

The evaluation of business management through an integrated approach

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Abstract

Nowadays business management forces every organization to stay ahead of the new events in order to be more competitive. These are constantly faced with restrictions that demand an increase in their levels of efficiency and efficacy through a more integrated approach in their management. Taking this approach into account, a general procedure was designed with the corresponding specific procedures, in order to evaluate in an integrated way the business management by process. The fulfillment of this objective was guaranteed through the use of several methods, techniques and tools, among which are: analysis-synthesis, surveys, document review, correlation between variables, Goldratt reality tree, cause-effect diagram (Ishikawa), among others.

Keywords: management; enterprise; evaluation; efficiency; efficacy; process

Introduction

The organizations are in a process of constant development in terms of management, due to the need to face the new challenges imposed by the market and respond to an extremely competitive context in order to achieve success. Its actions are focused on eradicating the deficiencies that arise. Business management systems have undergone a remarkable transformation in recent years, in which the demands of customers and consumers set the direction and pace of organizations (Isaac Godínez, 2004).

The contemporary business world requires management is based on the process approach, a tool that encourages continuous improvement. Hence this approach after many years of being implemented is today a powerful tool for its ability to contribute to the results in a sustained way. It has become a significant path in order to achieve an increase in the levels of efficiency and efficacy of organizations, terms that are closely related to the evaluation of business management.

Carrying out this assessment in an integrated way allows defining the real situation of a company. It supports the achievement of the proposed objectives, the agility in decision-making and the timely solution of problems. To measure business management, it is important to provide the company with indicators, based on the monitoring of current practices and focusing on future development.

This subject has been object of study of several authors: Leyva Cardeñosa, 2002; Artola Pimentel, 2002; Martínez Delgado, 2003; Negrín Sosa, 2003; Nogueira Rivera, 2004; Urquiaga Rodríguez, 2004; Torres Cabrera and Urquiaga Rodríguez, 2004; Montilla Galvis, 2004; Parra Ferié, 2005; Leyva Cardeñosa, 2005; Hernández Concepción, 2005; Martínez Rivadeneira, 2006; Vigil Corral and Valls Figueroa, 2007; Hernández Lobato, 2008; Ledo Galano and Osorio Martínez, 2009; May Alegre, 2009; Lores Rodríguez and Perdomo Rojas, 2010; Hernández Nariño, 2010; Cantero Cora, 2011; Montero Santos, 2013; Luchessa and Podestá Castro, 2013; Ortiz Pérez, 2014 and Llanes Font, 2015. In the analysis of the bibliography consulted, it was detected that, in a general way, the proposals consider the evaluation of business management based on the establishment of indicators, however limitations are detected: procedures that dedicate a phase for the improvement of processes, do not declare the “know-how”; the adoption of the process-based approach is still insufficient, with a lack of focus on the management of support processes and a lack of an integrated management approach for evaluation.

The Cuban business system is constantly undergoing new proposals for improvement with the aim of achieving the improvement of its economy, because they are mostly for-profit organizations. Within this group stands out the tourism sector, very important for the benefit of the economy, due to its predominant role in the process of economic recovery. The social object is to offer a service with the quality and efficacy required, and with it provide material and (or) spiritual satisfaction to the consumer (client). Previous studies carried out in this sector show the presence of deficiencies related to:

- Incorrect analysis of processes
- Inadequate generalization of strategic orientation and projection
- External customer dissatisfaction in 75.2%
- De-motivation of internal clients in 16.5% due to the stimulation to the effort and individual result
- Instability in the allocation of material resources.

The above, in brief synthesis, constitutes the problematic situation that founded the beginning of this investigation. These shortcomings led to formulate as a problem to be solved: How to improve business management in a hotel installation? For its solution, the objective is to carry out the integrated evaluation of business management based on the process approach in a hotel installation.

Methods

In order to solve the problem, a procedure was developed that transits through four phases whose objective is the integrated evaluation of business management.

Phase I. Preparation

Objective: to create the organizational conditions necessary for the development of research.

Stage 1. Involvement

Objective: to involve all members of the organization in order to achieve optimal communication between them and the researcher.

Step 1. Presentation: workers are informed of the purpose of the study and the importance of the study for the organization

Step 2. Selection of staff and allocation of resources: to constitute the working group that will carry out the diagnosis (individuals with experience in the subject). Define the resources (material, financial and human) needed to develop the diagnosis.

Stage 2. Systemic analysis of the company

Objective: to describe the main characteristics of the processes that make up the system.

Step 3. Characterization of the entity: to identify the main inputs, transformations and aoutputs, as well as the means of work.

Step 4. Description of the main characteristics of the area under study

4. 1. Determination of the scope of the investigation¹: the scope of the investigation is delimited. This can be from the organization itself to a production unit and (or) service subordinate to it.

4.2. Definition of the main characteristics of the area under study².

Step 5: Process Analysis: The implementation of this step is based on the specific procedure described below.

5. 1. Identification of processes

¹ This step can be omitted if it is a small company and it is feasible to apply the procedure to the whole entity.

² The elements proposed in step 3 will be taken into account.

5. 2 Classification of processes: it takes into account the one established by the French Standard (2000): control³, operational and auxiliary⁴ processes.

5. 3 Designing or redesigning of the process map: defining customer and support processes correctly; to represent the cycle of continuous improvement and be as explanatory as possible.

5.4. Preparation and (or) improvement of the process files: each file must contain: code, name and purpose of the process, owner, suppliers, inputs, activities, outputs, clients, controls, resources and restrictions.

5. 5. Creation or improvement of process flowcharts: it reflects the orderly sequence of activities (operation, transportation, inspection, delay, storage and combined activities) that make up the process.

Techniques: direct observation, documentary review, conferences, brainstorming, group work.

Phase II: System Diagnostics

Objective: to determine the indices of business efficiency (IEE) and business efficiency (IE_rE).

Stage 3. Determination of the evaluation index

Objective: to carry out the integrated evaluation of business management.

3.1. Proposal and selection of indicators: Starting from the proposal of the indicators to be measured; identifying which are of efficiency and efficacy. It is proposed that the experts performing this analysis be those proposed in Step 2.

Efficacy indicators

Strategic processes: vision fulfillment, environmental management and quality management

$$C = \prod_{i=1}^{i=m} C m_i \quad (1) \quad C m_i = \frac{\sum P c i \cdot C c i}{\sum P c i} \quad (2)^5$$

$C m_i$: compliance with the measure

$P c i$: weight of requirements

$C c i$: criterion of compliance.

1. Fulfillment of Vision

Measurement criterion

- Vision design
- ✓ Requirements: writing in present tense, customer orientation, contemplating the main exit indicators and reflecting the corporate purpose of the organization.

The trend of this criterion should be $\geq 82\%$

- Fulfillment of the strategic objectives: to evaluate the fulfillment of the long-term objectives to determine the degree of achievement of the vision. This must be greater than 85%.

2. Environmental Management (GA)

Measurement criterion

- Commitment of the leadership for the implementation of policies and programs.
- ✓ Requirements: verification of the use of policies, programs, standards (VGA), publication of the policy and environmental objectives (PPA), verification of treatment to nonconformities (CTNC).

The trend of this criterion should be $\geq 82\%$.

Results on external evaluations: Evaluations of trained institutions will be taken into account. The standard of comparison will be the evaluated indicators of good among the total of indicators to evaluate, $\geq 85\%$.

3. Quality Management (GC)

Measurement criterion

- Policy design.
- ✓ Requirements: suits the purpose of the organization (OP), it must contain continuous improvement (CM), communicated and understood within the organization (CE).

The trend of this criterion should be $\geq 80\%$.

- Design of quality objectives.

³ The processes included in this group may vary according to the characteristics of the organization.

⁴ Ibid.

⁵ It is used in all the approaches except in those that don't settle down weight.

✓ Requirements: measurable (M), consistent with quality policy (CPC), framed in time (ET), correspondence with strategic objectives (COE).

The trend of this criterion should be equal to or greater than 83%.

- Implementation of policies and programs.

✓ Requirements: presence of records associated to the Quality Management System (PDC), verification of the use of policies, objectives, programs and standards of the KM (VGA), verification of treatment to nonconformities (CTNC).

The trend of this criterion should be $\geq 81\%$.

Operating processes

4. Level of service

$$N(s) = \prod_{i=1}^{i=m} \left(1 - \frac{nfij}{nj} \right) \quad (3)$$

$N(s)$: nivel de servicio según las variables: calidad, cantidad, precios, plazo, costo y surtido i ($i=1\dots m$) en el período j .

$nfij$: número de fallos de la variable i en el período j

nj : cantidad total de éxitos y fallos en el período j .

Measurement criteria

- Level of service designed (NSd): it is proposed to assume the $N(s)$ that the entity has designed. If it does not exist, it must be fixed by means of the established plans or historical behavior.
- Level of service provided (NSpr): for your analysis you can apply surveys and interviews to internal customers to know the perception of the service.
- Perceived level of service (NSpe): will proceed in the same way as for NSpr, with the difference that the surveys and interviews will be applied to external customers.

Supporting Processes

5. Quantities supplied

Measurement criteria

- Global Supply Compliance (GSC).

$$CGS = \frac{\text{Supplied real quantity}}{\text{Planned quantity}} * 100 \% \quad (4)$$

- Supply Opportunity (OS).

$$OS = 100 \% - \left(\frac{\sum P_j - SR_j + Inv\ accum_j - 1}{\sum SP_j} \right) * 100 \% \quad (5)$$

SP_j : planned supply quantity for period j , (physical units)

SR_j : actual supply quantity that arrived in period j , (physical units)

$Inv\ j - 1$: cumulative inventory of the previous period.

The value that these indicators must reach is 100%.

6. Analysis of the equipment

Measurement criterion

- Coefficient of complete use of equipment (Kcomp).

$$Kcomp = \frac{\text{Equipment working}}{\text{Equipment installed}} \quad (6)$$

The actual value and plan are determined.

7. Satisfaction of human capital (concrete motivation)⁶

A survey is applied. Then the Total Motivational Quality (CMT) is calculated which expresses in % the level of satisfaction. The weighting is shown in Table 1.

⁶ Consult Álvarez López (2001).

Table 1. Weighting of the calculation of the CM, the PM and the mean of the DE

Evaluation Criteria	Very poor	Excellent	Desire State (Good)
Essential dimensions	1	5	3.75
Potential Motivator (%)	1	125	52.50
Quality Motivation (%)	0.8	100	40

Source: Álvarez López (2001)

Efficiency Indicators

Strategic Processes

1. Compliance with the plan of the economy.

Measurement criteria

- Economic profitability (ROI).

$$ROI = \frac{UAII}{AF + AC} \quad (7)$$

UAII: earnings before taxes and interest

AF: value of fixed assets

AC: value of current assets.

The actual value and plan are determined.

Operating processes

2. Continuity

Measurement criteria

- Continuity of service (Ks).⁷

$$Ks = \frac{TE}{TTS} \quad (8)$$

TE: effective time to provide the service to the user

TTS: total service time

- Continuity of the work force (Kf).

$$Kf = \frac{\sum_{L=1}^S te_L}{\sum_{L=1}^S FO_L} \quad (10)$$

te_L: effective time of the labor force (discounting losses due to interruptions of the working day, category L; L = 1,2 ... S)

FO_L: total time fund of the labor force of category L in the analyzed period.

- Continuity of the means of work (Km).

$$Km = \frac{\sum_{j=1}^m ET_j}{\sum_{j=1}^m Ft_j} \quad (10)$$

Ft_j: total time fund of the equipment of type j in the analyzed period.

ET_j: effective working time of type j teams by deducting lost days, loss of shifts and interruptions within the shift (j = 1, 2, 3 ...)

3. Flexibility

Measurement criteria

- Flexibility of the media (Fmt).

$$Fmt = \frac{\sum_{i=1}^n (1 - \frac{1}{OP_{Oi}}) \times Wi}{\sum_{i=1}^n Wi} \quad (11)$$

OP_{Oi}: number of different operations that the machine can perform in the service delivery of the work order i

n: number of machines

Wi: importance index.

- Flexibility of the work force (Fft).

$$Fft = \frac{\sum_{i=1}^n (1 - \frac{1}{FT_{Fi}}) \times Wi}{\sum_{i=1}^n Wi} \quad (12)$$

FT_{Fi}: number of machines that can be attended by the worker i

n: number of workers.

⁷ Taken of Cantero Cora (2013).

Supporting Processes

4. Equipment operating time⁸

Measurement criteria

- Technical equipment availability (Kext).

$$1. K_{ext} = \frac{Tf}{Tf + Tpm + Tpm_p + Tpoc} \quad (13)$$

Tf: operating time

This indicator should tend to one

2. Expenses per selling weight

Measurement criteria

- Material expenses by sales weight.

$$GM_p = \frac{M}{V} \quad (14)$$

Tp: stop time, includes time of shutdown by maintenance (*Tpm*) and time by other stops such as technological (*Tpt*), by raw materials (*Tpmp*) and other causes (*Tpoc*).

M: material expenditure
V: value of sales.

- Wage expenditure by sales weight.

$$GS_p = \frac{S}{V} \quad (15)$$

S: wage expenditure

For these two indicators should be calculated for planned and actual levels.

Specific indicators⁹: for these indicators, the planned reference level is the planned level and, if it does not exist, it must be determined according to the planned primary indicators of the organization. They are analyzed from the perspective of efficiency and effectiveness.

3.2. Calculation of the business efficacy index (IEE)¹⁰: once the effectiveness indicators have been determined, they are calculated or measured. With this information the following table 2 is formed.

Table 2. Fragmentary indicators (Ind)

Periods	Indicator 1		...	Indicator n	
	Reference	Real		Reference	Real
1					
.....					
n					
Average (Pij)					

Source: Adapted from Lores Rodríguez and Perdomo Rojas (2010)

Since all the measured indicators do not have to have the same weight or importance for the variable to which they respond, it is necessary to apply a method of experts that allows determining the weight of each indicator. The expert group should be between seven and 15 to maintain a high level of confidence and qualification (INC 49: 1981 C. Quality, Expert Methods).

$$M = \frac{P(1 - P)K}{i^2} \quad (16)$$

M: number of experts

i: desired level of precision

K: constant whose value is associated with the chosen confidence level.

P: estimated proportion of errors of the experts

The values of *K* are listed in Table 3.

⁸ Taken of Cora (2013).

⁹ They are settle down for the indicators of effectiveness and efficiency.

¹⁰ Taken of Lores Rodríguez and Perdomo Rojas (2010).

Table 3. Values of the constant K

Confidence Level (%)	K
99	6,6564
95	3,8416
90	2,6896

Source: Ibarra Mirón (2003)

To make the table that includes the standardized ranges (Rstij) (table 4) for the indicators of business efficiency, the weight that each represents in the efficiency and the IEE the following calculations must be performed:

$$Rstij = \frac{Vij}{Pi} \quad (17)$$

Rstij: standardized range of indicator i in period j

Vij: value of indicator i in period j

Pi: average of the indicator i (always working with the reference average).

IEEj: business efficiency index in period j..

pi: indicator weight i.

IEE Calculation

$$IEEj = \frac{\sum_{i=1}^n pi * Rstij}{\sum pi} \quad (18)$$

Table 4. Business Effectiveness Index (IEE)

Periods	Rstindicator 1		...	Rstindicator n		IEE	
	Reference	Real		Reference	Real	Reference	Real
1							
.....							
n							
Weigth							

Source: Adapted from Lores Rodríguez and Perdomo Rojas (2010)

3.3. Calculation of the business efficiency index (IE_fE)¹¹: this is done in a similar way to the calculation of the IEE. In this case the analysis will be oriented to the indicators of business efficiency.

Stage 4: Analysis of the causes

Objective: To determine the causes by process and perspectives.

As a result of the previous stage, the association of each deficiency with the process (s) in which it is manifested is obtained. By explicitly establishing existing relationships, hierarchical dependence is evidenced and solution priorities are established.

Phase III: Projecting Solutions

Objective: to establish the corrective actions and the plan of action.

Stage 5: Establish corrective actions

Objective: to define corrective actions in an orderly manner.

Corrective actions should be determined for the improvement of business management.

Stage 6: Elaboration of the action plan

Objective: to prepare the action plan

In the elaboration of the action plan, it is part of declaring: tasks, involved, responsible, resources and the date of control and compliance.

Techniques: method of weighted and standardized indicators, weighted voting, multicriteria modeling, group work, Goldratt reality tree, cause-effect diagram (Ishikawa).

Phase IV: Implementation and Adjustment

Objective: to elaborate the implementation schedule, its correction and adjustment.

¹¹Taken of Lores Rodríguez and Perdomo Rojas (2010).

Stage 7: Implementation of the action plan

Objective: to execute the corrective actions of the action plan and to control its development. Implementation will be achieved through the implementation of the action plan.

Stage 8: Evaluation and adjustment

Objective: to monitor the proposed change, adjusting if necessary.

The evaluation of the measures is carried out and according to the results (effective or not) the procedure is repeated from the Diagnosis phase, to guarantee the control and the feedback.

Techniques: teamwork, brainstorming, results analysis.

Results

Phase I. Preparation

Stage 1. Involvement

Step 1. Presentation: a meeting was held where the essence and importance of the study was reported and the need to collaborate in obtaining accurate results.

Step 2. Selection of staff and allocation of resources the working group was formed taking into account the experience of the experts in the subject. In addition, the activities to be carried out at each stage of the procedure, as well as the dates for their control and compliance were defined.

Stage 2. Systemic analysis of the company

Step 3. Characterization of the entity: the installation is essentially responsible for providing accommodation, gastronomy and recreation services to national and international tourism. It provides for the assurance of both material, financial, technological and human resources.

Step 4. Description of the main characteristics of the area under study

4. 1. Determination of the scope of the investigation: to give a comprehensive assessment of business management, the study was carried out in the complete installation.

4.2. Definition of the main characteristics of the area under study. Not applicable.

Step 5. Analysis of the processes

5. 1. Identification of the processes: these are identified, however the totality of the activities developed in the hotel installation are not included in the processes, such is the case of Environmental Management.

5. 2. Classification of processes: hereinafter they are characterized briefly.

Strategic processes: strategic planning encompasses quality and environmental management and economic-financial management.

Operative processes: Provision of the service includes the activities of Accommodation, Gastronomy and Recreation and Commercial Management.

Support Processes: Purchase Management, Technical Services and Human Capital Management.

5. 3. Confection or redesign of the process map: the process map is not contextualized for the installation, so a proposal was made.

5.4. Elaboration and (or) improvement of the general files of the processes: the files of the processes were perfected.

5. 5. Creation or refinement of the process flowcharts: in the same way, the flowcharts of the processes were elaborated.

Phase II. System diagnostics

Stage 3. Determination of the evaluation index

3.1. Proposal and selection of indicators: it was taken into account that the indicators corresponded to the interests of the company.

Efficacy indicators

Strategic processes

1. Fulfillment of Vision

Measurement criteria

Vision Design: The vision of the company meets the established requirements.

2. Compliance with the strategic objectives: the analysis was carried out through the consultation of the annual balance sheets issued by the Head Office for the period 2015-2016. As a result, the Strategic Objectives (OEs) were achieved by each Key Result Area (ARC).

ARC 1. Assurance to the Plan of the Economy: the results of the income and profits are not satisfactory in the analyzed period. This result influences the quality of service.

OE 1.1 Replacement of imports: by data offered by the organization this objective behaved 100% in both periods.

ARC 2. Effectiveness in business management

OE 2.1 Investments: they were not culminated by delays in the supply of the required equipment due to difficulties with the suppliers.

OE 2.2 Logistic management: this objective analyzes the behavior of the company's inventory. There is a high value (105.5%) of slow moving resources.

OE 2.3 Internal control: for information provided it is known that in 2015 this objective was fulfilled 100%, since satisfactory evaluations were issued in all actions. For the analysis of the year 2016 was obtained the information of the evaluations carried out: Special Audit (Acceptable), Categorization of the Central Warehouse (regular). It can be argued that this objective was fulfilled to 90% since it was only obtained regular in an evaluation.

Taking into account the strategic exercise for this period and despite the fact that deficiencies were detected in strategic management, it can be said that the company is in a position to achieve its vision. To integrate the analysis of the measurement criteria, formula 1 was applied to determine the real value. Likewise, the reference value was determined from the multiplication of the comparison patterns of each measurement criterion. In the case of the indicator Compliance of the vision behaved in 91.76% in 2015 and 85% in 2016, values that exceed 70% of reference.

3. Environmental management

Measurement criterion

✓ Management commitment for the implementation of policies and programs: the hotel has implemented an Environmental Management System based on values and principles. Among the supporting documents are policy, objectives and environmental strategy. When analyzing compliance with this measurement criterion, 80% were obtained in 2015, a value that does not meet the 82% reference because the treatment to nonconformities presented deficiencies, which were eradicated in 2016, where it was obtained 100%.

✓ Results in external evaluations: the organization shows satisfactory results in terms of external evaluations, so that 100% is met, a value that exceeds 85% of reference. No evaluation was conducted in 2015.

4. Quality management

Measurement criterion

✓ Policy design: it has the quality policy, which reflects in a clear, logical and achievable way that customer satisfaction comes first, in close correspondence with the mission and vision for the current period. The workers are not identified with the policy outlined since 64% raises not knowing it, although it is graphically disclosed.

✓ Design of quality objectives: the quality objectives set for the period are considered measurable, achievable and framed in time. They are closely related to politics.

✓ Implementation of policies and programs: information obtained through direct observation (graphic disclosure) and document review (Resolution No. 61/2008: Quality Policy) was taken into account. It was verified that the entity has the documents and records related to the Quality Management System. It was verified the presence of results of audits and evaluations carried out, besides the plans of corrective and preventive actions to eradicate the nonconformities. In general this element behaved to 50% in 2015 and 2016, a value that is below the 54% of reference.

Operating processes

5. Level of service

Measurement criteria

It was started with the NSd analysis, which was worked with a value of 85% according to previous studies. In order to determine NSpr, an interview was conducted with the waitresses and administrative staff, showing results that are available to satisfy the demand. As for the NSpe also an interview was applied to the clients. The result showed that 75.2% of the respondents expressed dissatisfaction with the quality of the service by:

- ✓ Comfort: faults in the area of the rooms, by the presence of cats and insects; existence of some defective items such as: TV controls, switches, outlets, etc., which could not be repaired or repaired for lack of resources to perform the maintenance.
- ✓ Cleanliness: negative criteria of rooms and gastronomic services given by the presence of animals
- ✓ Information: complaints from the reception area and telephone, there is only one worker in this area and cannot attend to all customers simultaneously, also has influenced the technical status of the phone.
- ✓ Courtesy: the faults in the accommodation and gastronomic services sub-process are identified, affecting the reception, telephone and room phases.
- ✓ In the rapidity affects the attention to the telephone, originated by the same causes referred in the previous indicator.

Supporting Processes

6. Analysis of the quantities supplied and the equipment: from the analysis of the indicators of supply management, it was obtained that 98.22% of the overall compliance of the supply plan was reached; with respect to the assortments only 97.33% is achieved, mainly for the utensils for repair and maintenance, parts, pieces and accessories. This result influenced the deficit of these resources by the fundamental provider, preventing maintenance in the area of the established tasks. Overall, it was favorable, except for the whiteboard because of its technical status.

7. Satisfaction of human capital (concrete motivation): it was determined that about 81% of workers are dissatisfied (information obtained from applying a job satisfaction interview to workers) influencing the particular motivator stimulation to effort and individual outcome because they state that wages do not correspond to the task they perform and there is no coherence between the results of the workers and the stimuli they receive, problems were identified with the welfare and working conditions because the conditions of transportation do not fit the needs of the worker and the tools and work tools are not enough to perform the tasks satisfactorily.

Efficiency Indicators

Strategic Processes

1. Compliance with the plan of the economy: For reasons of reliability of the information related to investments in fixed assets, economic profitability could not be calculated.

Operating processes

2. Continuity:

Continuity of service (Ks) and force (Kf)

For the calculation of these indicators it was necessary the application of the individual photograph, the results are presented in table 5.

Tabla 5. Results of service continuity and labor force

Areas	Continuity of service	Continuity of the workforce
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		TE (min)	TTS (min)	Ks	TE (min/LD)	Ft (min/LD)	Kf
Reception	Hotel Receptionist	610	720	84.72	627.67	720	87.18
Maintenance	Operator 1	390	480	81.25	415	480	86.46
	Operator 2				412.34		

The results show that there are factors that affected the continuity of the service because the level is not reached 85%. At the reception was due to the lack of models to perform the customer reception, electrical damage and interruptions in the blackboard also because the hotel receptionist has to answer the phone in addition to performing other functions of the activity and this causes delays in giving response to customer requirements. In maintenance, was significant the lack of spare parts for minor maintenance and maintenance that were not scheduled for the day. With respect to the Kf, the values reached allow to affirm that there is a correct use of the work force. Supporting Processes

3. Equipment operating time: the analysis could not be performed due to lack of availability of information.

3.2. Calculation of the business efficiency index (IEE): a database was prepared with the fragmentary indicators that included the values resulting from the diagnosis for each period and later the standardized ranges were calculated for each indicator. With these data the IEE was calculated, where 83.33% was obtained in 2015 and 85.58% in 2016. Although the values show a tendency to increase, there are reserves that must be exploited.

3.3. Calculation of the business efficiency index (IEfE): the same procedure was followed as the previous analysis. The IEfE was then determined, which resulted in 87.61% in 2015 and 87.9% in 2016. These values are favorable when experiencing a slight increase, despite not being 100%.

In order to analyze the general behavior of business management, the authors determined the value of a generalizing indicator that, through average, integrated efficiency and efficiency indices. In 2015, 85.47% and 86.74% were obtained in 2015, which shows a favorable increase for the hotel..

Stage 4. Analysis of the causes: during the diagnosis, symptoms were detected that limit a better functioning of the organization. The current Reality Tree technique was applied with the objective of finding the root problems so that by eliminating them they contribute to the gradual solution of the rest of the negative consequences that they provoke.

Stage 5. Establishment of corrective actions: corrective measures are proposed to the deficiencies detected in each process, materializing in the next stage.

Stage 6. Preparation of the action plan: An action plan (table 6) was drawn up with the elements required for its implementation.

2.4 Phase IV. Implementation and adjustment

Stage 7. Implementation of the action plan: the proposed action plan was assessed to the management of the company to assess its implementation.

Stage 8. Evaluation and adjustment: it was explained that the changes must be followed up and, if necessary, adjustments must be made. The management of the company was promised to evaluate the results and if not favorable, to repeat the procedure from the diagnostic phase. This ensures satisfactory business management.

Table 6. Proposal for improvement actions

Nu.	Improvement Actions	Responsible	Date of Compliance	Resources
Operating processes				
1	Coordinate with the company Execution of the maintenance on the telephone	Chief of technical services	Short	Term Time, humans

	blackboard			
2	Perform internal call of the place of operator to equipment and tourist facilities	Human Resources Specialist	Short	Term Time, humans
3	Ensure the maintenance of the maintenance tasks to the rooms	Chief of technical services	Short	Term Time, humans
Strategic processes				
4	Conduct monthly emulation checks	Director of the entity and general secretary	Short	Term Time, human
5	Raise the results of the analysis of the stimulation system to the direction of the company	Director of the entity and specialist of Human Resources	Medium Term Time	human, financial
6	Update the proposed technical services activity plan	Chief of technical services	Short	Term Time, humans
7	Monthly update the report of the deficit inputs and send it to the company	Purchasing Manager	Short	Term Time, human, financial
8	Managing the purchase of parts for the maintenance of the rooms	Head of Purchasing Management	Short	material, financial, human
Supporting Processes				
9	Perform an objective work with the reserve of cadres (define the labor competencies for each of the positions)	Specialist B HR	Short	Term Time, human
10	Development of the reserve week of leaders	Leaders of each area	Medium term Time	Term Time, human
11	Comply with the master strategy of preparation and development of the cadres, professionals and reserves of leaders	HR Specialist B	Medium term Time	Term Time, human
12	Ensure compliance with training actions of leaders and reserves	HR Specialist B	Medium term Time	Term Time, human
13	Submit proposals for mission, vision and process map of the facility for approval	Director of the complex	Short	Term Time, human

Conclusions

A methodology was developed that allows an integrated evaluation of business management by processes through efficiency and effectiveness indicators. The application of the procedure in the entity under study shows that the performance evaluation is not favorable. When evaluating the performance indicators for each of the processes it is evident that there are difficulties in these, the most representative are related to the operational and support processes. Solutions and an action plan were proposed to eradicate identified deficiencies.

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