# Proposal of a Model for the Definition, Prioritization and Optimization of Indicators

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#### ABSTRACT

Context: The definition and prioritization of indicators is now a common reality and an integral part of the evolution of the strategic, technical and business processes of any organization, whether public or private. Purpose: This paper aims to propose a new model regarding the definition and prioritization of indicators, investigating the definition and prioritization models currently adopted by academia and industry, analyzing the context of the proposed strategies against the traditional view of indicator definition currently adopted. In addition, this work aims to conduct a survey with organizations that have a well-defined indicator management process, seeking to identify customer expectations with a new indicator management model proposed by this work. Method: To gather evidence, we defined a methodology that relates the literature review and an exploratory case study with the application of an experiment. Driven by a set of research questions, this methodology will comprise four main phases: planning, literature review, experiment execution, and documentation of results. The method used is supported by some techniques, such as Design Thinking, Design Sprint and the Cynefin Framework. Results: The analysis of the results was carried out in two different ways: Through the verification of the achievement of specific objectives and through a questionnaire applied to assess the degree of perception of all employees who participated in the work. Regarding the specific objectives, it is clear that most of the objectives were achieved. Regarding the applied questionnaire, it is clear that, although the collaborators do not have adequate knowledge regarding the conceptual and practical aspects of some approaches used in the proposed model, there was a general perception that the model, in fact, supported top management for decision making. For professionals, although the proposed model has a restricted scope, that is, it does not serve all types of organizations. Conclusion: The model proposed in this work proved to be effective, considering that the indicators were defined, prioritized and optimized with a focus on the user experience. As future work, we intend to expand the scope of the model's performance, evaluating business indicators in line with IT indicators.

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# A. Appendix

## A.1. Indicators identified in the organization

Table 1: List of indicators identified in the organization

Indicator	Description	
	Requirements Indicators	
Rework Percentage of Business Vi-	Indicator responsible for measuring the number of DVNs that needed to be	
sion Document (DVN)	adjusted, after validation by the business manager.	
Percentage of Demands with Re-	Indicator responsible for measuring the number of demands related to the	
quirements Specification	development of systems that required the Requirements Specification.	
Average Approval Time	Indicator responsible for measuring how long a requirement took to be val-	
	idated and approved by the business manager.	
Traceability	Indicator responsible for measuring traceability between requirements and	
	projects, between requirements and processes and between requirements	
	and other requirements.	
	Performance indicators	
Average time between development	Indicator responsible for measuring how long a demand related to system	
phases	development remains in each of the development phases.	
Average Time to Start of Service	Indicator responsible for measuring the average time that a demand takes to	
	start its service.	
Productivity Index by Area	Indicator responsible for measuring how much a development team can pro-	
	duce (team productivity), for a certain period of time.	
ROI	Indicator responsible for measuring the relationship between the amount of	
	money the company won or lost and the amount of money that was invested.	
Market Share	Indicator responsible for measuring the degree of participation of a com-	
	pany in the market in which it operates.	
Customer Acquisition	Indicator responsible for measuring the number of customers that the com-	
	pany managed to acquire in a given period.	
Churn Rate	Indicator responsible for measuring the number of customers that your com-	
	pany lost in a given period.	
Clients satisfaction	Indicator responsible for measuring the degree of contentment of customers	
	with the products or services that the company offers.	
Failure Index	Indicator responsible for measuring the number of errors made by employ-	
	ees by time period and by resolved demand.	
Employees training	Indicator responsible for measuring the number of employees who have un-	
	dergone company training.	
Percentage of Action Plans Com-	Indicator responsible for measuring the percentage of action plans that were	
pleted on Time	completed on time.	
Percentage of PDTI Executed up to	Indicator responsible for measuring the percentage of objectives and strate-	
the Current Period	gic actions defined in the IT Master Plan (PDTI) that have been completed	
	so far.	
	Risk Indicators	
Risks of Technical Problems (RPT)	Indicator responsible for measuring the risk related to technical problems,	
	such as configuration of the development environment, automation of tools	
	and agile process, etc.	
Percentage of Projects with Risk	Indicator responsible for measuring how many projects the risk analysis was	
Analysis	carried out on.	
Technological risks (RT)	Indicator responsible for measuring the risks related to the technology to be	
-	developed and the technology used to develop the solution.	
Percentage of Risks Realized	Indicator responsible for measuring how many risks identified, in each	
-	project, were realized during the execution of the project.	
	Test Indicators	
Testing Effectiveness Percentage Indicator responsible for measuring how effective the execution of tests was		

Indicator	Description
Percentage of Demands with Test	Indicator responsible for measuring the number of demands that were sub-
	mitted to the test process, before being implemented.
Percentage of Failed Demands with	Indicator responsible for measuring the number of demands that were not
Test	approved by the business manager, after being submitted to the testing pro-
	cess.
Percentage of Automated Tests	Indicator responsible for measuring the number of tests that were performed
	in an automated way.
Test Case Efficiency Index	Indicator responsible for measuring the size of the test case specification in
	relation to the requirement specification.
Test Case Specification Type	Indicator responsible for measuring the different types of test steps that
	structure the flow of the test case.
Template Compliance Percentage	Indicator responsible for measuring the number of test cases that are in ac-
	cordance with the model defined for the project.
Percentage of Untested Demands	Indicator responsible for measuring the number of test cases that are in ac-
	cordance with the model defined for the project.
Percentage of Bugs by Function	Indicator responsible for measuring the percentage of bugs in relation to the
Point	number of function points, by demand, system or service.
Percentage of Demands Failed by	Indicator responsible for measuring the percentage of demands that failed
the Test	the test.
Average Test Cycles	Indicator responsible for measuring the average test cycles performed on
	demand.
Percentage of Bugs by Severity	Indicator responsible for measuring the percentage of bugs by severity (low,
	medium, high, preventive).
Percentage of Bugs by Resolution	Indicator responsible for measuring the percentage of bugs by resolution
	(open, reopened, non-correctable, etc.).
	Service Operation Indicators
Compliance with ANS Compliance	Indicator responsible for measuring the percentage of incidents that are at-
Incidents	tended within the time agreed in the Service Level Agreement (ANS).
Percentage of ANS Compliance by	Indicator responsible for measuring the percentage of ANS compliance for
Service	each service provided by the IT area for the business area.
Interaction by Status	Indicator responsible for measuring the number of interactions defined by
	status of the interaction management process (Categorization, Work in
	Progress, Review).
Incident by Status	Indicator responsible for measuring the number of incidents defined by sta-
	tus of the incident management process (Categorization, Investigation, Re-
	view).
Status Request	Indicator responsible for measuring the number of service requests defined
	by status of the request fulfillment management process (Request, Service,
	Review).
Percentage of Critical Incidents	Indicator responsible for measuring the percentage of critical incidents in
	relation to the total number of open incidents.
Percentage of Incidents by Priority	Indicator responsible for measuring the percentage of incidents by priority
	(high, medium and low).
Average Incident Response Time	Indicator responsible for measuring the average time of handling incidents.
Average Request Attendance Time	indicator responsible for measuring the average time or nanding incidents.
Tiverage request retendance rime	Indicator responsible for measuring the average time of fulfillment of Req-
Triorage request rationalises Time	
Percentage of Overtime Consump-	Indicator responsible for measuring the average time of fulfillment of Req-
	Indicator responsible for measuring the average time of fulfillment of Requisitions.
Percentage of Overtime Consump-	Indicator responsible for measuring the average time of fulfillment of Requisitions.
Percentage of Overtime Consumption by Period	Indicator responsible for measuring the average time of fulfillment of Requisitions.  Indicator responsible for measuring overtime consumption by time period.
Percentage of Overtime Consumption by Period	Indicator responsible for measuring the average time of fulfillment of Requisitions.  Indicator responsible for measuring overtime consumption by time period.  Indicator responsible for measuring the percentage of availability of the ser-
Percentage of Overtime Consumption by Period Service Availability (Channels)	Indicator responsible for measuring the average time of fulfillment of Requisitions.  Indicator responsible for measuring overtime consumption by time period.  Indicator responsible for measuring the percentage of availability of the service channels service in relation to the agreed service time.
Percentage of Overtime Consumption by Period Service Availability (Channels)	Indicator responsible for measuring the average time of fulfillment of Requisitions.  Indicator responsible for measuring overtime consumption by time period.  Indicator responsible for measuring the percentage of availability of the service channels service in relation to the agreed service time.  Indicator responsible for measuring the percentage of payment service avail-

Indicator	Description
Service Availability (Exchange)	Indicator responsible for measuring the percentage of exchange service
	availability in relation to the agreed service time.
Service Availability (Ombudsman)	Indicator responsible for measuring the percentage of availability of the om-
	budsman service in relation to the agreed service time.
	Deployment Indicators
Percentage of Normal Implants Re-	Indicator responsible for measuring the percentage of requests rejected dur-
jected	ing the assessment by the Implementation Committee in the period and re-
	ducing the number of requests for deployments with errors submitted to the
	Implementation Committee.
Percentage of Rejected Emergency	Indicator responsible for measuring the percentage of emergency requests
Deployments	rejected during the assessment by the Emergency Implementation Commit-
	tee in the period and reducing the number of requests submitted to the Emer-
	gency Implementation Committee.
Percentage of Emergency Deploy-	Indicator responsible for measuring the percentage of emergency requests
ments	implemented per period in relation to other types of implementation re-
	quests.
Deployment Success Percentage	Indicator responsible for measuring the percentage of deployments success-
	fully executed in the period.
Deployment Return Percentage	Indicator responsible for measuring the percentage of deployments executed
	and returned in the period, that is, deployments in which it was necessary
	to execute the expected return solution.
Percentage of Corrections in De-	Indicator responsible for measuring the percentage of deployments per-
ployments	formed with the need to correct procedures or elements of the deployment
	package.
Percentage of Return on Results	Indicator responsible for measuring the return percentage of the technical
	areas on the results of the implementations carried out in the period.
Percentage of Managers' Satisfac-	Indicator responsible for measuring the percentage of positive responses
tion	from managers regarding the satisfaction of deployments in relation to the
	total responses in the period.
Satisfaction Response Percentage	Indicator responsible for measuring the percentage of managers who re-
	sponded to the satisfaction survey on deployments in relation to the total
D	number of surveys sent.
Percentage of Unavailability and	Indicator responsible for measuring the percentage of implemented implemented implementations that appeared in side of the provided
Failures	mentations that generated incidents in the period.
Quantity of Deployments by Execution Situation	Indicator responsible for measuring the number of deployments per situation (Successfully Deployed, Deployed with Correction, Canceled, Re-
tion Situation	
	turned, etc.).  Planning and Control Indicators
Quantity of Contracts by Executive	Indicator responsible for measuring the number of contracts in force by di-
Board and Departmental Areas	rectors and departmental areas.
Quantity of Contracts per Maturity	Indicator responsible for measuring the number of current contracts that are
Quality of Contracts per Maturity	close to expiring.
Average Number of Days per Con-	Indicator responsible for measuring the average number of days that the
tracting Phase	process remains at each stage of contracting planning.
Monitoring Budget Execution (Ex-	Indicator responsible for measuring the percentage of the requested amount
penses and Investments)	and budgeted amount for the amount executed, in the technology area, on a
penses and investments)	monthly basis.
Percentage of Fragilities Overcome	Indicator responsible for measuring the percentage of weaknesses that have
and Overcoming	won or are close to winning.
Percentage of Improvements Over-	Indicator responsible for measuring the percentage of improvements that
due and Overdue	have won or are close to winning.
Quantity of Weaknesses by Respon-	Indicator responsible for measuring the number of weaknesses that are open
sible Area	per responsible area.
Quantity of Fragilities by Origin	Indicator responsible for measuring the number of weaknesses that are open
Cam may 22 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	by origin (BACEN, internal audit, contracted audit, self-assessment, etc.).

Indicator	Description
Quantity of Weaknesses by Situa-	Indicator responsible for measuring the number of weaknesses per situation
tion and Criticality	(in progress, suspended, completed) and criticality (low, medium, high).
	Demand Indicators
Average Time to Respond to Demands	Indicator responsible for measuring the average time of meeting demands.
Percentage of Canceled and Paid Demands	Indicator responsible for measuring the percentage of claims that were canceled, but had to be paid.
Percentage of Demands in Homolo-	Indicator responsible for measuring the percentage of demands that are
gation for more than 10 days	awaiting approval for more than 10 days.
Percentage of Demands in Homologation by System	Indicator responsible for measuring the percentage of demands that are awaiting approval by system.
Percentage of Demands in Homolo-	Indicator responsible for measuring the percentage of demands that are
gation by Period	awaiting approval for a certain period of time (biweekly, monthly, quarterly, etc.).
Percentage of Demands in Homolo-	Indicator responsible for measuring the percentage of demands that are
gation by Executive Board	awaiting approval by the board.
Percentage of Demands Demanded and Suspended	Indicator responsible for measuring the percentage of demands that have been requested and that have been suspended, by departmental areas.
Percentage of Demands Tested by	Indicator responsible for relating the number of demands tested by the num-
Incidents	ber of incidents that are opened. It is expected that, as the number of de-
	mands tested increases, the number of incidents will decrease.
Percentage of Quality	Indicator responsible for relating the quantity of tested and untested demands.
	Data Indicators
Average Data Quality Score per In-	Indicator responsible for measuring the degree of data quality per instance
stance	of the databases.
Percentage of Data Quality by Cat-	Indicator responsible for measuring the percentage of data quality by cate-
egory	gory (Bad, Regular, Good, Very Good, Excellent)
Percentage of Demands in Homologation for more than 10 days	Indicator responsible for measuring the percentage of demands that are awaiting approval for more than 10 days.
Percentage of Demands in Homologation by System	Indicator responsible for measuring the percentage of demands that are awaiting approval by system.
Percentage of Demands in Homologation by Period	Indicator responsible for measuring the percentage of demands that are awaiting approval for a certain period of time (biweekly, monthly, quarterly, etc.).
Percentage of Demands in Homolo-	Indicator responsible for measuring the percentage of demands that are
gation by Executive Board	awaiting approval by the board.
Percentage of Demands Demanded	Indicator responsible for measuring the percentage of demands that have
and Suspended	been requested and that have been suspended, by departmental areas.
	Project Indicators
Quantity of Projects per Performance Evaluation	Indicator responsible for classifying projects according to the category related to the execution time (On time, possible delay, late and overdue).
Quantity of Projects per Manager	Indicator responsible for quantifying the number of projects that are under the responsibility of each manager.
Project Completion Percent	Indicator responsible for measuring the planned completion percentage in
	relation to the completed percentage.
Term Performance Index	Indicator responsible for measuring the progress of the project in relation to the pre-established schedule.
	Process Indicators
Process Compliance Percentage	Indicator responsible for measuring the degree of compliance achieved by
	each evaluated process, within a certain period.
IT Compliance Percentage	Indicator responsible for measuring the degree of compliance achieved through the average compliance of all IT processes.
Percentage of Non-Conformities in	Indicator responsible for measuring the percentage of non-conformities that
Treatment	are being treated, through an action plan.

## A.2. Indicators to be analyzed

Table 2: List of indicators to be analyzed

Indicator	Description	Reference
	Requirements Indicators	
Traceability (R)	Indicator responsible for measuring traceability between requirements	[6], [11]
	and projects, between requirements and processes and between require-	
	ments and other requirements.	
Average Approval Time	Indicator responsible for measuring the average time spent by the re-	[12], [13]
(TMA)	questing area to approve the requirements raised by the technical area.	
	Performance indicators	
ROI	Indicator responsible for measuring the relationship between the amount	[8], [2]
	of money the company won or lost and the amount of money that was	
	invested.	
Market Share (MS)	Indicator responsible for measuring the degree of participation of a com-	[8], [2]
	pany in the market in which it operates.	
Customer Acquisition (AC)	Indicator responsible for measuring the number of customers that the	[8], [2]
	company acquired in a given period.	
Churn Rate (CR)	Indicator responsible for measuring the number of customers that your	[8], [2]
	company lost in a given period.	2 3/ 2 3
Customer Satisfaction (SC)	Indicator responsible for measuring the degree of contentment of cus-	[8], [2]
, ,	tomers with the products or services that the company offers.	E 3/ E 3
Failure Index (IF)	Indicator responsible for measuring the number of errors made by em-	[8], [2]
	ployees by time period and by resolved demand.	E 3/ E 3
Staff Training (TF)	Indicator responsible for measuring the number of employees who have	[8], [2]
6()	undergone company training.	L-3/ L 3
Percentage of Action Plans	Indicator responsible for measuring the percentage of action plans that	[8], [2]
Completed on Time	were completed on time.	[-], [-]
Percentage of PDTI Exe-	Indicator responsible for measuring the percentage of strategic objec-	[8], [2]
cuted up to the Current Pe-	tives and actions defined in the IT Master Plan (PDTI) that have been	[-], [-]
riod	completed until the moment.	
	Test Indicators	
Test Case Efficiency Index	Indicator responsible for measuring the size of the test case specification	[1]
(IECT)	in relation to the requirement specification.	
Type of Test Case Specifica-	Indicator responsible for measuring the different types of test steps that	[1]
tion (TECT)	structure the flow of the test case.	[+]
Template Compliance Per-	Indicator responsible for measuring the number of test cases that are in	[1]
centage (PCT)	accordance with the model defined for the project.	[±]
Percentage of Untested De-	Indicator responsible for measuring the number of test cases that are in	[1]
mands	accordance with the model defined for the project.	[1]
Percentage of Bugs by Func-	Indicator responsible for measuring the percentage of bugs in relation to	[1]
tion Point	the number of function points, by demand, system or service.	[1]
Percentage of Demands	Indicator responsible for measuring the percentage of demands that were	[1]
Failed by the Test	failed by the test.	[1]
Average Test Cycles	Indicator responsible for measuring the average test cycles performed	[1]
Avoiago Tost Cycles	on demand.	[±]
Percentage of Bugs by		[1]
	Indicator responsible for measuring the percentage of bugs by severity	[1]
Severity  Paragraphy Page by Page	(low, medium, high, preventive).	r11
Percentage of Bugs by Reso-	Indicator responsible for measuring the percentage of bugs by resolution	[1]
lution	(open, reopened, uncorrectable, etc.).	
n 1 ' 1 D ' 1 D ' 1	Risk Indicators	F13
Technical Problem Risks	Indicator responsible for measuring the risk related to technical prob-	[1]
(RPT)	lems, such as configuration of the development environment, automation of tools and agile process, etc.	

Indicator	Description	Reference
Technological Risks (RT)	Indicator responsible for measuring the risks related to the technology	[1]
	to be developed and the technology used to develop the solution.	
	Service Operation Indicators	
Compliance with Incidents	Indicator responsible for measuring the percentage of incidents that are	[3], [10]
for Compliance with ANS	attended within the term agreed in the Service Level Agreement (ANS).	
Percentage of ANS Compli-	Indicator responsible for measuring the percentage of ANS compliance	[3], [10]
ance by Service	for each service provided by the IT area for the business area.	
Interaction by Status	Indicator responsible for measuring the number of interactions defined	[3], [10]
	by status of the interaction management process (Categorization, Work	
	in Progress, Review).	
Incident by Status	Indicator responsible for measuring the number of incidents defined by	[3], [10]
	status of the incident management process (Categorization, Investiga-	
	tion, Review).	
Request by Status	Indicator responsible for measuring the number of service requests de-	[3], [10]
	fined by status of the request fulfillment management process (Request,	
	Service, Review).	
Percentage of Critical Inci-	Indicator responsible for measuring the percentage of critical incidents	[3], [10]
dents	in relation to the total number of open incidents.	
Percentage of Incidents by	Indicator responsible for measuring the percentage of incidents by pri-	[3], [10]
Priority	ority (high, medium and low).	
Average Incident Response	Indicator responsible for measuring the average incident response time.	[3], [10]
Time		
Average Request Attendance	Indicator responsible for measuring the average Request Attendance	[3], [10]
Time	time.	
Percentage of Overtime	Indicator responsible for measuring overtime consumption by period of	[3], [10]
Consumption by Period	time.	
Service Availability (Chan-	Indicator responsible for measuring the percentage of availability of the	[3], [10]
nels)	service channels in relation to the agreed service time.	
Service Availability (SPB)	Indicator responsible for measuring the percentage of payment service	[3], [10]
	availability in relation to the agreed service time.	
Service Availability (PLD)	Indicator responsible for measuring the percentage of availability of the	[3], [10]
	money laundering prevention service in relation to the agreed service	
	time.	
Service Availability (Ex-	Indicator responsible for measuring the percentage of exchange service	[3], [10]
change)	availability in relation to the agreed service time.	
Service Availability (Om-	Indicator responsible for measuring the percentage of availability of the	[3], [10]
budsman)	ombudsman service in relation to the agreed service time.	
	Deployment Indicators	
Percentage of Rejected Nor-	Indicator responsible for measuring the percentage of requests rejected	[4], [10]
mal Deployments	during the assessment by the Deployment Committee in the period and	
	reducing the number of requests for deployments with errors submitted	
	to the Deployment Committee.	
Percentage of Rejected	Indicator responsible for measuring the percentage of emergency re-	[4], [10]
Emergency Deployments	quests rejected during the assessment by the Emergency Deployment	
	Commission in the period and reducing the number of requests submit-	
	ted to the Emergency Deployment Commission.	
Percentage of Emergency	Indicator responsible for measuring the percentage of emergency re-	[4], [10]
Deployments	quests deployed per period in relation to other types of deployment re-	
	quests.	
Percentage of Successes in	Indicator responsible for measuring the percentage of implementations	[4], [10]
Implementations	successfully executed in the period.	
Percentage of Return from	Indicator responsible for measuring the percentage of deployments car-	[4], [10]
Deployments	ried out and returned in the period, that is, deployments in which it was	
	necessary to execute the expected return solution.	

Indicator	Description	Reference
Percentage of Corrections in	Indicator responsible for measuring the percentage of deployments per-	[4], [10]
Deployments	formed with the need to correct procedures or elements of the deploy-	
	ment package.	
Percentage of Return of Re-	Indicator responsible for measuring the percentage of return of the tech-	[4], [10]
sults	nical areas on the results of the implementations carried out in the pe-	
	riod.	
Percentage of Managers'	Indicator responsible for measuring the percentage of positive responses	[4], [10]
Satisfaction	from managers regarding the satisfaction of deployments in relation to	
	the total responses in the period.	
Percentage of Satisfaction	Indicator responsible for measuring the percentage of managers who re-	[4], [10]
Response	sponded to the satisfaction survey on deployments in relation to the total	
	number of surveys sent.	
Percentage of Unavailability	Indicator responsible for measuring the percentage of implemented im-	[4], [10]
and Failures	plementations that generated incidents in the period.	
Quantity of Deployments by	Indicator responsible for measuring the number of deployments by situ-	[4], [10]
Situation in Execution	ation (Deployed Successfully, Deployed with Correction, Canceled, Re-	
	turned, etc.).	
	Planning and Control Indicators	
Quantity of Contracts by De-	Indicator responsible for measuring the number of contracts in force by	[9], [10]
partment and Departmental	department and departmental areas.	
Areas		FO1 F4 O1
Quantity of Contracts per	Indicator responsible for measuring the number of current contracts that	[9], [10]
Expiration	are close to expiring.	FO1 F4 O1
Average Number of Days per	Indicator responsible for measuring the average number of days that the	[9], [10]
Contracting Phase	process remains at each phase of contracting planning.	
Monthly Expense Monitor-	Indicator responsible for measuring the percentage of the requested	[9], [10]
ing	amount and budgeted amount for the amount executed, in the technology	
D C. XV. 1	area, on a monthly basis.	FO1 F101
Percentage of Weaknesses	Indicator responsible for measuring the percentage of weaknesses that	[9], [10]
Overdue and Overcome	overdue and overcome.	[O] [10]
Percentage of Improvements Overdue and Overcome	Indicator responsible for measuring the percentage of improvements that	[9], [10]
	overdue and overcome.	[0] [10]
Quantity of Weaknesses by Responsible Area	Indicator responsible for measuring the number of weaknesses that are	[9], [10]
1	open by responsible area.	[0] [10]
Quantity of Weaknesses by	Indicator responsible for measuring the number of weaknesses that	[9], [10]
Origin	are open by origin (BACEN, internal audit, contracted audit, self-	
O	assessment, etc.).	[0] [10]
Quantity of Weaknesses per situation and Critically	Indicator responsible for measuring the number of weaknesses per situation (in progress, suspended, completed) and critically (low, medium,	[9], [10]
situation and Critically	high).	
	Demand Indicators	
Average Time to Respond to	Indicator responsible for measuring the average time to respond to de-	[4], [10]
Demands	mands.	[4], [10]
Percentage of Canceled and	Indicator responsible for measuring the percentage of demands that were	[4], [10]
Paid Demands	canceled, but had to be paid.	[4], [10]
Percentage of Demands Ap-	Indicator responsible for measuring the percentage of demands that are	[4], [10]
proved for more than 10 days	awaiting approval for more than 10 days.	[+],[10]
Percentage of Demands in	Indicator responsible for measuring the percentage of demands that are	[4], [10]
Homologation by System	awaiting homologation by system.	[+], [1U]
Percentage of Demands in	Indicator responsible for measuring the percentage of demands that are	[4], [10]
•		[ [4], [1U]
Homologation by Period	awaiting homologation for a certain period of time (biweekly, monthly,	
Dargantage of Damanda !-	quarterly, etc.).	[4] [10]
Percentage of Demands in	Indicator responsible for measuring the percentage of demands that are	[4], [10]
Homologation by Board	awaiting homologation by board.	

Indicator	Description	Reference
Percentage of Demands De-	Indicator responsible for measuring the percentage of demands that have	[4], [10]
manded and Suspended	been requested and that have been suspended by departmental areas.	
Percentage of Demands	Indicator responsible for relating the number of demands tested by the	[4], [10]
Tested by Incidents	number of incidents that are opened. It is expected that, as the number	
	of demands tested increases, the number of incidents will decrease.	
Percentage of Quality	Indicator responsible for relating the number of tested demands and	[4], [10]
	untested demands.	
	Data Indicators	
Average Data Quality Score	Indicator responsible for measuring the degree of data quality per in-	[5], [10]
per Instance	stance of the databases.	
Percentage of Data Quality	Indicator responsible for measuring the percentage of data quality by	[5], [10]
by Category	category (Bad, Regular, Good, Very Good, Excellent)	
Percentage of Demands Ap-	Indicator responsible for measuring the percentage of demands that are	[5], [10]
proved for more than 10 days	awaiting approval for more than 10 days.	
Percentage of Demands in	Indicator responsible for measuring the percentage of demands that are	[5], [10]
Homologation by System	awaiting homologation by system.	
Percentage of Demands in	Indicator responsible for measuring the percentage of demands that are	[5], [10]
Homologation by Period	awaiting homologation for a certain period of time (biweekly, monthly,	
	quarterly, etc.).	
Percentage of Demands in	Indicator responsible for measuring the percentage of demands that are	[5], [10]
Homologation by Board	awaiting homologation by board.	
Percentage of Demands De-	Indicator responsible for measuring the percentage of demands that have	[5], [10]
manded and Suspended	been requested and that have been suspended, by departmental areas.	
	Project Indicators	
Quantity of Projects by Per-	Indicator responsible for classifying projects according to the category	[7]
formance Evaluation	related to the execution period (On time, possible delay, late and over-	
	due).	
Quantity of Projects per	Indicator responsible for quantifying the number of projects that are un-	[7]
Manager	der the responsibility of each manager.	
Percentage of Project Com-	Indicator responsible for measuring the percentage of planned comple-	[7]
pletion	tion in relation to the percentage of completion accomplished.	
Term Performance Index	Indicator responsible for measuring the progress of the project in relation	[7]
	to the pre-established schedule.	
	Process Indicators	
Percentage of Compliance	Indicator responsible for measuring the degree of compliance achieved	[4], [10]
by Process	by each evaluated process, within a certain period.	
Percentage of IT Compli-	Indicator responsible for measuring the degree of compliance achieved	[4], [10]
ance	through the average of compliance of all IT processes.	
Percentage of Non-	Indicator responsible for measuring the percentage of non-conformities	[4], [10]
Conformities in Treatment	that are being treated, through an action plan.	

## A.3. Indicators to be analyzed (after the filter made by the board)

Table 3: List of indicators to be analyzed (after the filter made by the board)

Indicator	Description	Reference		
	Performance indicators			
Percentage	Indicator responsible for measuring the percentage of strategic objectives and actions	[8], [2]		
of PDTI Ex-	defined in the IT Master Plan (PDTI) that have been completed so far.			
ecuted up to				
the Current				
Period				
Test Indicators				

Indicator	Description	Reference
Percentage of	Indicator responsible for measuring the number of test cases that are in accordance	[1]
Untested De-	with the model defined for the project.	
mands	Service Operation Indicators	
Average	Indicator responsible for measuring the average incident response time.	[3],
Incident	indicator responsible for incasaring the average incident response time.	[10]
Response		[10]
Time		
Percentage	Indicator responsible for measuring overtime consumption by period of time.	[3],
of Overtime		[10]
Consumption		
by Period		
Service Avail-	Indicator responsible for measuring the percentage of availability of the service chan-	[3],
ability (Chan-	nels in relation to the agreed service time.	[10]
nels)		
Service Avail-	Indicator responsible for measuring the percentage of payment service availability in	[3],
ability (SPB)	relation to the agreed service time.	[10]
Service Avail-	Indicator responsible for measuring the percentage of availability of the money laun-	[3],
ability (PLD)	dering prevention service in relation to the agreed service time.	[10]
Service	Indicator responsible for measuring the percentage of exchange service availability in	[3],
Availability	relation to the agreed service time.	[10]
(Exchange)	T. 1'	[2]
Service	Indicator responsible for measuring the percentage of availability of the ombudsman	[3],
Availability (Ombuds-	service in relation to the agreed service time.	[10]
man)		
man)	Deployment Indicators	
Percentage of	Indicator responsible for measuring the percentage of deployments performed with the	[4],
Corrections in	need to correct procedures or elements of the deployment package.	[10]
Deployments		[]
Percentage	Indicator responsible for measuring the percentage of positive responses from man-	[4],
of Managers'	agers regarding the satisfaction of deployments in relation to the total responses in the	[10]
Satisfaction	period.	
Percentage of	Indicator responsible for measuring the percentage of managers who responded to the	[4],
Satisfaction	satisfaction survey on deployments in relation to the total number of surveys sent.	[10]
Response		
Percentage of	Indicator responsible for measuring the percentage of implemented implementations	[4],
Unavailability	that generated incidents in the period.	[10]
and Failures		
Monitoria	Planning and Control Indicators	[0]
Monitoring Pudget Ev	Indicator responsible for measuring the percentage of the requested amount and bud-	[9],
Budget Ex- ecution (ex-	geted amount for the amount executed, in the technology area, on a monthly basis.	[10]
penditure and		
investment)		
mvesiment)	Demand Indicators	
Average Time	Indicator responsible for measuring the average time to respond to demands.	[4],
to Respond to	Transfer of the state of the st	[10]
Demands		
	Project Indicators	·
Percentage of	Indicator responsible for measuring the percentage of planned completion in relation	[7]
Project Com-	to the percentage of completion accomplished.	
pletion		
Term Perfor-	Indicator responsible for measuring the progress of the project in relation to the pre-	[7]
mance Index	established schedule.	

### Proposal of a Model for the Definition, Prioritization and Optimization of Indicators

Indicator	Description	Reference		
	Process Indicators			
Percentage	Indicator responsible for measuring the percentage of non-conformities that are being	[4],		
of Non-	treated, through an action plan.	[10]		
Conformities				
in Treatment				

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