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# INTEGRATED PERFORMANCE ASSESSMENT IN THE PORTUGUESE AIR FORCE

## *A METODOLOGIA INTEGRADA DE GESTÃO DE DESEMPENHO NA FORÇA AÉREA PORTUGUESA*[1]

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**Abstract**

The evaluation process of the Portuguese Air Force (PoAF) is developed both at organization level and individually for each service member. However, the two levels of evaluation are separate and the performance assessment tools used in the PoAF are not linked, and as a result it is not possible to analyse performance in an integrated manner. This paper relies on a case study design to conceive an integrated performance management methodology to measure individual contributions to the organization's goals and to steer the evaluation process towards management by objectives, thus contributing to integrate the organization's internal tools of performance management. Results show that integrating these strategic management tools allows the PoAF to monitor performance in real time and to strategically align the individual and organizational processes of

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evaluation, thus meeting the requirements of the Public Administration Evaluation System. Disseminating the methodology proposed here across the hierarchical levels of the PoAF enables performance evaluation to take place both at the individual and division levels, guaranteeing individual accountability.

**Keywords:** Performance evaluation, Performance management, Management by objectives, Balanced Scorecard, Public Administration, Air Force.

***Resumo***

*Na Força Aérea Portuguesa (FA) a avaliação incide tanto ao nível global da organização como ao nível individual para cada colaborador. No entanto, não existem elementos de conexão entre estes dois níveis de avaliação e, por esta razão, as ferramentas de avaliação de desempenho existentes na FA não se encontram interligadas, impedindo uma análise integrada do desempenho. Com o estudo realizado, e recorrendo à metodologia de um estudo de caso, procurámos conceber uma metodologia integrada de gestão de desempenho que torne possível medir o contributo de cada indivíduo na prossecução dos objetivos da organização e orientar o processo de avaliação para a gestão por objetivos, contribuindo assim para interligação das ferramentas de gestão de desempenho desenvolvidas internamente. Recorremos para tal numa primeira fase a fontes documentais, e posteriormente o método de recolha de recolha de dados utilizado foram as entrevistas. Os resultados obtidos sugerem que, ao integrar as ferramentas de gestão estratégica, é possível acompanhar em tempo real e alinhar de forma transversal a avaliação individual e organizacional, dando resposta às exigências do Sistema de Avaliação da Administração Pública. Com a difusão da metodologia proposta pelos diferentes níveis hierárquicos da FA, torna-se possível assegurar uma avaliação de desempenho tanto ao nível individual como divisional, garantindo a responsabilização individual.*

***Palavras-Chave:*** *Avaliação de desempenho, Gestão de desempenho, Gestão por objetivos,* Balanced Scorecard*, Administração Pública, Força Aérea.*

## Introduction

Since the nineteenth century, scholars have been increasingly drawn to the study of performance assessment (PA). At first, the effectiveness of the evaluation process was linked to the organization's financial aspects, such as profit, return on investment, and productivity (Ghalayini and Noble, 1996). But the studies that have been developed on the topic show that there organizations have other performance assessment instruments at their disposal, with managerial accounting playing a relevant role in providing information to support strategic decision making, as well as in the successful implementation of strategic plans (Ittner and

Larcker, 2001). According to Fletcher (2001), performance evaluation is a part of a wider concept, that of performance management (PM).

Performance in the Public Sector (PS) has become a topic of interest for public management scholars worldwide, and management systems are seen as crucial for effective government performance (Sole, 2009). After the Integrated System of Performance Assessment in the Public Administration (SIADAP) was introduced in Portugal in 2004[2], the Government's strategic approach has focused on one main change, implementing management by objectives (MBO).

This paper aims to understand if the Portuguese Air Force (PoAF) is capable of keeping up with the developments in PM that have been implemented in the Public Administration (PA), and of ensuring that the organization's objectives are connected with the outcomes of the management cycle.

This paper is organized into four main chapters. The first chapter introduces the key concepts through a literature review, and is the theoretical framework that supports this investigation. The second chapter describes the methods used to carry out this empirical case study, also providing a description of the appraisal process, the strategic cycle, and the strategic management tools used. First, the data collection process relied on documentary sources, then the strategic management tools were analysed, and finally information was collected through interviews.

The third chapter presents the study's results and ensuing critical discussion. Finally, the fourth chapter consists of final reflections that highlight the main conclusions, addressing the contributions and limitations of the research and making recommendations for future research.

## 1. Literature Review

Control and Management Systems (CMS) provide managers with useful information for the decision-making, planning, and evaluation processes of the organization's activities (Simons, 1987), allowing them to assess if the strategic objectives are being achieved, and are thus critical to strategic management (Anthony and Govindarajan, 2007).

### 1.1. Performance Evaluation and Management

The terms "performance appraisal" (PA) and "performance management" (PM) are often considered synonyms but are actually different concepts. Some authors point out that PA holds a mirror to past events, that it is a singular moment that does not take into account the company's strategy, while PM extrapolates data to provide information about the future, improving the organization's performance (Aguinis and Pierce, 2008).

According to Aguinis and Pierce (2008), PM can be based on behaviours (by emphasising processes, as in skills-based systems), based on results (as in management by objectives), or based on both.

[2] Law n. 66-B/2007 of 28 December.

PM systems are a vital part of an organization's performance. By collecting the information required for managerial activities, these systems allow managers to determine how far planned actions have been implemented and to identify problem areas (Euske, K Lebas, M. and McNair, C., 1993). It is widely acknowledged that a universal tool that can be applied to all tasks and organizations does not exist, nor is there even a perfect way to assess performance (Nanni, et al., 1990). There are, however, some widely used tools such as the Results and Determinants Framework (Fitzgerald, et al., 1991), the Performance Pyramid (Lynch and Cross, 1991), the Balanced Scorecard (Kaplan and Norton, 1992), and the Performance Prism (Neely, A., Adams, C. and Kennerley, M., 2002).

### 1.2. Management by Objectives

Some studies have addressed how an effective MBO improves PM in organizations, describing how it influences organizational performance (Rodgers and Hunter, 1992; Kluger and DeNisi, 1996; Aksoy and Bayazit, 2014). MBO is a management process that defines an organization's strategic objectives and sets department-level objectives, assessing each employee's contributions to the strategic success of the organization (Greenwood, 1981). This process must be based on clearly operationalized management objectives and on practices that motivate employees to accomplish those objectives (Dahlsten, Styhre, and Williander, 2005).

The advantages of MBO are threefold: goal setting, participation in decision making, and objective feedback (Drucker, 1954; Rodgers and Hunter 1991; Rodgers and Hunter, 1992). This ensures that PM is supported by objective measures by getting employees involved in setting (and fulfilling) the work objectives and in performing a comparative analysis of the results, aligning individual and organizational objectives. For their part, managers measure performance and provide essential feedback to accomplish the assigned tasks (Kluger and DeNisi, 1996).

### 1.3. Balanced Scorecard

Over the years, the Balanced Scorecard (BSC), a performance measurement tool originally introduced by Kaplan and Norton (1992), has developed into a vital strategic management tool of decision making in organizations (Kaplan and Norton 1996a; Kaplan and Norton, 2004a).

The BSC can be defined as a framework that integrates financial and non-financial indicators, organized into different perspectives[3], which give managers a comprehensive view of the organization's performance (Kaplan and Norton, 1992). The methodology proposed in the BSC breaks down the organization's mission and organizational strategy into concrete, quantifiable objectives, using a set of instruments of measurement to monitor and assess if those objectives are being achieved.

[3] The objectives and indicators are grouped into four perspectives: financial; customer; internal process; and organizational learning and growth.

According to Kaplan and Norton (2004b), the Strategy Map (SM) tool can be used to support the BSC because it presents the strategy and shows how it is articulated to generate advantages, as well as the objectives and their cause-effect relationships, linking the formulation to the execution of the strategy. The SM must be created from the top down, first by defining the mission (the reason for the organization's existence) and then by describing how it should be accomplished (strategy). For the strategy to be operationalized and incorporated into the daily work of the organization, the performance indicators must reflect and quantify the organization's objectives for each perspective, as that will allow organizational performance to be monitored (Kaplan and Norton, 1996a).

The SM and the BSC connect the strategic level with the tactical and operational levels, finalizing a relationship that begins in the organization's reason for being (mission) to individual employees and their contributions to the success of the organization.

In the Public Sector in particular, there have been changes and revisions of the concepts in the original BSC model. Kaplan and Norton (2004b) compared the value creation process in a non-profit organization (NPO) and in the public sector to that of a private sector organization where financial and budgetary aspects are given the same importance as customers. For Niven (2011) there are three major adjustments that make it possible to apply the BSC to NPO or to the public sector: (1) the Mission should be at the top of the BSC as the fifth comprehensive perspective, which the objectives, targets, and initiatives set out in the other perspectives must contribute to; (2) the customer must be the main concern, immediately after the mission; and finally, (3) in light of the current budgetary constraints, and because without it the objectives cannot be achieved, the financial perspective is positioned immediately after the customer.

Some military organizations already use the BSC to support strategic management. The studies conducted by the Royal Air Force[4] (Marr and Shore, 2007), the Royal Norwegian Air Force (BSCHoF, 2001; Stig, 2010) and the United States Army (Kaplan and Norton, 2004b) found that the BSC allows commanders to have a comprehensive overview of performance forecasts and associated operational risks. Thus, organizations can become more responsive by supporting decision making through an operational concept of rapid response based on the BSC's ability to provide accurate, predictive, and actionable information on the organization's readiness[5], improving its strategic resource management.

### 1.4. Performance Appraisal and Management reforms in the Public Administration

The global movement known as New Public Management has brought with it reforms aimed at improving performance efficiency and effectiveness, based on measured results, clearly defined responsibilities, and transparent performance reports to the community

[4] British Air Force.

[5] In the Portuguese Air Force, this implies guaranteeing, simultaneously and continuously, the surveillance and control of the Portuguese airspace, keeping combat aircraft in at high readiness, and intervening in the areas of sovereignty under national responsibility and jurisdiction (Annual Plan of Activities - Directive 02/2009 of 20 March 2009).

(Frederickson, 1996; Warrington, 1997). This model was introduced by Hood in 1991 to implement private-sector management techniques in the public sector, especially MBO (Hood, 1995; Gow and Dufour, 2000). The most important aspects introduced by the model were professionalized management, objective performance measures, emphasis on results and cost reduction, and the division of what it saw as large administrative units (Hood, 1991).

The SIADAP[6] was introduced in Portugal in 2004, in response to the need to promote a public management culture capable of analysing the resources allocated to PA bodies by creating the conditions to improve the motivation, qualification, and training of human resources. It was subdivided into three evaluation subsystems: SIADAP 1 (services), SIADAP 2 (managers), and SIADAP 3 (workers). Thus, the first new feature was the formal implementation of the services, which, had been foreseen in the previous system but had never been regulated (Madureira and Rodrigues, 2007).

Its implementation was not easy - the services and those involved in the process were unfamiliar with the system and there were serious setbacks and challenges in setting objectives and performance indicators, as well as in meeting assessment deadlines. In this unfavourable climate, the new SIADAP[7] was implemented in 2007 in an attempt to address those gaps and improve on the previous system (Madureira and Rodrigues, 2011; Araújo and Esteves, 2015).

Especially with regard to SIADAP 1 (Services), the objectives of each service and the results obtained should be published in tandem with the performance management cycle[8]. The results and deviations are analysed using the QUAR [Assessment and Accountability Framework], highlighting the mission, the multi-annual strategic objectives set by the organization's senior management, the annual objectives by order of importance[9], the effectiveness, efficiency, and quality performance indicators[10] and their sources of verification, the service's final performance assessment, and the deviations detected and their respective causes.

[6] Law no. 10/2004 of 22 March, regulated by Regulatory Decree no. 19-A / 2004 of 14 May, replacing the former public administration classification laid down in Regulatory Decree No. 44-B / 83 of 1 June.

[7] Law no. 10/2004 of 22 March (SIADAP 2004) was repealed by Law no. 66B / 2007 of 28 December.

[8] The annual management cycle is divided into the following phases: elaborating the plan of activities for the next year according to the strategic objectives, the organisational duties, and the financial and human resources available; defining the objectives of each organizational unit for the next year; defining the objectives for each worker and/or team in the next year; assessing performance; preparing the activity report.

[9] According to Article 10(1) of Law no. 66B / 2007 of 28 December.

[10] According to Article 11(1) of Law no. 66B / 2007 of 28 December.

## 2. Methodology

### 2.1. The Structure of the Air Force

The Organic Law for the Air Force (LOFA)[11] provides the legal basis, in accordance with the Basic Organic Law for the Organization of the Armed Forces (LOBOFA)[12] of the Air Force as a vertical and hierarchical structure[13]. The Air Force's organizational structure is commanded by the Air Force Chief of Staff (CEMFA), who has direct authority over three Functional Commands - the Air Force Logistics Command (CLAFA); the Air Command (AC); and the Personnel Command of the Air Force (CPESFA)[14].

Thus, there are two decision-making levels: the 1st is the Strategic Level; the 2nd is the Operational Level. The first level of management, or strategic management, is the responsibility of the CEMFA[15], and represents the top management. This level determines the general planning lines of the organization's activity. The operational management of the organization, or 2nd level, is the responsibility of the operational-level bodies[16]. These bodies are responsible for the specific management of the various areas that comprise the Air Force and answer directly to the strategic level, that is, to the guidelines established by it. As for the tactical level, it consists of sustaining the air bases and air units that operate the weapon systems. For the purposes of this paper, only the first two levels were considered as decision levels.

### 2.2. Assessment in the Portuguese Air Force

With regard to individual assessment, the Air Force implemented SIADAP early on to assess the performance of the civilian workers it employs. However, because of the specific nature of the organization, civilian workers do not take on leadership roles, and only the SIADAP 3 subsystem has been implemented[17] regardless of the nature of their employment relationship with the public employment contract.

The SIADAP has not been implemented for the Air Force military personnel, as their assessment is mainly based on merit through the appraisal of the service member's *curriculum vitae*. Therefore, the main focus of this study is individual assessment, aiming to ensure that the personnel management process is effective. The Statute of the Armed

[11] Decree-Law no. 187/2014 of 29 December

[12] Organic Law no. 6-A / 2014 of 1 September.

[13] Article 6(4) of LOBOFA and article 4(3) of LOFA.

[14] According to Article 6 of LOFA, the organisational structure of the PoAF includes a set of bodies, commands, and elements, such as the Air Force Staff (EMFA), the central administration and management bodies, and the AC. According to Article 13 of LOFA, the central administration and governing bodies of the PoAF are: the CPESFA, the CLAFA, and the Directorate of Finance of the Air Force (DFFA).

[15] Supported by the EMFA, the Inspector-General of the Air Force (IGFA), the Directorate of Finance (DFFA), the Culture Bodies (ONC), the Air Force Academy (AFA), and the Council Bodies.

[16] As mentioned above, the three Functional Commands (CLAFA; AC; CPESFA) answer directly to the CEMFA.

[17] Three assessment subsystems were defined as laid out in Article 9 of Law no. 66-B / 2007 of 28 December: services (SIADAP 1), managers (SIADAP 2), and workers (SIADAP 3). The PoAF has only implemented SIADAP 3.

Forces Military Personnel (EMFAR)[18] implements the National Defence Law (NDL)[19] and the Military Service Law (MSL)[20], providing the basis for the Air Force's appraisal process, which relies on the Individual Assessment File (IAF)[21] instrument. In turn, the Regulation for the Merit Assessment of the Air Force Military Personnel (RAMMFA)[22] sets down guidelines on the implementation of the Merit Assessment System of the Air Force Military Personnel (SAMMFA).

In addition, the Air Force has developed a set of strategic management tools adapted to the specificities of the organization, which have been validated by its senior management structures (Páscoa, C., Guedes, P., and Tribolet, J., 2013; Páscoa, C., Horta, R., and Tribolet, J., 2013a). This toolkit is known inside the organization as the Air Force Organizational Cockpit, and consists of the SM, the BSC, and the Flight Plan, a performance dashboard where results can be measured in real time through Key Performance Indicators (KPI)[23]. These measurements serve to determine how far the objectives of the organization have been achieved.

### 2.3. Problematization and methods of analysis

Organizations are increasingly interested in PM, and are especially focusing on a qualitative type of appraisal that can contribute to their development (Aguinis and Pierce, 2008). However, most of the activities that comprise an organization's processes are performed by people who play specific roles in it. MBO, as an integral part of the PM, measures how each employee contributes to the organization's sustained strategic success, enabling accountability by providing a direct comparison between expected and achieved goals (Greenwood, 1981). In the specific case of the Air Force, the PA process is implemented both at the organizational and individual levels. However, the two are not connected, and managers are unable to ascertain individual contributions to the organization's performance. Therefore, this case study must begin by posing the following question: *Using tools that are already being developed in the Portuguese Air Force, is it possible to steer the process towards Management by Objectives?*

In addition to this initial question, we must also pose some research questions. Thus, in this paper, we will endeavour to understand the "how" and the "why" (Yin, 2009). In

[18] Decree-Law no. 90/2015 of 29 May.

[19] Organic Law no. 1-B / 2009 of 7 July, as amended and ratified by Rectification Declaration no. 52/2009 of 20 July and by Organic Law no. 5/2014 of 29 August.

[20] Law no. 174/99 of September 21.

[21] Ordinance no. 21/94 of 8 January establishing the general criteria for the merit assessment of military personnel, which affects promotion by choice.

[22] Ordinance no. 451/2016 of 3 August.

[23] Key Performance Indicators can be used as a tool to monitor current performance, to detect performance deviations outside the expected ranges, and to compare current and past performance. KPI are the "cream" of metrics. KPI focus only on what is essential for a solid performance and for the development of the organization without wasting valuable time (Rasmussen, N., Chen, C. Y. and Bansal, M., 2009).

our opinion, the answer to the "how" can only be found by articulating the set of strategic management tools at the Air Force's disposal, promoting their use in the appraisal process and steering it towards management by objectives. To answer the "why" question, this case study will focus on the major factor in the development of any organization - the people who work there - and the analysis will focus on the context of a military organization. For the organization to improve the management of its strategic resources and thus become more agile, based on the operational concept of rapid and flexible response, the information on the readiness of its assets must be accurate, measurable, and actionable (Kaplan and Norton, 2004b). Therefore, to answer the initial question, the paper will be divided into several research questions which we will answer in the analysis of results.

This empirical research used a case study methodology (Yin, 2009; Yin, 2011), and the data analysed were drawn from a single organization - the Portuguese Air Force. The unit of analysis was chosen due to the researchers' familiarity with the organization, which allowed them immediate and easy access to the data to be collected. It is, therefore, a single case study design (Yin, 2011), albeit one that is representative of a military organization with a specific organizational reality, which will allow us to answer the research questions.

In the first phase, the data collection process relied on documentary sources such as the Annual Plan of Activities (APA), the Annual Activity Report (AAR), the Management Report, the Air Force Regulations (AFR), the IAF, and related legislation. The strategic management tools that comprise the Organizational Cockpit (SM, BSC, and Flight Plan) were also analysed.

The data collection method used in the second phase was the interview, an important and essential source of information for case studies (Yin, 2009), which allowed us to capture several views of the same phenomenon (Stake, 1999). Thus, two exploratory interviews were conducted (Quivy and Campenhoudt, 2005) in an attempt to understand the context and phenomenon under study. On the one hand, an interview was conducted with the Directorate of Education Services and Portuguese Schools Abroad [Direção de Serviços de Ensino e Escolas Portuguesas no Estrangeiro] (DSEEPE)[24], which helped us understand the planning and management mechanisms and processes involved in the appraisal of public administration services, listing the positive and negative aspects of SIADAP 1 (Services). On the other hand, the exploratory interview conducted with the Directorate of Personnel (DP), the unit that manages the Air Force's assessment process, aimed to understand performance appraisal in the Air Force and to ascertain the relevance of measuring individual contributions to the organization's performance.

In the next phase, data collection interviews were conducted (Quivy and Campenhoudt, 2005) to discuss the potential of performance management instruments. The interviews were conducted with the Air Force Staff (EMFA), the Planning Division (DivPlan), and the

[24] Which answers to the General Directorate of School Administration (DGAE), under the Ministry of Education and Science (MES).

Operations Division (DivOps) and aimed to answer the research questions and achieve the objectives of this study (see Table 1).

**Table 1 - Summary table of respondents**

| Interview | Respondent | Organization | Position |
|---|---|---|---|
| **1** | Major Severiano | PoAF – Directorate of Personnel | PoAF Assessment (military personnel)[a] |
| **2** | Captain Martins | PoAF – Directorate of Personnel | PoAF Assessment (military personnel)[b] |
| **3** | Captain Martins | PoAF – Directorate of Personnel | PoAF Assessment (civilian personnel)[c] |
| **5** | Lieutenant Colonel Vicente | EMFA – Planning Division | Management Cycle[d] |
| **6** | Major Marado | EMFA – Operations Division | Office Analysis and Methods[e] |
| **7** | Dr Paula Teixeira | DGAE ( DSEEPE ) | DSEEPE Director |

a Head of the Careers Office and Primary Responsible Entity (ERP) of the PoAF
b Head of the Promotions and Reserves Department
c Head of the Active Civilian Personnel Office
d Head of the Plans Office of the Planning Division of the General Staff
e Deputy for Office Analysis and Methods

## 3. Analysis and discussion of results

Understanding the current context of the Air Force's PA, strategic management cycle, and planning process, as well as its strategic management tools was critical to this investigation, as it allowed us to determine the strengths and limitations of the existing tools and their applicability to performance management. By analysing all the tools available in the Air Force and conducting interviews, it was possible to create an integrated methodology of performance management that can be disseminated across the echelons of the Air Force.

### 3.1. The QUAR in the Air Force

In Public Administration, PM is supported by the QUAR[25]. Therefore, we have endeavoured to ascertain to what extent the features of this tool can be used in the Air Force. Therefore, the first research question that must be posed is: *Q1: Is the QUAR enough to support the Air Force's Performance Management process?*

[25] Law no. 66-B/2007 of 28 December.

In the interview conducted with the DSEEPE[26], QUAR was referred to as a tool with great potential. However, it was also mentioned that tapping that potential would require a strong commitment to training and educating personnel in the use of this tool. The public service's general lack of experience in defining objectives linked to indicators and targets, and the absence of practices of collection, systematization, and analysis of past information make establishing credible targets very challenging.

One of the negative aspects of the QUAR that was alluded to in all interviews is that it often leads to high achievement rates that lack any informative content. This problem is even discussed in the legislation that frames the SIADAP, which states that the services are given a "Good Performance" evaluation whenever some objectives are exceeded[27]. If we are allocating resources to an objective that has already been achieved when they could be allocated to objectives that have yet to be achieved, this means, in our opinion, that the current resource management system has room for improvement.

The implementation of the QUAR in the Armed Forces is not compulsory at the moment; however, in the specific case of the PoAF, there is already a model in use and the aim of this paper is to explore the validity of that tool for performance management. Both the Air Force Cockpit, a tool to support strategic management, and the BSC, which is an integral part of it, provide relevant information for the QUAR. However, the QUAR was not designed to cover all the institution's lines of activity, thus, it should only be used for vital areas, and the objectives of the BSC that can be used in the assessment must be identified.

During the interviews, it was also mentioned that the QUAR tool alone is not enough to assess the services and that it must be used in combination with other support tools such as the BSC, among others. The QUAR should aggregate important information and provide a simple final report that describes the service's strategy so that the means can be compared with the results.

### 3.2. Integration of Performance-Oriented Tools

The DP[28] is aware that the current appraisal process is based on past events, that it is not future-oriented, and that "we need to orient [the assessment] towards a more alternative and innovative process because the one we have is not enough". Thus, the second research question that emerges from this case study is: *Q2: Will combining performance management tools enable real-time management by objectives?*

At macro level, the tools that can be used in strategic management have already been validated by the Air Force's senior management[29]. The PoAF's SM is a schematic depiction

[26] Teixeira, Paula. Interview conducted by Joana Gaio. Lisbon: 26 June 2015.

[27] Article 11(3) (a) and Article 18(1) (a) of Law no. 66-B/2007 of 28 December.

[28] Nuno, Martins. Interview conducted by Joana Gaio. Lisbon: 25 June 2015.

[29] To obtain an integrated image, the execution strategy is examined every 3 months, at which time the Cockpit and a table drawn from the BSC are presented to the CEMFA, highlighting the indicators with more deviations and providing an explanation for those deviations.

of the organization's strategy, including its strategic objectives, on which the operational objectives are based, promoting alignment among the organization's employees. On the other hand, the BSC includes the perspectives depicted in the SM, assigning performance indicators to the operational objectives, and can be used to explain the progress of the various activities and actions, and hence to monitor and achieve the objectives.

AS mentioned above, the QUAR has some limitations regarding the objective achievement rate, which often result in excessively high achievement rates. The interview conducted with DivPlan[30] revealed that the BSC allows some tolerance in the definition of the targets to be achieved (the targets are defined according to intervals), and that this makes "the services feel more confident about fulfilling their objectives and prevents abnormally high achievement rates".

In order for the BSC to quantify the target achievement rate in a more consistent manner, deviation percentages have been defined that, according to DivPlan, ensure[31] that "performance assessment is more accurate, and strategic management more efficient"[32].

Thus, three scenarios were created (see Tables 2, 3, and 4) for each management objective: "exceeds the target", "does not exceed the target" or "falls within a target range". In the first scenario, whenever the target is exceeded the score obtained is 100%. However, in the other scenarios[33], whenever the planned goal is exceeded, an algorithm is activated that linearly reduces the percentage of achievement of this indicator until it reaches 200% deviation from the planned rate, at which point the score obtained is 0%. To measure the results, the DivPlan[34] defined that when 200% of the defined goal is exceeded "this reflects inefficiency, wasting resources beyond what is necessary to achieve the intended effect or, alternatively, the goal may be incorrectly established or not be ambitious enough"[35].

**Table 2 – Calculation of the targets and indicators for the 1st scenario**

| 1st Scenario – The Management Objective is Exceed the Target | | | | Example | | | |
|---|---|---|---|---|---|---|---|
| **Planned** | | **Executed** | | **Planned** | **Executed** | **Percentage** | **Results** |
| A | ≥ | B | Result= B/A | 100 | 37 | 37% | 0.37 |
| A | < | B | Result= 1 | | | | |

[30] Vicente, João, 2015. Interview conducted by Joana Gaio. Lisbon: 25 June 2015.

[31] Vicente, João, 2015. Interview conducted by Joana Gaio. Lisbon: 25 June 2015.

[32] Until that moment, it was not verified if the execution was "wasteful" because even when the defined goal was exceeded the evaluation was always 100%.

[33] Which were created to address financial constraints, allowing the objectives to be measured against the ongoing budget cuts.

[34] Vicente, João, 2015. Interview conducted by Joana Gaio. Lisbon: 25 June 2015.

[35] This analysis is done on a quarterly basis to assess which of the scenarios is occurring, and can result in changes to the next year's target (which is included in the Management Indicators Directive, issued annually).

**Table 3 – Calculation of the targets and indicators for the 2nd scenario**

| 2nd Scenario – The Management Objective is Do Not Exceed the Target | | | | Example | | | |
|---|---|---|---|---|---|---|---|
| **Planned** | | **Executed** | | **Planned** | **Executed** | **Percentage** | **Results** |
| A | ≥ | B | Result=1 | 10 | 11 | 110% | 0.9 |
| A | < | B | Result= 1- (B/A-1) | | | | |

**Table 4 – Calculation of the goals and indicators for the 3rd scenario**

| 3rd Case – The Management Objective is within a Target Range | | | | Example | | | |
|---|---|---|---|---|---|---|---|
| **Indicator** | **Planned** | **Deviation from Target** | **Executed** | **Minimum between the 2 values** | | **Results** | |
| A.1.1.1 | 392.3958333 | 1% | 402.2986111 | | | 98.49% | |
| | | | | | | | |
| | 101% | 396.3197917 | | 101.51% | If 101.51 < 1 | 100 - (101.51-100) | 98.49% |
| | 99% | 388.471875 | | 103.56% | If 103.56>1 | 1 | 1 |

Despite its advantages when balancing short-term and long-term indicators, the BSC does not provide accurate information in real time and, according to DivOps[36], "is simply a photograph of the organizational situation at a given time".

To enable MBO in real time, we must use the Flight Plan. It consists of a plan of action that lists the activities and initiatives according to their start and end dates, as well as their degree of accomplishment, describing not only how they contribute to achieve a given objective, but also their budgetary weight (if any) and the resources involved[37]. According to Kaplan and Norton (2004b), when this concept is adapted to the organizational context, the user can access, at any given moment, the list of activities that are delayed, their execution rate, and, consequently, the objective achievement rate.

All the information uploaded to the Flight Plan, the BSC, and the SM enables the visualization of the achievement rate of the organization's strategic objectives in the Organizational Cockpit, and this, according to DivPlan[38], "saves time, increases productivity, and encourages the analysis of how the strategy is aligned with the objectives of the organization".

This study's first contribution is a general integrated PM methodology for the Air Force, whose features, as shown in Figure 1, encompass a set of tools that make up the Cockpit and that allow users to monitor the organization's performance.

[36] Marado, Bruno. Interview conducted by Joana Gaio. Lisbon: 25 June 2015.

[37] Although the Flight Plan's contents can be included in the BSC, we used both tools, taking advantage of their specific features to avoid overloading the BSC with information, as well as to differentiate their functions.

[38] Vicente, João, 2015. Interview conducted by Joana Gaio. Lisbon: 25 June 2015.

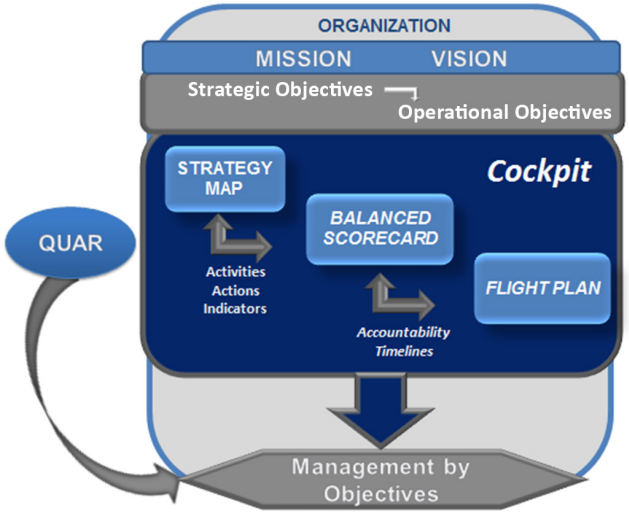


**Figure 1 – General Integrated Methodology of Performance Management Tools**

In turn, the QUAR will provide the organization with a summarised report of the deviations detected at the end of the management cycle.

### 3.3. Relationship between Individual and Organization Evaluation

According to the DP[39], "the individual evaluation of military personnel focuses on the specific performance of their duties, and does not account for the contribution of each employee to the achievement of the objectives of the service to which they are assigned". Given that the new EMFAR[40] lays out a unified merit evaluation system for the Armed Forces, in our opinion, this seems to be the ideal time to reformulate the evaluation process/methodology. Thus, a third research question will be posed: *Q3: Does combining performance management tools make it possible to hold individuals accountable by implementing management by objectives?*

The PoAF Flight Plan includes a timeline and holds the individuals assigned to a given action accountable. The opinion of the DivPlan[41] users is that the tool connects the strategic objectives (SO), the operational objectives (OO), and the various activities, actions, and elements of actions through the information chain, identifying the timeline and the responsible individuals. According to DivPlan, if these actions are "to be linked to the individuals responsible for them, they must comply with the criteria in the regulations and assessment manuals"[42].

[39] Nuno, Martins. Interview conducted by Joana Gaio. Lisbon: 25 June 2015.

[40] Amended by Decree-Law no. 90/2015 of 29 May.

[41] Vicente, João, 2015. Interview conducted by Joana Gaio. Lisbon: 25 June 2015.

[42] SIADAP 3 for civilian personnel and IAF for military personnel.

The individual objectives for each individual are uploaded to the Flight Plan, taking into account the various Air Force Regulations (AFR)[43] that set down the hierarchical structure of the Units, Bodies, and Services (U/B/S), including the duties assigned to each service member and the qualifications required to fulfil them. According to DivPlan, the individual accountability parameters must be updated in accordance with the continuous assessment in the corresponding individual assessment files.

This process guarantees that each individual is aware of how they contribute to the organization. For its part, the organization will also be able to determine the contributions of each individual to the achievement of its objectives. Individuals will feel that they contribute to the organization's goals, which in turn makes them more motivated and integrated. At macro level, it will make it possible to monitor the evolution of the organization's objectives and know who is responsible for achieving them.

The new EMFAR lays down a unified merit assessment system for the Armed Forces; therefore, we are moving towards a single IAF. The interviews conducted with the DP revealed that the IAF has some limitations[44]. In fact, for PM to effectively reflect the current situation, and since the objectives are based on the tasks and responsibilities directly related to them, it is crucial to develop a process of functional analysis that updates the functions and positions according to the organizational structure.

Therefore, MBO requires the construction of a functional matrix in which similar positions are linked to specific competencies, and the creation of functional groups/areas (positions with similar characteristics)[45], describing their differences and highlighting their specificities to create a competency profile that differentiates each IAF. Only this way can the assessment of pre-established objectives also include the assessment of competencies[46].

### 3.4. Disseminating Performance Management across the Air Force structure

The APA of each U/B/S is uploaded and sent to DivPlan, and the Air Force Cockpit is fed by loading a set of indicators[47]. However, this only occurs at macro level and, according

[43] The DivOps and DivPlan of the EMFA, for example, use the AFR 303-2 (A) regulation issued by the EMFA, which aims to develop and complement the above legislation and establish the operating norms and general procedures for the work of the General Staff, as defined by the Air Force's senior management; to establish the Staff Structure (SS) of the EMFA; to define the composition of the staff of the bodies that constitute it; to define the duties of the personnel assigned there. The current regulation is based on a higher legislation, namely the Organic Law of the Air Force (LOFA), published by Decree-Law no. 232/2009 of 15 September, and the Regulatory Decree, which we will refer to from now on as "applicable legislation". Article 12 of LOFA lays down the tasks and powers of the Air Force Staff (EMFA). The Regulatory Decree establishes, in accordance with Article 35 of the above Decree-Law, the Mission, Powers, and Organisational Structure of the EMFA.

[44] A comments field is available that allows some differentiation, but the evaluator is not obliged to fill out that item.

[45] For example, it can be subdivided into different Functional Areas: Senior Command /Support to Decision Making Area; Operational Area; Personnel/Administrative Area; Equipment/Logistics Area; Finance Area; Science and Culture Area; Communications and Information Technology Area, among others.

[46] Objectives dictate what needs to be done; competencies dictate how it should be done.

[47] The PoAF's strategic management process is the responsibility of DivPlan, who measure the deviations from the objectives that were initially set by the Units, Bodies, and Services (U/B/S) of the PoAF. The PoAF Cockpit is thus powered by the various U/B/S by loading a set of indicators on their Annual Plan of Activities (PAA) and sending them to DivPlan on a quarterly basis.

to DivPlan[48], the "only control mechanism at the disposal of the U/B/S is the AAR, which is prepared at the end of the process, and which only identifies planning deviations when it is too late to correct them". It is therefore important that a fourth research question be answered: *Q4: Can this integrated performance management methodology be disseminated across the whole organization, from the Strategic level (Macro) to the Operational level (Micro)?*

By beginning at the strategic level and then branching out to the operational units that answer to it, it will be possible to ensure that performance management is vertically and horizontally aligned. According to DivOps[49], the ideal would be for the "U/B/S to have Sector Cockpits available to monitor the development of their own activities, and on the other hand, to ensure that their activities are in line with the top-level Cockpit".

This ensures that the strategic, operational, and tactical levels are linked, and, alongside the Air Force Organizational Cockpit, they make up a chain of relationships that begin with the organization's reason for being and end with each individual employee.

At the strategic level, it is only possible to reach the person responsible for reporting (EPR)[50], since several U/B/S contribute to each OO, and they each have their own specific indicators. For example, whenever there are delays in meeting a given objective, DivPlan contacts the relevant EPR and then, at the operational level, the respective Flight Plan will be analysed to determine the Person of Contact (POC) for a given action/activity. If this POC has been assigned a series of actions, the Flight Plan enables users to visualise their activities and objectives, as well as their contributions to the organization.

At the operational level, the process begins by including[51] all the PoAF's SO in the APA, and later only the OO to which the U/B/S contributes are selected. The activities and metrics[52] involved are also common to the PoAF General Cockpit. Specificity comes later, at the level of the activities, which are based on the corresponding AFR where the Mission, Values, and Vision of the U/B/S are also defined. Thus, a path can be drawn from the strategy to the task, through which the operational Cockpit of each segment of the PoAF can be obtained, which brings us to the second contribution of this study, the creation of a comprehensive integrated PM methodology for the Air Force (Figure 2).

[48] Vicente, João, 2015. Interview conducted by Joana Gaio. Lisbon: 25 June 2015.

[49] Marado, Bruno, 2015. Interview conducted by Joana Gaio. Lisbon: 25 June 2015.

[50] The person responsible for reporting the APA to DivPlan in each U/B/S of the Air Force.

[51] Based on Directive no. 04/13 of 20 February and Directive nº. 02/2009 of 20 March.

[52] Defined in Directive no. 02/15 of 16 February.


**Figure 2 – Comprehensive Integrated Methodology of Performance Management Tools**

### 3.5. Proposal of an Integrated Performance Management Methodology

The methodology was applied to the EMFA, which is the strategic level of the PoAF. The 1st level was applied to DivPlan, which is responsible for the strategic management of the PoAF. The 2nd level was applied to DivOps, one of the divisions that make up the EMFA, viewing the entity as an organizational unit that can be applied at any level. Working on this methodology on a small scale will allow us to explain it and implement it across the entire organization at some point in the future.

#### 1st Level (EMFA)

The SM identifies the contributions of each OO to each SO. For example: OO1 is assigned a weight of 40% for SO1, a weight of 10% for SO2, and a weight of 10% for SO3. The weight of OO1 into the management perspective is 80%, and its compliance rate at the time of access was 94%.

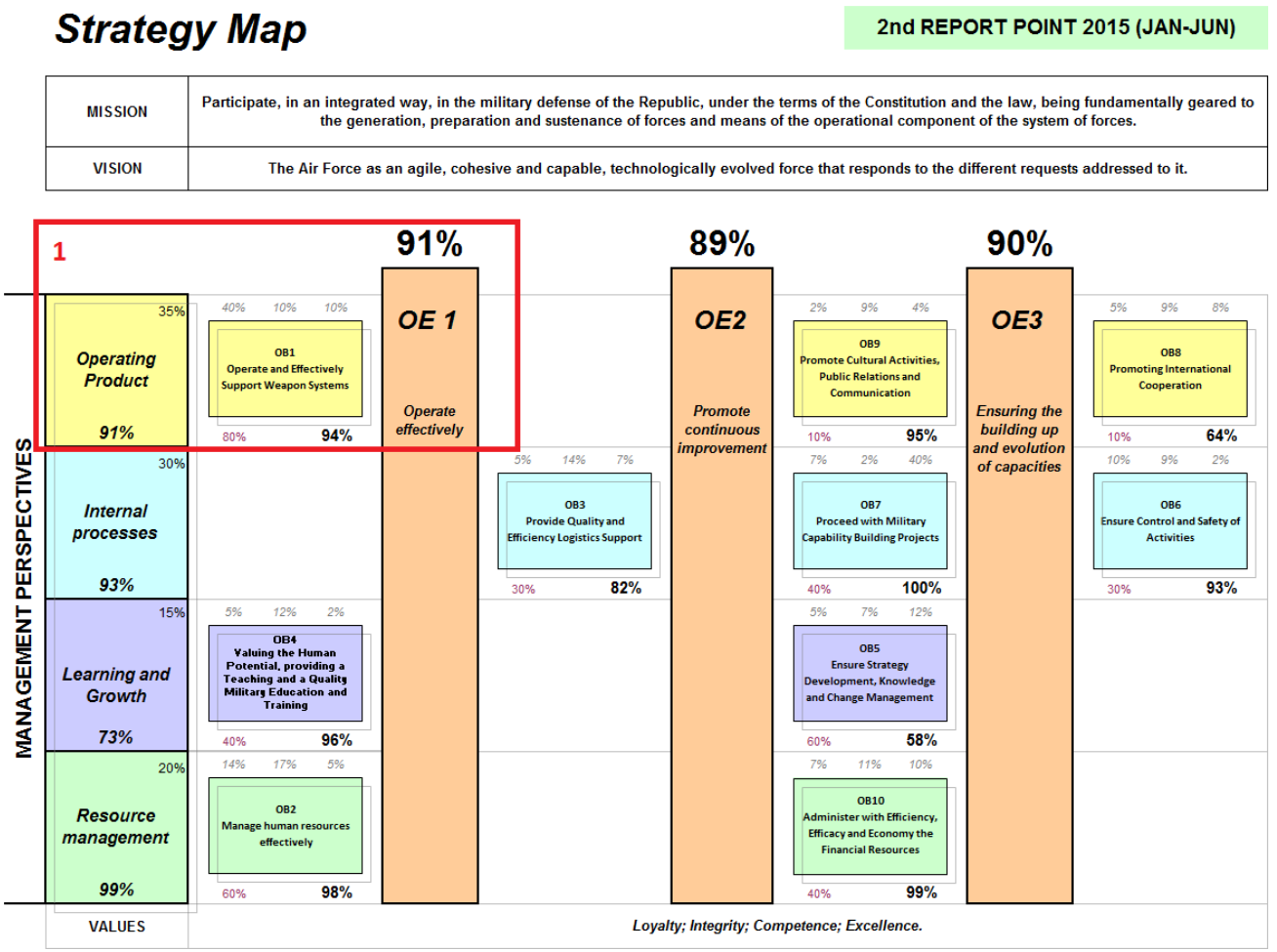


Figure 3 - Air Force Strategy Map (Source: DivOps)

The BSC (Table 5) lists the set of activities that reflect the achievement rate of the OO at the time of access. Within OO1, the activities are segmented into actions. For example: within OO1, activity A1.1 is subdivided into action A.1.1.1, and it clearly shows that it was only 98.5% completed and that there was a negative deviation (-9179:50) from the planned goal.

If there is a need to identify and monitor more closely the people responsible for these activities and their deadlines, this can be done through the Flight Plan (Table 6). For example: Action A.1.1.1 is subdivided into other actions, and we know that in action A1.1.1.6 the deadline of the associated task is between 01/01/2015 and 06/30/2015, that it is 98.9% completed, that the person responsible for it is EPR3 (who belongs to the Air Command - AC). If it is necessary to identify the person in charge of performing a particular activity/ action, the DivPlan would contact ERP3, and later the AC would access their own Cockpit and use their Flight Plan to quickly reach the corresponding POC.

The QUAR is the final report of the cycle. Since the 2015 strategic management cycle has not finished yet, we present the partial QUAR report depicting the situation at the time the study was carried out (Table 7).

Accessing all the tools of the 1st level of the strategic Cockpit leads us to the EPR, that is, the person in charge of reporting the APA of their Unit.

**2nd Level (DivOps)**

At the second level, using the sector Cockpit of each division, we went through all the tools again, looking at how they improve performance management.

The analysis carried out in this case study focused on DivOps, and through its SM we were able to ascertain the contributions of each sector to the achievement of the general OO of the Air Force. For example: For DivOps, OO1 is assigned a weight of 76% for SO1, of 2% for SO2, and of 4% for SO3. The weight of OO1 into the management perspective is 80% and the achievement rate of OO1 at the time of access was 40%.

Analysing the DivOps BSC allowed us to gain a more specific understanding of the performance level, namely the OOs to which they contribute, including the achievement rate of each activity and the actions that contribute to it, as well as delays in the plan.

Finally, the Flight Plan will make it possible to visualize the backlog of activities in real time, as well as the people responsible for each activity and directly associated action. This will ensure individual accountability since the individual objectives are loaded according to the functions and skills described in the AFR[53], which will then be monitored as part of the organization's assessment process, supporting the individual assessment process. Thus, the Flight Plan must be connected and aligned with the individual assessment files (IAF or SIADAP 3).

[53] DivOps is a part of the EMFA and is governed by the RFA 303-2 (A) of the EMFA.

Table 5 – Air Force Balanced Scorecard

**Balanced Scorecard 2015**

| Legend KPI Progress | ≥100% | 70%-99,9% | 0,1%-69,9% | 0% |
|---|---|---|---|---|

30/jun

| OBJECTIVE | ACTIVITY | Action number | ACTION | KEY PERFORMANCE | STANDARD GOAL | STANDARD TARGET | DESIRED GOAL | DESIRED ANNUAL GOA* | REAL EXECUTION | GOAL SHIFTS | KPI PROGRESS vs. GOAL PERIOD | Effectiveness Action | Expression (Action) | Efficacy Activity | Expression (Activity) | VALUE (Objective) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OB1 Operate and Effectively Support Weapon Systems | A1.1 Weapons Systems Operation | A111 | Ensure compliance with the Effort Regime (RE), performing between 99% and 101% of the flight hours scheduled at the beginning of the year, by Air Unit and Global FAP. | Realization rate of Effort Regime (Flight Hours) | Flight Hours provided for in the Initiated Effort Regime (JAN) | 18835:00 | 99% to 101% of standard target | 18835:00 | 9655:10 | -9179:50 | 98,5% | 0,98 | 0,25 | 0,97 | 0,30 | 0,94 |
| | | A112 | Ensure compliance with the overall RE by Mode of Action (Operational, Qualification and Instruction), performing between 99% and 101% of their flight hours. | Instruction | Flight Hours foreseen in the Action Mode of | 4790:00 | 99% to 101% of standard target | 4790:00 | 2634:30 | -2155:30 | 98,3% | 0,98 | 0,05 | | | |
| | | | | Qualification | | 8113:00 | | 8113:00 | 4080:45 | -4032:15 | 100,0% | 1,00 | 0,05 | | | |
| | | | | Operational | | 5932:00 | | 5932:00 | 2957:00 | -2975:00 | 100,0% | 1,00 | 0,05 | | | |
| | | A113 | Continue to carry out Military Exercises and Operations, reaching a ratio of flight hours performed equal to or greater than the one verified in the previous year in relation to the total | Ratio of Flight Hours in Military Exercises and Operations compared to the total foreseen in the Effort Regime | Ratio of the previous year | 25,3 | ≥ standard goal | 25,3 | 28,9 | 3,6 | 100,0% | 1,00 | 0,15 | | | |

2

Table 6 – Air Force Flight Plan

**Flight Plan**

VALUES REGARDING THE REPORTING POINT 2

| Data report | | Description | Timeline | Start Date | End Date | Annual Plan | Planned Goal for Report Point | Real Execution | % Achievement | Reporting Body | EPR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Accumulated Flight Hours effected / Flight Hours provided in the Effort Regime, by Air Unit and Global Air Force against the Effort Regime approved in January. | A1.1.1 | **Ensure compliance with the Effort Regime (RE), performing between 99% and 101% of the flight hours scheduled at the beginning of the year, by Air Unit and Global FAP.** | | 01/01/2015 | 30/06/2015 | 18835:00 | 9417:30 | 9655:10 | 98,49% | CA | **EPR1** |
| | | **Perform between 99% and 101% of the flight hours provided in the Effort Regime, Air Unit 101.** | | 01/01/2015 | 30/06/2015 | | 1500:00 | 1771:20 | 118,1% | CA | EPR2 |
| | A1.1.1.1 | HV UA101 | 1st Report | 01/01/2015 | 31/03/2015 | | 750:00 | 948:20 | 126,4% | CA | |
| | A1.1.1.2 | HV UA101 | 2nd Report | 01/01/2015 | 30/06/2015 | | 1500:00 | 1771:20 | 118,1% | CA | |
| | A1.1.1.3 | HV UA101 | 3rd Reporte | 01/01/2015 | 30/09/2015 | | 2250:00 | | 0,0% | CA | |
| | A1.1.1.4 | HV UA101 | 4th Reporte | 01/01/2015 | 31/12/2015 | | 3000:00 | | 0,0% | CA | |
| | | **Perform between 99% and 101% of the flight hours provided in the Effort Regime, Air Unit 103.** | | | | | 300:00 | 296:40 | 98,9% | CA | EPR3 |
| | A1.1.1.5 | HV UA103 | 1st Report | 01/01/2015 | 31/03/2015 | | 150:00 | 162:00 | 108,0% | CA | |
| 3 | A1.1.1.6 | HV UA103 | 2nd Report | 01/01/2015 | 30/06/2015 | | 300:00 | 296:40 | 98,9% | CA | |
| | A1.1.1.7 | HV UA103 | 3rd Reporte | 01/01/2015 | 30/09/2015 | | 450:00 | | 0,0% | CA | |
| | A1.1.1.8 | HV UA103 | 4th Reporte | 01/01/2015 | 31/12/2015 | | 600:00 | | 0,0% | CA | |

## Table 7 – Air Force QUAR

| | | | | | Legend KPI Progress | ≥100% | 70%-99,9% | 0,1%-69,9% | 0% | | 30/jun | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OBJECTIVE | ACTIVITY | ACTION NUMBER | ACTION | KPI | STANDARD GOAL | STANDARD TARGET VALUE | DESIRED GOAL | TARGET OF "N-1" YEAR | GOAL OF "N" YEAR | REAL EXECUTION | GOAL SHIFTS | WEIGHT OF INDICATOR | RESULT | DESCRIPTION | GOAL SHIFTS (%) |
| EFICÁCIA 35% | | | | | | | | | | | | | | | |
| OB1 Operate and Effectively Support Weapon Systems | A1.1 Weapons Systems Operation | A1.1.1 | Description of action A1.1.1 | Description of KPI A1.1.1 | Description of the Standard Goal A1.1.1 | 975168:00 | 99% to 101% of standard target | 18052:00 | 975168:00 | 750:00 | -974418:00 | 0,075 | 98,5% | Não Atingiu | -1,51% |
| | | A1.1.2 | Description of action A1.1.2 | Description of KPI A1.1.2 | Description of the Standard Goal A1.1.2 | 977352:00 | 99% to 101% of standard target | 5190:00 | 977352:00 | 2395:00 | -974957:00 | 0,015 | 98,3% | Não Atingiu | -1,69% |
| | | | | | | 977352:00 | | 7640:00 | 977352:00 | 4056:30 | -973295:30 | 0,015 | 100,0% | Atingiu | 0,00% |
| | | | | | | 977352:00 | | 5382:00 | 977352:00 | 2966:00 | -974386:00 | 0,015 | 100,0% | Atingiu | 0,00% |
| | | A1.1.3 | Description of action A1.1.3 | Description of KPI A1.1.3 | Description of the Standard Goal A1.1.3 | 0,0 | ≥ standard goal | 19,1 | 0,0 | 25,3 | 25,3 | 0,045 | 100,0% | Atingiu | 0,00% |
| | | A1.1.4 | Description of action A1.1.4 | Description of KPI A1.1.4 | Description of the Standard Goal A1.1.4 | 0 | ≥ standard goal | 10,38 | 0 | 8,74 | 8,74 | 0,045 | 100,0% | Atingiu | 0,00% |
| | | A1.1.5 | Description of action A1.1.5 | Description of KPI A1.1.5 | Description of the Standard Goal A1.1.5 | 975168:00 | ≥90% of standard | 2048:51 | 877651:12 | 425:00 | -877226:12 | 0,03 | 100,0% | Atingiu | 0,00% |

Finally, in the future each U/B/S should create its own QUAR since this will allow it to understand the results obtained by each Division of the Air Force at the end of the performance management cycle.

As we endeavoured to answer the research question, we ascertained that the Air Force has at its disposal a set of strategic management tools; however, this investigation revealed that connecting those tools will provide the organization with an integrated management methodology where the organizational objectives and the individual objectives are perfectly aligned.

**Conclusions**

With this study, and to answer the first research question – *Q1: Is the QUAR enough to support the Air Force's Performance Management?* –, we were able to conclude that although the QUAR is a legally approved performance management tool, it is not enough on its own because it does not monitor the organization's performance management in real time, and only provides a final report. Moreover, it does not hold individuals accountable, and thus does not reflect the contributions of the employees to the organization's performance. Therefore, this paper proposes that the QUAR should always be used in combination with other tools to ensure that the services are assessed in an effective manner.

With regard to the second research question – *Q2: Will combining different performance management tools enable real-time management by objectives?* –, we concluded that the methodology proposed in this paper, that is, the integration of strategic management tools (Strategic Map, Balanced Scorecard, and Flight Plan) will enable implementing performance management in the Air Force by creating the Organizational Cockpit. The Air Force, a military organization with very specific characteristics, is expected to benefit from this integrated methodology by becoming more adaptable in how it responds to different scenarios, more flexible in achieving its objectives, and more agile in how it responds to changes in the environment.

On the one hand, uploading individual objectives to the Flight Plan will make it possible to monitor all activities and actions related to the strategic process in real time, and to detect any deviations between the implementation of a strategic initiative and its successful conclusion. On the other hand, with regard to the third research question – *Q3: Does combining performance management tools make it possible to hold individuals accountable by implementing management by objectives?* –, crossing the information provided by the tools developed by the Air Force will return a list of the individuals assigned to each activity and action, who can then be assessed and enhanced to guarantee that their performance is aligned with the strategic objectives of the organization. Thus, this connection is a key element in the strategic planning process.

When it is introduced in the Air Force, Performance Management will support the organization's overall assessment process, aligning the performance assessment objectives with the organization's objectives.

Finally, with regard to the fourth research question – *Q4: Can this integrated performance management methodology be disseminated across the whole organization, from the Strategic level (Macro) to the Operational level (Micro)? –*, we were also able to conclude that, using the integrated performance management methodology presented in this paper, the Organizational Cockpit will be able to update performance management at all levels of the organization, ensuring that the organization's strategy is both vertically and horizontally aligned. Only this way can the vision, mission, and strategy be made clear to all levels of the organization, ensuring that everyone understands the impact of their actions on organizational performance.

The limitations of this study concern its conclusions, which are only applicable to the Air Force, and must thus be tested in order to be replicated in a different organizational context.

The contribution of this case study is the creation of an integrated performance management methodology for the Air Force that steers the strategic management tools that have already been validated for the organization towards performance management.

This integrated methodology can potentially be adopted by the three Air Force Functional Commands and later applied at all levels of the organization – strategic, operational, and tactical - promoting the awareness of the importance of management by objectives for the development of performance management in the organization, and is thus one of the contributions of this research that can be applied to the organizational context under analysis.

Future studies may wish to focus on redesigning the IAF so that the military assessment system includes the functional performance of service members in the service to which they are assigned, ascertaining their individual contributions to the strategic objectives of the organization. Only then can individual performance and the performance management of the organization be closely aligned.

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