		
	OSDE Gran Caribe	MINSAP	MININT <sup>F</sup>	TAURO	Los Portales	Habana Club	Bucanero	EMPRETUR	CIMEX	Trabajadores por cuenta propia	Suchel Proquinmia	Hilatex	Alquitex	CUBATUR	Solwavs	TravelSend
<b>PC1</b>	I=5 D=4 R=20	I=5 D=4 R=20	I=4 D=2 R=8		I=5 D=4 R=20		I=3 D=5 R=15	I=5 D=2 R=10		I=4 D=4 R=16	I=5 D=4 R=20	I=4 D=4 R=16	I=4 D=3 R=12	I=4 D=3 R=12	I=5 D=4 R=20	I=4 D=3 R=12
<b>PC2</b>	I=5 D=4 R=20	I=4 D=4 R=16	I=3 D=2 R=6	I=5 D=4 R=20	I=5 D=5 R=25	I=5 D=5 R=25	I=4 D=5 R=20	I=3 D=2 R=6	I=5 D=3 R=15	I=3 D=4 R=12	I=4 D=4 R=16	I=3 D=4 R=12	I=3 D=3 R=9	I=4 D=4 R=16	I=4 D=4 R=16	I=4 D=3 R=12

Source: Own Elaboration

Table N°7. NISDE internal and external

	Internal Matrix	External Matrix
Critical Relations	9	10
Important Relations	20	29
<b>NISDE</b>	<b>0.45</b>	<b>0.66</b>

Source: Own Elaboration

Table 7 shows that the hotel has a relatively low internal NISDE given by the critical relations existing mainly between the key processes and the Processes: Purchasing Management because it is limited by the budget and the restrictions established by Gran Caribe and Meliá that prevent the purchase of the materials required for the execution of key processes such as: utensils and products cleaning, pots and dishes, amenities and lingerie; Security and Protection due to that the surveillance technology is not in accordance with the hotel's needs at present and that needs to be renewed in order to have a better control of the internal activities of the hotel and provide a faster response to criminal acts; and the Management of the Information and Communications that presents the main deficiencies in

the updating and integration of technologies causing greater delays in the process of accommodation especially at the time of check in and check out.

The internal NISDE is also affected by the critical relationships that exist between the hosting process and processes: Human Resources Management because in On occasions, the right personnel for the job is not selected, making it difficult tasks are executed efficiently; the Investment Management and Maintenance Technological because it has not been possible to invest in rooms disabled by the bad conditions of them limiting the number of guests that can receive the hotel; and the one of Commercial Management because the inefficiencies that appear in the Accommodation process cause disappointments and customer complaints, sometimes influenced by the high expectations acquired through the management of commercialization.

In the case of the external NISDE there is an average level of integration affected fundamentally for the relations with the entities: MININT that does not take charge of efficiently control the fire alarm system, the surveillance cameras and the procedure in cases of criminal events; EMPRETUR which is the main responsible of maintenance for chain hotels, but due to inefficient management in the Most of the times, the services of self-employed workers are resorted to; and Travelsend that of the companies in charge of marketing the hotel and obtaining of tourists to stay in it is the one with the greatest dissatisfaction.

The critical relationships found can be improved through the efficient use of ICT increasing the NISDE, both internal and external.

## Phase II. Strategic diagnosis based on the architecture approach business

In order to identify the existing gaps in the hotel, referred to the performance of a group of variables a checklist was applied to analyze the performance of the variables used in the methodology (See Annex 1) to a total of 9 experts who are part of the hotel's board of directors.

**Table N°8. Description of the experts**

Name and Surname	Occupational charge	Years of experience	
		In the tourism sector	At the hotel
Jorge A. González Vigier	Deputy Director General	25	6
Jorge Luis Castellanos Villa	Investment Specialist	15	10
Carlos Javier Ruiz Rey	Legal adviser	2	2
José Manuel Quintana Pulido	Food and Beverage Consultant	21	2
Daymar Pérez	Head Chef	25	25

Yadira Hernández Rodríguez	Quality Specialist	11	8
Talía Toledano Alberti	Computer Science Specialist	17	3
Yaniris Leyva Moras	Specialist B in Commercial Management	4	2
Dania G. Olivero Hernández	Deputy Director of Financial Accounting	18	12

**Source:** Own Elaboration

In order to validate the reliability of the results obtained in the list of applied check and the agreement between the criteria of the experts were used following statistical methods:

### **Kendall's matching method**

Hypothesis testing:

H0: There is no agreement between the experts

H1: There is agreement among the experts.

For  $N > 7$  RC:  $K(N-1) W > c_{2a}, n-1$

Where: N: # of quality characteristics, K: # of experts.

RC:  $73.8089 > 32.671$

The critical region is fulfilled, Ho rejection and therefore there is concordance between the experts.

### **Cronbach's Alpha**

For the calculation of Cronbach's Alpha the Minitab statistical tool was used, obtaining a value of 0.8347 that guarantees the reliability of the questions and answers of the checklist used.

It is considered that the results obtained from the application of the checklist are reliable to analyze the indicator named as CATE, which measures the capacity and performance of strategic management variables and business architecture in the process of direction with respect to the DEAE-ISDE model through a mathematical model based on Fuzzy Compensatory Logic.

### **Valuation of the CATE indicator**

To obtain the CATE indicator, the Fuzzy Tree Studio software was used. processed the assessments given by experts for each variable in the checklist. He obtained as a result a

truth value of 0.52 which indicates that it is as true as false that the organization has a high strategic technological capacity. This result is influenced by the performance of the three variables dependent on the model DEAE-ISDE. It was obtained as a result that there is an adequate behavior in the first variable referred to the process-based strategic design (DEBP), however, Deficiencies begin in the second variable belonging to the strategic design Based on the Business Architecture (DEBAE), having an impact on the implementation performed in the third variable of Implementation, Supervision and Control (IS).

The dependent variable DEBP has a true value of 0.73, which indicates that it exists good strategic coordination fundamentally between the key processes and the external entities and with some deficiencies between the key and functional processes, where the most critical relations are with the processes of Purchasing Management by the budget available and the limitations established by regulatory entities in order to certain purchases, the Security and Protection for lack of equipment, and Management of Information and Communications that is not fully integrated and standardized.

This result is mainly affected by the strategic team variable (EE) because although there is a good multidisciplinary team to lead changes fifteen strategic, its members work mostly to solve situations operatives focusing each one on their work area because they are not well defined the functions of said equipment so that there is a correct integration. Together they do not have a strategic orientation that allows positive impacts be long-term and contribute to achieving the vision, weakening the course variable Strategic Plan (SR) influencing strategic planning, excelling as deficiency that are not defined the goals of the criteria of measures of the strategic objectives. In addition, they focus on the activities of the key processes taking into account the strategic projection, but do not emphasize in the relations of the key processes with the functional ones. For this reason, the variable of best performance is the of diagnosis, design and redesign of key processes and their relationships that add value to products and services (DDRPC), and with a weaker behavior are the of diagnosis, design and redesign of functional processes and their relationships that satisfies efficiently the needs of the functional processes (DDRPF) and the communication between internal actors, and of the latter with external actors (CEA) (See Figure 1).

Dependent variables that influence the dependent variable DEI

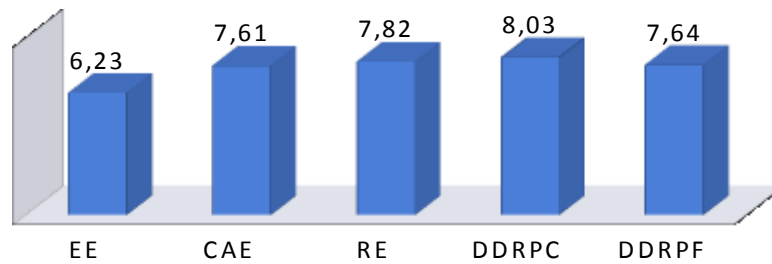


Figure N°1. Independent variables that affect the dependent variable DEBP

Source: Own Elaboration

The dependent variable DEBAE has a true value of 0.50, which indicates that it exists average performance in the diagnosis, design and redesign of key processes and based on the business architecture approach to strengthen relationships internal and external that add value.

The greatest positive influence is given by the performance of the security variable of information (SI) because ICTs have a unique technological support that has a security system for all the information that is generated and performed efficiently the computer security plan where the accesses to it are clearly established allow each user. They also have a favorable job the management variables of the relevant information of the processes (GRP) and the integration of said information for the making appropriate strategic decisions (II) facilitated by the homogeneity of language.

The main deficiencies in this regard are related to the fact that some relevant information In addition, the management of surveillance in processes (GEV), due to the fact that some actions are carried out according to the needs to improve processes, but it is not yet done in an integrated manner to anticipate changes or keep risks controlled. Even though in the hotel there are flexible computer applications with a good design and operation that contribute to an efficient work of information in key processes and functionalities (EA), are not maximized (AAP) and have a low level of interoperability (NI) that hinders communication between processes due to lack of integration between the applications since once the information is generated it is not transmits automatically to other applications used in the same process besides that they do not have the capacity to make the reports with the information required by each of the regulatory entities, these being the hotel chains Meliá and Gran Caribe.

The deficiencies are also highly influenced by investments in technological infrastructure (IIT) due to the lack of in-depth feasibility studies and budget limitations established by the hotel group Gran Caribe causing the technological backwardness that sometimes makes it impossible to adopt and implement technology adequate and more advanced. This in turn hinders the performance of the variable of integration between technological infrastructure platforms and computer applications (IPA) because the applications are updated by the provider's decision, but at the same time is not done with the technological infrastructure that supports them, which causes slight problems in the functioning of the processes mainly in the process of Financial Economic Management when generating reports. Despite this the technological infrastructure has a good use (AIT) as shown in the Figure 2.

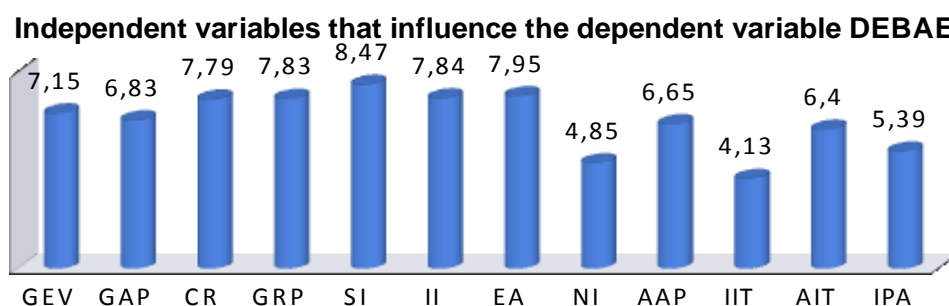


Figure N°2. Independent variables that affect the dependent variable DEBAE  
Source: Own Elaboration

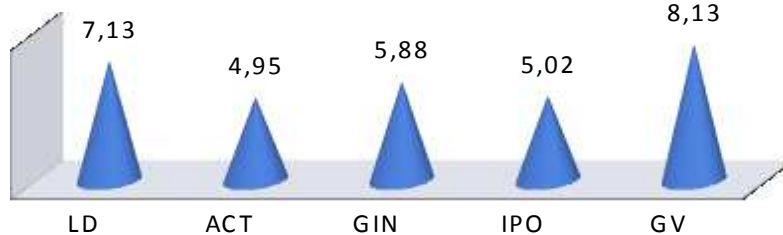
The dependent variable IS has a true value of 0.38 which indicates that it is not realizes the implementation, supervision and control of the strategic program of shares, this being the stage that most negatively influences the value of the CATE that currently presents the hotel.

Although there is good leadership on the part of management (LD) through an adequate communication, they have little training in the new trends of address associated with ICT and do not have a system that supports the activities that are made in the management process making it difficult to plan and control the program strategy that in turn contributes to generating value in the processes based on the use of ICT (GV); The performance of this variable is affected mainly because some workers do not assimilate or adapt to the changes proposed in the strategic program (ACT) for the lack of participation in the planning of the same influenced because the hotel does not have enough autonomy to execute them since they are generally established by the hotel chains. The lack of ICT integration also has a negative influence existing with the strategic objectives and processes



from the implementation of the strategic program (IPO) for lack of automation in some of the activities of the processes mainly in the Quality Management and Restoration. It is also insufficient management of efficiency and effectiveness indicators at company level through existing ICTs (GIN) because there is no technology that integrates the management of all indicators and allow managers to have a visualization of hotel status in regarding the financial reasons and the fulfillment of the objectives outlined in the planning strategic. (See Figure 3)

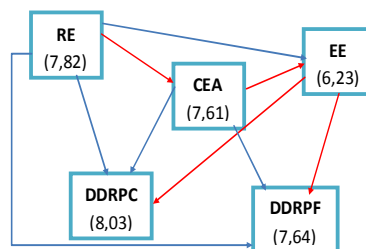
**Independent variables that influence the dependent variable IS**



**Figure N°3. Independent variables that affect the dependent variable SI**  
Source: Own Elaboration

### Determination of the variables on which the main actions

The variable strategic direction (SR) is the main cause of the deficiencies of the dependent variable DEBP, influencing all other variables because without a correct strategic projection you cannot trace the actions to reach a high performance in the processes being the variable of greater effect the diagnosis, design and redesign of key processes (DDRPC) (See Figure 4).



**Figure N°4. Diagram of relations of the dependent variable DEBP**  
Source: Own Elaboration

In Figure 5 it is evident that the variable management of process surveillance (GEV) is the main cause since it influences the performance of eight limiting variables, of the which the capacity to respond to changes (CRP) is the main effect because its behavior is affected

by the performance of most of the variables that they influence the dependent variable DEBP.

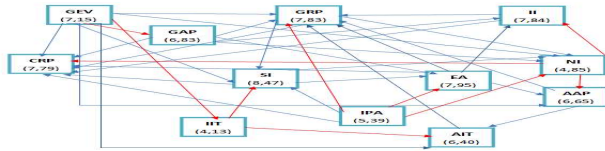


Figure N°5. Diagram of relations of the dependent variable DEBAE  
Source: Own Elaboration

The management leadership variable (LD) is the main cause of the deficiencies in the performance of the dependent variable IS influencing the behavior of the variables constraints, of which the generation of value (GV) is the main effect because its behavior is affected by the performance of the rest of the variables belonging to this stage (See Figure 6).

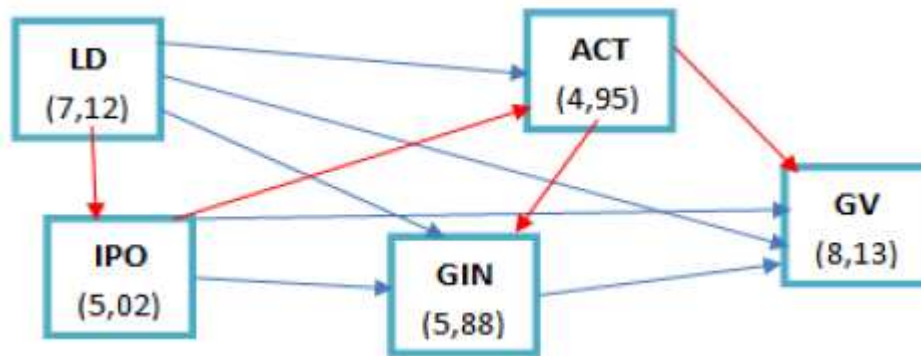


Figure N°6. Diagram of relations of the dependent variable SI  
Source: Own Elaboration

### Proposal of improvement actions to contribute to the integration of the system of company management with a business architecture approach

The proposed actions are aimed at improving the performance of the variables most critical constraints: Strategic Team (EE), Interoperability Level (NI), Investments in Technological Infrastructure (IIT), Integration between Technological Platforms and Computer Applications (IPA), ICT Integration, Processes and Strategic Objectives (IPO), Management of Efficiency and Effectiveness Indicators (GIN), Assimilation of Changes by the Workers (ACT). In addition, the variables detected causes were taken into account: Strategic Course (RE), Management of Surveillance (GEV) and Leadership (LD).

**1. Train managers on management issues.**

With this improvement it is intended to train managers in the new trends of direction so that they have a broader vision projecting in the company strategically contributing to achieving the vision and objectives of the organization. This training should cover how to prepare strategic planning and how to work to achieve it, taking into account how other similar hotels determine the strategic objectives in the sector as well as the criteria of measures for them. It also aims to enhance the knowledge of managers about the facilities and use of ICT today, being a key tool to achieve success because it facilitates work, it saves time and resources within the company.

**2. Prepare a plan for the quarterly conduct of diagnoses on the current situation of the hotel.**

The purpose of this action is to get the hotel to perform systematically internal and external diagnostics to check the hotel's situation so far, can detect the achievements and gaps in which to work to reduce the deficiencies found in the diagnoses and take advantage of the opportunities of the environment.

**3. Redefine the functions of the Strategic Team.**

This action is aimed at redefining the functions of the Strategic Team of the hotel, because the equipment exists but it is not centralized, each member of the it works according to its sphere when everyone should work together to a greater result and dominate the activities of the rest of the team to be able to contribute to better integration.

**4. Create in the eHotel a module for Management of the Directorate.**

The creation of this module aims to establish a computer support for the activities of the Management process where the relevant information is integrated for the decision making. This module would include the preparation of strategic planning, a integral control panel that controls the fulfillment of the objectives through the criteria of measures destined for each of them, a greater flow of information between managers that favors the integration between the members of the management and other elements as statistical techniques, graphs and tables that allow a better visualization of the information.

**5. Integrate the rest of the applications with the eHotel.**

The objective of this action is to guarantee a real-time information flow between the different business actors and unify all the information of the different departments of the hotel for the subsequent realization of deeper analysis.

6. Design a surveillance system based on scenarios that are not covered by the existing in the Meliá Hotel Group.

This action aims to create the conditions so that the hotel itself can manage technological surveillance based on the scenarios that it considers relevant and that it does not cover the system presented by the Meliá group. This system will not only cover related to customers, but it will include everything related to the behavior of markets, national and international competition, good management practices hotel in order to improve the quality of the service and the key restoration processes and Accommodation and to promote knowledge of new ICT trends and their exploitation.

7. Establish a systematic space for the discussion of new improvements and strategic alliances.

This action aims to create a space where the workers of the different areas of the hotel make known their opinions and suggestions about the different processes that are carried out in it, in order to take into account the different criteria for the implementation of new improvements. This space also favors the communication between the hotel and other companies in the sector creating opportunities with establish strategic alliances and contributing to the vigilance regarding behavior of the market, the use of innovative techniques by similar companies that may be employed in the hotel as possible techniques of improvements thus knowledge of good practices in the tourism sector.

8. Automate the activities of the processes that are carried out manually.

The aim is to automate the activities of the Quality Management processes, Restoration, Economic Financial Management and Human Resources Management that is not they are supported by existing ICT.

## **CONCLUSION**

1. A theoretical framework was created where it was found that there is a gap in the management of information between the models of strategic management and

architecture business, because the first models are aimed at meeting the strategies of the organization without relying on information technologies while that business architecture requires this management as one of its main layers, providing the accessibility, interaction and storage capacity of the necessary information between the different systems of the company.

2. Phase I and II of the DEAE-ISDE methodology were implemented, obtaining a result of insufficient level of CATE in the hotel, mainly due to: the nonexistence of an ICT that integrates the management of all indicators of efficiency and effectiveness, the lack of integration of the strategic team's activities, the low level of interoperability to automatically generate information from one application to another, the little training of managers in the new management trends associated with the ICT, due to deficiencies in strategic planning and the non-existence of a process for the management of technological surveillance.

3. Eight improvement actions are proposed to eradicate the deficiencies identified during the diagnosis and contribute to the integration of the management system of the company with a business architecture approach.

## **REFERENCES**

Please refer to articles in Spanish Bibliography.

## **BIBLIOGRAPHICAL ABSTRACT**

Please refer to articles in Spanish bibliographical abstract.