



AIRCRAFT FRACTIONAL OWNERSHIP MODEL APPLIED TO BUSINESS MOBILITY AND REGIONAL DEVELOPMENT IN SERRA GAÚCHA

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ABSTRACT

Aircraft fractional ownership has become an internationally established alternative for accessing business aviation by users who require frequent mobility but do not generate sufficient demand to justify full aircraft ownership. This article analyzes the application of aircraft fractional ownership to business mobility and regional development in the Serra Gaúcha region of southern Brazil, considering conceptual, regulatory, operational, and governance aspects. The study adopts a bibliographic and documentary review approach with an analytical-propositional purpose, bringing together references on fractional ownership, shared aircraft management programs, business aviation, regional connectivity, economic development, and aviation regulation. The research also examines the Brazilian Civil Aviation Regulation No. 91, Subpart K, complementary regulations issued by the Brazilian National Civil Aviation Agency, and international references related to this operating model. The objective is to assess the suitability of aircraft fractional ownership to the economic and business characteristics of Serra Gaúcha and to identify the requirements necessary for its implementation in accordance with operational safety and aviation governance principles. The findings identify regional applicability parameters related to business demand, aircraft selection, management structure, regulatory compliance, safety management, and program sustainability. The study also proposes an implementation and evaluation checklist designed to support managers, investors, program administrators, and researchers in the assessment of aircraft fractional ownership initiatives. It is concluded that the model has the potential to contribute to business mobility and regional economic integration, provided that it is structured as a formal aviation program supported by professional governance, operational safety, technical management, and compliance with applicable regulatory requirements.

Keywords: Aircraft fractional ownership; Business aviation; Business mobility; Regional development; Aviation governance.

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MODELO DE COMPARTILHAMENTO DE AERONAVES APLICADO À MOBILIDADE EMPRESARIAL E AO DESENVOLVIMENTO REGIONAL DA SERRA GAÚCHA

RESUMO

A propriedade compartilhada de aeronaves tem se consolidado internacionalmente como alternativa de acesso à aviação executiva para usuários que necessitam de mobilidade frequente, mas não possuem demanda suficiente para justificar a propriedade integral de uma aeronave. Este artigo analisa a aplicação do modelo de propriedade compartilhada de aeronaves à mobilidade empresarial e ao desenvolvimento regional da Serra Gaúcha, considerando aspectos conceituais, regulatórios, operacionais e de governança. A pesquisa adota revisão bibliográfica e documental, de natureza analítico-propositiva, reunindo referências sobre fractional ownership, administração de programas de compartilhamento, aviação executiva, conectividade regional, desenvolvimento econômico e regulação aeronáutica. Também são examinados o Regulamento Brasileiro da Aviação Civil nº 91, Subparte K, normas complementares da Agência Nacional de Aviação Civil e referências internacionais relacionadas à modalidade. O objetivo é avaliar a aderência do modelo às características econômicas e empresariais da Serra Gaúcha, bem como identificar os requisitos necessários para sua implementação em conformidade com os princípios da segurança operacional e da governança aeronáutica. Como resultado, são identificados parâmetros de aplicabilidade regional relacionados à demanda empresarial, escolha da aeronave, estrutura de administração, conformidade regulatória, gestão da segurança operacional e sustentabilidade do programa. A pesquisa também propõe um checklist de implementação e avaliação, destinado a apoiar gestores, investidores, administradores de programa e pesquisadores na análise de iniciativas de propriedade compartilhada de aeronaves. Conclui-se que o modelo apresenta potencial para contribuir com a mobilidade empresarial e a integração econômica regional, desde que estruturado como programa aeronáutico formal, sustentado por governança profissional, segurança operacional, gestão técnica e aderência aos requisitos regulatórios aplicáveis.

Palavras-chave: *Propriedade compartilhada de aeronaves; Aviação executiva; Mobilidade empresarial; Desenvolvimento regional; Governança aeronáutica.*

1 INTRODUCTION

Business mobility in economically dynamic regions depends on the availability of transportation systems capable of reducing distances, enhancing connectivity, and facilitating the movement of individuals involved in decision-making, business development, and productive integration. In the Brazilian Serra Gaúcha region, this discussion assumes particular relevance because the territory combines industrial activities, services, tourism, and urban centers that require frequent travel to other economic hubs. César (2019, p. 1–2) identifies Caxias do Sul as a significant productive center of the metal-mechanical sector in southern Brazil, maintaining territorial connections that also involve tourism and hospitality infrastructure. Lins (2022, p. 161–162) likewise characterizes *Serra Gaúcha* as a consolidated tourism destination with the capacity to articulate regional circulation, income generation, and territorial attractiveness.

Within this context, business aviation may be examined as a corporate mobility tool, particularly when ground transportation imposes substantial time costs and reduces the efficiency of corporate schedules. The issue extends beyond passenger comfort, as it involves the ability to connect productive regions with decision-making, commercial, financial, and technological centers in a shorter period. However, full aircraft ownership entails considerable costs related to acquisition, maintenance, crew employment, hangar facilities, insurance, training, operational planning, and availability management. Consequently, shared-use models have emerged as intermediate alternatives between full aircraft ownership and occasional on-demand air transportation services.

Fractional aircraft ownership consists of a model in which the user acquires a share of an aircraft or participates in a contractual structure that guarantees proportional access to the asset, while operational, technical, and logistical aspects are managed professionally. Gleimer (1999, p. 979) identifies fractional aircraft ownership as a mechanism designed to provide access to the benefits of business aviation with a lower initial investment compared to full ownership. Worrells, NewMyer, and Ruiz (2001, pp. 41–42) describe the evolution of this model as a significant phenomenon in business aviation, emphasizing its relationship with reduced acquisition costs and expanded access to executive aviation for new users.

In Brazil, the discussion gained greater regulatory significance with the incorporation of Subpart K into Brazilian Civil Aviation Regulation No. 91 (RBAC No. 91), which addresses the operation of fractionally owned aircraft. ANAC Resolution No. 606, issued on February 11, 2021, approved amendments to RBAC No. 91 and introduced requirements applicable to fractional aircraft ownership programs (ANAC, 2021, Art. 1). This regulatory development allows the subject to be examined not only as a business proposal but also as an object of regulatory, operational, and economic analysis within the Brazilian civil aviation framework.

The relevance of the topic arises from the need to understand whether a fractional aircraft ownership model can contribute to business mobility and regional development in '*Serra Gaúcha*' while taking into account regulatory limitations, operational costs, operational safety requirements, and program governance. The region presents characteristics that justify this territorial focus: a diversified productive base, the presence of industrial and tourism activities, recurring business flows, and the need for integration with other economic centers. Accordingly, the analysis should not be conducted merely as a business plan but rather as a bibliographic and documentary study of an alternative model for regional executive mobility.

In light of these considerations, the research problem may be formulated as follows: To what extent can the fractional aircraft ownership model be understood as an alternative for business mobility and as an instrument for regional development in Serra Gaúcha, considering its conceptual, regulatory, operational, and economic foundations? This question makes it possible to articulate three dimensions of the study: the conceptual dimension, related to the evolution of fractional ownership in business aviation; the normative dimension, associated with the Brazilian regulatory framework governing fractional ownership programs; and the regional dimension, concerning the economic, productive, and tourism characteristics of *Serra Gaúcha*.

The article's initial hypothesis is that fractional aircraft ownership may represent a viable alternative for business mobility in productive regions located outside major airport centers, provided that it is structured through operational governance, regulatory compliance, safety standards, and a clear methodology for cost and availability management. A complementary hypothesis is that, in the case of *Serra Gaúcha*, the model may contribute to regional economic integration by reducing time-related barriers to business travel and enhancing connectivity with

other economic hubs, without requiring each user to individually bear the costs associated with full aircraft ownership.

The general objective of this article is to analyze the fractional aircraft ownership model as applied to business mobility and regional development in *Serra Gaúcha*. The specific objectives are to examine the historical and conceptual foundations of fractional aircraft ownership; identify the applicable Brazilian regulatory framework governing fractional ownership programs; relate the model to regional business mobility needs; discuss issues of operational governance, costs, and safety; and propose analytical parameters for assessing the applicability of the model within the *Serra Gaúcha* context.

The academic justification for this study lies in its potential to integrate literature on business aviation, fractional ownership, aeronautical regulation, and regional development. Its practical justification derives from the relevance of the topic for operators, program administrators, managers of Civil Aviation Training Centers, regional entrepreneurs, business aviation professionals, and policymakers concerned with regional connectivity. The analysis is further justified by the recent nature of Brazilian regulations concerning fractional ownership, which require studies capable of linking the normative framework to the operational and economic realities of specific regions.

The research adopts a bibliographic and documentary review with an analytical and propositional purpose. The bibliographic review will be used to examine authors addressing fractional aircraft ownership, business aviation, management models, and regional development. The documentary review will focus on analyzing Brazilian and international regulations related to the subject, particularly RBAC No. 91, Subpart K, ANAC regulatory acts, and foreign references concerning fractional ownership. The study does not intend to conduct market research, develop a definitive financial plan, carry out interviews, or perform statistical demand analyses. Its purpose is to establish a theoretical and documentary foundation for evaluating the relevance of the model within the defined regional context.

The article is organized into six sections. Following this introduction, the theoretical review examines the foundations of fractional aircraft ownership, management models, business aviation, and the relationship between mobility, regional economics, and tourism in *Serra Gaúcha*. The methodology section then presents the bibliographic and documentary approach adopted. The development

section connects the fractional ownership model to regional business mobility needs, emphasizing governance, costs, operational safety, and aircraft availability. The results and discussion section systematizes the parameters for assessing the applicability of the model to *Serra Gaúcha*. Finally, the concluding remarks revisit the research problem, evaluate the proposed hypotheses, and indicate opportunities for future studies.

2 THEORETICAL REVIEW

2.1 FRACTIONAL AIRCRAFT OWNERSHIP AND THE ORIGIN OF THE MODEL

Fractional aircraft ownership may be understood as a form of access to business aviation in which different participants assume ownership or usage shares of an aircraft, with costs being shared and operations managed professionally. Unlike full ownership, in which a single owner bears the entire burden of acquisition, maintenance, crew expenses, insurance, hangar facilities, and operational management, the shared ownership model distributes these obligations among participants who use the aircraft proportionally. Gleimer (1999, p. 979) presents fractional aircraft ownership as an alternative designed to expand access to the benefits of business aviation while reducing the initial financial commitment when compared with the full acquisition of an aircraft.

The contemporary origin of the model is associated with the development of structured fractional ownership programs within the United States business aviation sector. The Federal Aviation Administration (FAA, 2009, p. 2) records that the concept of fractional ownership began in 1986 with the establishment of a program intended to provide greater flexibility in aircraft ownership and operation. This information is relevant because it demonstrates that the model emerged not merely as a property arrangement but as an operational solution for users requiring frequent access to business aviation without assuming all the costs and responsibilities associated with sole aircraft ownership.

In this regard, fractional ownership must be distinguished from simple informal co-ownership. Co-ownership may merely represent the joint legal ownership of an asset, whereas a fractional ownership program presupposes an administrative structure, established usage rules, operational standardization, maintenance

oversight, crew management, and a contractual definition of participants' responsibilities. The FAA (2009, p. 3) describes a fractional ownership program as a shared ownership system conducted under specific regulatory requirements, with a single program manager responsible for providing aviation expertise and management services.

The conceptual significance of the model lies in the distinction between access and complete ownership. Users do not necessarily need to bear all the costs associated with an aircraft asset in order to obtain access to executive air transportation. Instead, they participate in a structure that combines an ownership fraction, usage rights, cost-sharing arrangements, and centralized management. Worrells, NewMyer, and Ruiz (2001, pp. 41–42) observe that fractional ownership evolved into a significant force within business aviation precisely because it reduced initial acquisition costs and redefined the profile of executive aircraft consumers.

For the *Serra Gaúcha* context, this conceptual foundation is particularly relevant because the model allows business aviation to be analyzed not solely as individual aircraft ownership but as a mechanism for shared access to air mobility. The region supports business and tourism activities that may require frequent travel, yet not all potential users would have either the operational need or the economic rationale to maintain a wholly owned aircraft. Consequently, fractional ownership constitutes an intermediate alternative between full aircraft acquisition and occasional charter services, as it combines predictable access, cost-sharing mechanisms, and professional management of the aeronautical asset.

2.2 EVOLUTION OF FRACTIONAL AIRCRAFT OWNERSHIP IN BUSINESS AVIATION

The evolution of fractional aircraft ownership is closely associated with the transformation of business aviation into a structured access service rather than merely a form of individual aircraft ownership. Worrells, NewMyer, and Ruiz (2001, p. 41) state that fractional ownership of business aircraft became a significant force not only within business aviation but also throughout general aviation. This evolution resulted from the model's ability to serve users who required greater availability than that offered by occasional charter services, while lacking sufficient economic justification for the full acquisition of an aircraft.

The growth of the model may also be explained by the search for flexibility. Full ownership provides a high degree of control but requires substantial initial investment and a permanent operational structure. Occasional chartering reduces ownership responsibilities but may present limitations regarding availability, standardization, and predictability. Fractional ownership positions itself between these alternatives by offering recurring aircraft access, cost-sharing mechanisms, and professional management. Worrells, NewMyer, and Ruiz (2001, p. 42) indicate that the model reduced initial acquisition costs and expanded the consumer market for business aviation.

The literature also demonstrates that the expansion of the model generated new regulatory challenges. As programs became larger and more complex, it was no longer sufficient to treat them merely as private arrangements among owners. The FAA (2009, p. 2) notes that the growth of fractional ownership programs generated controversy within the aviation community concerning the appropriate regulatory framework, particularly regarding accountability, operational control, and regulatory compliance. This aspect demonstrates that fractional ownership evolved from a market-driven solution into a modality requiring its own regulatory discipline.

The U.S. regulatory response consolidated Part 91 Subpart K as the primary framework for fractional ownership operations. The FAA (2009, p. 2) records that the fractional ownership rule, published in 2003, classified these programs as private general aviation operations conducted under Part 91K, establishing regulatory definitions, safety standards, program elements, operational control responsibilities, and additional operational and maintenance requirements. This development is significant because it demonstrates that the professionalization of the model does not alter its classification as general aviation but imposes organizational, supervisory, and safety obligations.

From a conceptual perspective, the evolution of fractional aircraft ownership demonstrates that business aviation has increasingly embraced hybrid forms of access to air transportation. Users are no longer limited to being either full aircraft owners or occasional service purchasers; instead, they become participants in programs that combine proportional rights and shared obligations. This shift connects the subject to contemporary discussions concerning the efficient utilization of high-value assets, servitization, operational governance, and the economic rationality of business mobility. For regions such as *Serra Gaúcha*, this evolution provides an

opportunity to examine whether executive aircraft may be structured as shared assets supporting business connectivity rather than merely as expensive individual property.

2.3 MANAGEMENT MODELS, PROPORTIONAL USE, AND AVAILABILITY MANAGEMENT

The administrative structure is one of the principal elements distinguishing fractional aircraft ownership from simple co-ownership arrangements. In a structured program, participants share not only the asset itself but also common rules regarding administration, maintenance, crew management, scheduling, documentation, safety, and availability. The FAA (2009, p. 3) defines a fractional ownership program as a system that must include, among its essential components, a single program manager responsible for providing management services to fractional owners.

The U.S. regulatory framework further details this administrative logic by establishing that a fractional ownership program involves management by a single program manager, two or more airworthy aircraft, one or more owners per aircraft, a minimum ownership interest, a dry-lease exchange arrangement, and multi-year agreements covering fractional ownership, management services, and aircraft interchange within the program (UNITED STATES, 2026, § 91.1001). These elements demonstrate that program administration is not merely ancillary but rather a fundamental condition for the operation of the model.

Availability management constitutes another central component. The shareholder or fractional owner acquires not only a property interest but also an expectation of access to the aircraft according to previously established criteria. Consequently, the model must provide scheduling rules, hourly limitations, usage priorities, aircraft substitution provisions, maintenance periods, crew availability requirements, and conflict-resolution mechanisms among users. Worrells, NewMyer, and Ruiz (2001, p. 42) emphasize that fractional ownership became attractive precisely because it offered convenient access to executive aircraft while reducing barriers associated with full ownership.

Professional management is also necessary because proportional use cannot be reduced to a simple arithmetic division of flight hours. Aircraft are technical assets subject to scheduled maintenance, inspections, operational unavailability,

meteorological constraints, airport restrictions, crew duty limitations, and operational regulations. The FAA (2009, p. 9) describes the process for obtaining management specifications as consisting of pre-application, formal application, document compliance review, demonstration and inspection, and documentation phases. This structure confirms that the operation of a fractional ownership program requires administrative organization and regulatory validation rather than merely a contractual agreement among participants.

The program manager occupies a significant functional role because it centralizes activities that, under full ownership, would remain the direct responsibility of the owner. The Electronic Code of Federal Regulations (e-CFR), which serves as the regulatory basis for the Federal Aviation Administration (FAA), indicates that management services may include safety policies, pilot and crew recruitment or provision, personnel training and qualification, aircraft and crew coordination, maintenance, recordkeeping, operations manuals, procedures, and the maintenance of administrative authorizations (UNITED STATES, 2026, § 91.1001). These elements demonstrate that the efficiency of the model depends less on the mere sale of ownership shares and more on the capability to manage shared operations effectively.

Within the *Serra Gaúcha* context, availability management becomes a decisive factor in assessing the model's applicability. A concentration of users with similar profiles, such as business executives requiring travel during weekdays, business hours, and to recurring destinations, may generate scheduling conflicts unless the program establishes clear rules regarding priority, minimum notice periods, rescheduling procedures, excess usage, and operational compensation. Consequently, the model must combine economic rationality with governance mechanisms to ensure that the promise of shared access is not undermined by aircraft unavailability, overlapping demand, or the absence of transparent allocation criteria.

Accordingly, management models in fractional aircraft ownership should be analyzed through three integrated dimensions: the ownership dimension, related to the fraction of ownership or usage rights; the operational dimension, concerning aircraft availability, crew management, maintenance, and safety; and the contractual-regulatory dimension, involving participants' rights, manager obligations, and the applicable regulatory framework. This approach shifts the discussion from a

business-plan perspective toward a scientific analysis of the model as an alternative for regional business mobility.

2.4 BUSINESS AVIATION, CORPORATE MOBILITY, AND REGIONAL CONNECTIVITY

Business aviation may be examined as a mobility tool in territories where economic activity depends on frequent travel, compressed schedules, and connectivity with decision-making centers. In productive regions located away from major airport hubs, ground transportation time may represent a loss of business efficiency, particularly when travel involves meetings, technical visits, commercial prospecting, event participation, oversight of production facilities, or client support activities.

Within this context, executive aircraft should not be understood solely as luxury assets or instruments of individual convenience. They may also function as resources for territorial connectivity. The logic is straightforward: when aviation infrastructure reduces travel time between a productive region and other markets, mobility becomes part of business strategy itself. Business aviation can therefore support activities in which schedule predictability, operational flexibility, and direct access to specific destinations possess economic value.

Worrells, NewMyer, and Ruiz (2001, pp. 41–42) observe that fractional ownership expanded access to business aviation by reducing the initial costs associated with full aircraft acquisition. This finding is relevant to regional business mobility because it indicates that demand for executive aviation need not be satisfied exclusively through individual ownership. Between purchasing an aircraft and relying on occasional charter services, there are intermediate models capable of organizing recurring access to air transportation.

Regional connectivity also involves the ability to transform lengthy journeys into operationally productive travel. A lengthy ground trip may make same-day return travel impractical, require overnight stays, increase the time personnel spend away from their organizations, and reduce overall schedule productivity. When air transportation shortens these journeys, the benefit extends beyond flight time itself. Effects may be observed in planning efficiency, executive availability, responsiveness to business opportunities, and integration with suppliers, clients, and partners.

Fractional aircraft ownership contributes to this discussion by distributing the costs associated with access to air mobility. The model enables multiple users to participate in a common utilization structure without each having to bear independently the costs of acquisition, crew employment, maintenance, insurance, hangar facilities, and administration. Gleimer (1999, p. 979) identifies this reduction in initial investment as one of the principal attractions of fractional ownership. For business regions where demand is significant but dispersed among multiple users, this characteristic is particularly important.

Accordingly, business aviation may contribute to regional connectivity when the operational model is compatible with the economic realities of the territory. Fractional ownership does not generate demand by itself. It depends on the existence of users with genuine travel requirements, recurring routes, financial capacity, and a perception of value associated with time savings. Its utility emerges when the aircraft ceases to be viewed solely as an individual asset and instead becomes organized as a shared private infrastructure supporting business mobility.

2.5 REGIONAL DEVELOPMENT, BUSINESS, AND TOURISM IN *SERRA GAÚCHA*

Serra Gaúcha constitutes an appropriate territorial framework for analyzing fractional aircraft ownership because it combines industrial activity, services, tourism, events, commerce, and business mobility. The region does not depend on a single economic sector. Rather, it presents a diversified productive structure encompassing the metal-mechanical industry, viticulture, gastronomy, hospitality, corporate events, leisure tourism, and well-established family-owned businesses.

César (2019, pp. 1–2) identifies Caxias do Sul as a central hub associated with the metal-mechanical sector and the physical-territorial configuration of *Serra Gaúcha*, maintaining connections that also extend to tourism and hospitality infrastructure. This perspective demonstrates that business mobility within the region is not isolated from broader territorial dynamics. The movement of entrepreneurs, technical specialists, clients, and investors may involve productive activities as well as events, trade fairs, business meetings, and tourism experiences associated with the region.

Lins (2022, pp. 161–162) examines *Serra Gaúcha* as a significant tourism destination in southern Brazil, highlighting the experience of Gramado and the

relationship between tourism, territory, and the economy. This contribution is valuable because it demonstrates that regional development extends beyond industrial production. Tourism attractiveness also depends on connectivity, accessibility, visitor circulation, events, and the capacity to integrate with other consumer markets.

Fractional aircraft ownership may contribute to both dimensions. On the one hand, it addresses the business mobility needs of a productive region that must remain connected to other economic centers. On the other hand, it may facilitate the circulation of investors, high-value visitors, event organizers, and business groups associated with tourism activities. This does not imply that the model would independently solve regional connectivity challenges. The proposition is more limited: under certain usage profiles, it may complement scheduled air services, ground transportation, and occasional charter operations.

Tomazzoni (2007, pp. 25–27) relates tourism and regional development through the organization of territorial arrangements, indicators, and local articulations. This approach helps avoid an isolated interpretation of business aviation. In this context, the aircraft is not the central element of regional development. Rather, it is a means of circulation that may become useful when integrated into a productive, tourism-oriented, and institutional environment capable of generating demand.

In *Serra Gaúcha*, the potential of the model depends upon the alignment between users and intended purposes. A fractional ownership program designed solely for occasional travel is likely to experience low utilization rates and relatively high costs. Conversely, if utilization is shared among entrepreneurs, independent professionals, tourism-sector groups, event organizers, and companies with recurring interstate travel requirements, the model may achieve greater economic rationality. Therefore, the regional issue is not simply the existence of an aircraft but whether there is a sufficient network of users to justify its availability.

2.6 COSTS, ACCESS TO AERONAUTICAL ASSETS, AND THE ECONOMIC RATIONALITY OF SHARING

Full ownership of an executive aircraft involves costs that extend beyond the acquisition price. Aircraft operations require scheduled maintenance, reserves for unforeseen technical events, flight crews, training, insurance, hangar facilities,

documentation, flight planning, operational control, availability management, and compliance with regulatory requirements. These costs exist even when aircraft utilization is limited. Therefore, economic decisions should consider not only the purchase price but also the total cost of ownership and operation.

Fractional ownership seeks to address this issue by distributing a portion of fixed costs among multiple participants. Gleimer (1999, p. 979) presents fractional ownership as a model capable of reducing the initial financial commitment associated with full ownership. Its economic rationale derives from asset division and centralized management. Users pay for access to a portion of operational capacity rather than bearing the entire infrastructure required by the aircraft.

This consideration is particularly relevant in regions characterized by medium and high levels of business activity. One entrepreneur may require business aviation only a few times per month, insufficient to justify owning an aircraft. Another may need recurring travel but may not wish to manage crew operations, maintenance, and availability. A third may value predictability and privacy without generating continuous demand. Sharing emerges precisely when these partial demands can be combined within a common structure.

Worrells, NewMyer, and Ruiz (2001, p. 42) observe that fractional ownership expanded the business aviation market by reducing barriers to entry. This reduction, however, does not eliminate the need for economic evaluation. The model is only viable when the cost of ownership shares, monthly fees, and variable expenses is compatible with the mobility benefits obtained. Otherwise, the solution may become more expensive than occasional charter services or less efficient than full ownership for users with very high utilization rates.

The economic rationality of sharing depends upon balancing three factors: the number of participants, the quantity of available flight hours, and schedule predictability. Too few participants may result in high fixed costs. Too many participants may reduce individual costs but increase availability conflicts. Poorly allocated flight hours may lead to either underutilization or saturation. Consequently, program design requires greater precision than a simple division of the aircraft's acquisition cost.

Lira (2017, pp. 104–106) discusses aircraft sharing as an alternative associated with economic development and the expansion of access to general aviation in Brazil. This perspective connects economic analysis with the regional

function of the model. Sharing may be beneficial when it enables users with convergent needs to access an aircraft without reproducing the inefficiencies of isolated ownership. The expected outcome is greater asset utilization efficiency, provided that management remains professional and contracts clearly define rights, costs, and usage limitations.

2.7 OPERATIONAL SAFETY, GOVERNANCE, AND RESPONSIBILITIES IN SHARED AIRCRAFT USE

Fractional aircraft ownership requires operational governance. The model involves multiple users, scheduling arrangements, cost-sharing mechanisms, crew employment, maintenance oversight, document management, and regulatory responsibilities. Without an appropriate governance structure, fractional ownership may resemble informal co-ownership arrangements, creating risks related to conflicts, fragmented decision-making, and uncertainty regarding responsibilities.

The FAA (2009, p. 3) describes a fractional ownership program as a structure involving a single program manager responsible for providing management services to fractional owners. This point is fundamental because the manager organizes operations and reduces decision-making fragmentation among participants. In such programs, aircraft operations cannot depend upon improvised decisions by individual shareholders concerning crew assignments, maintenance, scheduling, or usage policies.

In Brazil, Subpart K of RBAC No. 91 provides the primary regulatory framework governing fractional aircraft ownership operations. ANAC Resolution No. 606, issued on February 11, 2021, amended RBAC No. 91 and introduced requirements applicable to this type of operation (ANAC, 2021, Art. 1). The significance of this regulation lies in its recognition that the model possesses unique characteristics requiring specific regulatory treatment within Brazilian civil aviation.

Governance is also directly related to operational safety. Although a shared aircraft may serve multiple users, the operation must maintain a single and consistent control standard. Maintenance procedures, training programs, crew duty limitations, operational dispatch, documentation, and risk assessments should not vary according to the shareholder requesting the flight. Safety depends upon

standardization, and standardization depends upon clearly defined administrative authority.

The FAA (2009, p. 9) describes the process of obtaining management specifications as involving documentation phases, demonstrations, and inspections. This procedure demonstrates that administering a fractional ownership program cannot be treated as a purely commercial function. Program managers must demonstrate their ability to control operational and documentary aspects of the program.

Responsibilities also exist among shareholders themselves. The usage rights of one participant must not compromise safety, minimum maintenance requirements, or crew duty limitations. A commercially desirable request may be operationally inappropriate. For example, a shareholder may wish to change destinations, advance a return flight, or add an additional flight segment on the same day; authorization for such changes depends on fuel requirements, weather conditions, airport suitability, crew duty limitations, maintenance considerations, and the impact on other users' schedules. Governance exists precisely to ensure that user pressure does not override operational control.

Accordingly, safety and governance cannot be treated as separate elements. In fractional ownership programs, operational safety depends upon clearly defined responsibilities, the authority of the program manager, contractual discipline, and compliance with applicable regulations. The model tends to be more robust when users understand that they have purchased structured access to an aircraft rather than unlimited authority over its operation.

2.8 LIMITATIONS, RISKS, AND CRITICAL ISSUES OF FRACTIONAL AIRCRAFT OWNERSHIP

Fractional aircraft ownership has the potential to expand access to business aviation, but this potential depends upon a fundamental condition: the model must be designed according to operational realities rather than merely the commercial attractiveness of ownership shares. Although asset division reduces barriers to entry, it does not eliminate the technical, economic, and administrative limitations of air operations. Consequently, the principal risk lies in marketing fractional ownership as

equivalent to full ownership when, in reality, shareholders acquire regulated, conditional, and structured access to an aircraft.

The first critical issue concerns availability. At first glance, five shareholders with access to a predetermined number of monthly flight hours may appear compatible with a single aircraft. In practice, however, conflicts rarely arise from total annual flight hours but rather from concentration of demand during the same periods. Business users frequently require aircraft access on weekdays, early mornings, late afternoons, before major events, and around trade fairs, board meetings, and commercial engagements. Consequently, a program may have unused flight hours available while still being unable to satisfy demand during specific operational windows.

This issue requires a simple but often underestimated contractual principle: availability is not merely a matter of flight hours. Availability also involves minimum notice periods, booking priorities, time spent away from the home base, overnight stays, aircraft return times, scheduled maintenance, crew duty limitations, and impacts on subsequent users. A share that promises only “flight hours” may create dissatisfaction if it fails to explain how those hours are converted into actual flight schedules.

Another sensitive issue concerns the distinction between flight time and operational occupancy. One shareholder may use two hours for a same-day round-trip flight, returning the aircraft to its base immediately. Another may use the same two flight hours but remain away from the base for two days, preventing use by other participants. Both have consumed a similar amount of flight time, yet their impacts on aircraft availability are significantly different. Consequently, program management must control not only flight hours but also overnight stays, off-base occupancy, repositioning flights, and conflicts with existing schedules.

The selection of the aircraft itself also represents a significant risk factor. An aircraft may appear attractive because of its lower acquisition cost, strong performance, or commercial appeal, but this does not necessarily make it suitable for a fractional ownership program. The aircraft must be evaluated according to maintenance costs, parts availability, support networks, fuel consumption, airport compatibility, comfort, range, reliability, and user acceptance. An aircraft that is inexpensive to acquire may prove costly to maintain. Similarly, a larger aircraft may

be commercially attractive but unsuitable if most missions involve short distances and few passengers.

Route profiles must also be considered. A model designed for *Serra Gaúcha* should not be based on the abstract objective of “flying throughout Brazil.” Instead, it must examine the destinations that actually appear within business travel routines, such as São Paulo, Curitiba, Florianópolis, Porto Alegre, the interior regions of Santa Catarina and Paraná, Brasília, and other decision-making centers. The selected aircraft must correspond to these operational realities.

Additional risks arise when shareholders are confused with operators. Although participants may possess economic interests or usage rights, they should not directly influence technical operational decisions. Commercial convenience cannot replace technical judgment in aviation. Likewise, last-minute itinerary changes may affect fuel planning, crew duty limitations, meteorological assessments, aircraft availability, and variable operating costs. The program must clearly establish when such changes are permissible, who authorizes them, who bears the associated costs, and which operational limits cannot be exceeded.

Financial risk also deserves attention. While fixed costs such as hangar facilities, insurance, crew expenses, training, and scheduled maintenance can generally be allocated through predefined formulas, variable and extraordinary expenses require more detailed rules. Fuel, airport fees, overnight expenses, daily allowances, catering services, repositioning flights, and unscheduled maintenance events must be addressed explicitly. Without clear provisions, administrators may be forced to make case-by-case decisions, reducing predictability and increasing the likelihood of dissatisfaction.

The communication of the product itself is equally important. If the program is marketed as “owning a private jet at a fraction of the cost,” shareholders may expect freedoms similar to full ownership. If it is presented as “shared access under centralized management and established operating rules,” expectations become more realistic. This distinction is not merely a marketing detail; it directly affects how users interpret delays, unavailability, scheduling conflicts, and additional expenses.

There is also the risk of underutilization. A program may be legally well structured and technically sound yet remain economically fragile if shareholders fly less than anticipated or if the aircraft remains idle for extended periods. Underutilization increases the burden of fixed costs and may reduce the

attractiveness of the model. Conversely, excessive utilization may increase maintenance requirements, reduce availability, and intensify scheduling conflicts. The optimal balance lies in selecting participants with complementary usage profiles rather than merely those capable of purchasing ownership shares.

In practical terms, this means that participant selection may be as important as aircraft selection. If all shareholders have identical travel patterns, preferred schedules, and destinations, conflicts become highly likely. Conversely, diverse usage profiles may facilitate schedule management and improve operational efficiency. Therefore, the program should evaluate compatibility of demand in addition to financial eligibility.

Fractional ownership thus requires realism. It tends to function most effectively for users who fly frequently enough to benefit from structured access but not frequently enough to justify full aircraft ownership. Users with limited travel requirements may find occasional charter services more appropriate, whereas those with extensive travel demands may prefer full ownership or dedicated operations. Fractional ownership occupies the intermediate space between these alternatives.

In the case of Serra Gaúcha, these limitations do not diminish the relevance of the model. Rather, they indicate that its regional application must be examined carefully. The region possesses business activity, tourism, events, and a need for connectivity with other economic centers. However, successful implementation depends upon governance structures, carefully drafted contracts, appropriate aircraft selection, scheduling policies, cost control mechanisms, and professional management. The model remains sustainable only when its commercial promises are consistent with operational realities.

3 METHODOLOGY

A This research is characterized as a bibliographic and documentary review of an analytical-propositional nature. The study originates from the need to transform a proposal initially resembling a business plan into an academic analysis of fractional aircraft ownership, business mobility, and regional development. For this reason, the article does not seek to market or commercially validate a specific enterprise; rather, it examines the model from technical, regulatory, and regional perspectives.

The bibliographic review is structured around three main axes. The first addresses the origin and evolution of fractional aircraft ownership, with particular attention to fractional aircraft ownership programs and the management models employed in business aviation. The second examines business aviation as an instrument of corporate mobility and regional connectivity. The third focuses on *Serra Gaúcha* as an economic, tourism, and business territory, considering its productive dynamics and its need for integration with other economic centers.

The documentary review focuses on regulations and institutional documents applicable to the model. The analysis includes RBAC No. 91, Subpart K, ANAC Resolution No. 606/2021, ANAC supplementary instructions, and international regulatory references related to fractional ownership programs. This procedure makes it possible to understand the regulatory, operational, and administrative requirements that condition the implementation of the model in Brazil.

The analysis is developed in stages. First, the elements that define fractional aircraft ownership are identified, including proportional usage rights, centralized management, cost-sharing arrangements, availability, and operational responsibility. Second, the Brazilian regulatory conditions governing the model are examined. Third, the model is related to the characteristics of *Serra Gaúcha*, considering business mobility, commercial circulation, tourism activities, and regional connectivity. Finally, analytical parameters are systematized to assess the applicability of the model within the territorial scope under study.

The analytical categories adopted are: access to aeronautical assets, availability management, cost-sharing, operational governance, operational safety, regulatory compliance, and regional suitability. These categories were selected because they represent the principal decision-making factors associated with a fractional ownership program. A model of this nature cannot be sustained solely through aircraft acquisition or the sale of ownership shares; rather, it depends upon the compatibility among demand, operations, regulation, costs, and management.

In addition to its conceptual and documentary analysis, the research possesses a propositional dimension. Based on the consolidation of elements identified in the specialized literature, regulatory documents, and the discussion developed throughout the study, an implementation and evaluation checklist was developed. This instrument has neither certification nor regulatory purposes; instead, it seeks to organize, in a practical manner, the principal aspects that should be

considered by managers, investors, program administrators, and researchers interested in the application of fractional aircraft ownership. The checklist represents a synthesis of the technical, operational, administrative, economic, and regulatory requirements identified during the research process and constitutes one of the applied outcomes of this study.

The research presents limitations inherent to bibliographic and documentary studies. No interviews, questionnaires, market research activities, or financial projections will be conducted. Likewise, the study does not intend to assert the definitive economic viability of a specific program in *Serra Gaúcha*. Its objective is to provide an analytical framework through which fractional aircraft ownership may be understood as a potential alternative for business mobility, provided that the regulatory, operational, and regional conditions identified in the study are observed. Furthermore, the study aims to offer a support instrument for reflection and for the future implementation of programs of this nature.

4 DEVELOPMENT

4.1 SERRA GAÚCHA AS A TERRITORIAL FRAMEWORK FOR BUSINESS MOBILITY

The selection of *Serra Gaúcha* as the territorial framework for this study is not based solely on its cultural or tourism identity. The region's relevance lies in the combination of productive activity, business circulation, services, tourism, and the need for connectivity with other economic centers. Fractional aircraft ownership acquires analytical significance when examined within a territory where travel time directly affects the organization of business schedules, technical visits, participation in events, client engagement, and access to external markets.

César (2019, pp. 1–2) identifies Caxias do Sul as a territorial reference associated with the metal-mechanical sector of *Serra Gaúcha* and analyzes its relationship with tourism and hospitality infrastructure. This perspective is important because it demonstrates that the region cannot be understood through a single economic dimension. Business mobility in this context encompasses industry, commerce, services, tourism, trade fairs, events, and intermunicipal relationships.

Lins (2022, pp. 161–162) further contributes to this understanding by characterizing *Serra Gaúcha* as a consolidated tourism destination, highlighting

Gramado and the development of a territorial economy linked to tourism. The presence of tourism centers does not diminish the entrepreneurial character of the region. On the contrary, it increases the need for mobility, since events, hospitality services, gastronomy, family businesses, regional commerce, and specialized services depend on the constant circulation of people and capital.

Within this environment, business aviation may be viewed as a complementary instrument of integration. It does not replace scheduled air services, ground transportation, or other forms of travel. Its role is more specific: to serve situations in which time, flexibility, privacy, predictability, and direct access to destinations possess economic value for the user. It is at this point that fractional aircraft ownership becomes relevant for regional analysis.

Serra Gaúcha presents a characteristic that favors this discussion: the existence of potential users whose travel requirements may be significant but do not necessarily justify full aircraft ownership. Entrepreneurs, independent professionals, representatives of industrial sectors, high-value tourism operators, and event managers may require rapid transportation, although at varying frequencies. Fractional ownership emerges as a possible mechanism for organizing this dispersed demand.

The regional focus also prevents an excessively generic approach to the subject. Discussing fractional aircraft ownership in Brazil in abstract terms tends to produce an overly broad analysis. By concentrating on *Serra Gaúcha*, the article relates the model to the economic structure, tourism dynamics, territorial location, and connectivity needs of a specific region. This approach brings the discussion closer to operational reality and reduces the risk of treating the model merely as a financial or ownership product.

4.2 DEMAND FOR AIR CONNECTIVITY IN PRODUCTIVE REGIONS OUTSIDE MAJOR CENTERS

Productive regions located outside major urban centers often face a recurring challenge: economic activity may be intense, while air connectivity does not necessarily keep pace with business requirements. Scheduled airline networks are generally organized around population density, passenger volume, and route profitability. As a result, important business regions may remain dependent on

lengthy ground transportation or indirect connections to access financial, industrial, technological, and governmental centers.

In this context, the demand for air connectivity is not merely a demand for transportation; it is a demand for productive time. A lengthy ground journey may transform a two-hour meeting into a two-day commitment. Although the direct cost may appear lower, the opportunity cost increases. Business leaders and managers remain away from their organizations for longer periods, lose scheduling flexibility, and reduce their ability to visit multiple destinations within a short timeframe.

Business aviation enters this discussion as a mechanism for compressing travel time. Its value becomes apparent when transportation must adapt to the user's schedule rather than requiring the user to adapt to transportation schedules. Flights at specific times, access to airports closer to final destinations, and the possibility of same-day return travel may generate competitive advantages in certain situations. This does not imply that every business trip justifies the use of an executive aircraft. Rather, it recognizes that some business agendas become efficient only when greater control over transportation is available.

Worrells, NewMyer, and Ruiz (2001, pp. 41–42) observe that fractional ownership expanded access to business aviation by reducing the initial cost of participation. This contribution is particularly important for productive regions because it suggests an intermediate solution: air connectivity does not need to depend exclusively on full ownership. Demand may instead be organized through usage shares, centralized management, and cost-sharing arrangements.

In *Serra Gaúcha*, air connectivity may affect both industrial and tourism activities. Companies may need to transport executives to meetings in São Paulo, receive investors, visit suppliers, or oversee facilities located in other states. Tourism and corporate events may require the rapid arrival of organizers, speakers, investors, or strategic clients. Executive aircraft do not serve large-scale passenger flows but may support the decision-making and business-related travel that drives higher-value economic activities.

This distinction is important. Regional connectivity should not be measured solely by the number of passengers transported. In certain circumstances, a limited number of trips may generate substantial economic impact, particularly when they involve business decisions, contracts, investments, events, or commercial relationships. By distributing costs among users with similar needs, fractional

ownership may create a more stable access structure than occasional charter services while remaining less costly than full ownership.

4.3 THE FRACTIONAL OWNERSHIP MODEL AS AN ALTERNATIVE TO FULL OWNERSHIP

Full ownership of an aircraft provides a high degree of control but requires financial and administrative capacity proportional to the value of the asset. Owners assume responsibility for acquisition, crew employment, maintenance, insurance, hangar facilities, documentation, technical upgrades, operational planning, and aircraft availability. Even when utilization rates are low, many of these costs remain fixed. Consequently, full ownership is most appropriate for users with intensive travel requirements but may be less rational for those whose demand falls within an intermediate range.

Fractional ownership seeks to occupy this intermediate space. Gleimer (1999, p. 979) presents fractional ownership as an alternative that provides access to the benefits of business aviation with a lower initial financial commitment. The model changes the relationship between users and the asset: rather than purchasing the entire aircraft, participants acquire a fractional interest or enter into a contractual arrangement that guarantees proportional access, distributed costs, and professional management.

The difference is not solely economic; it is also operational. Under full ownership, users enjoy greater control over scheduling and aircraft configuration but assume greater management responsibilities. Under fractional ownership, part of this control is replaced by shared operating rules. Shareholders gain predictable access but must comply with scheduling criteria, priority systems, hourly limitations, maintenance requirements, crew duty restrictions, and availability considerations affecting other participants.

This balance is particularly important in *Serra Gaúcha*. A regional user may require frequent travel but not at a level sufficient to justify an exclusive aircraft. Another may possess the financial resources to acquire an aircraft but may not wish to manage its operational aspects. A third may value availability while preferring to share fixed costs with users possessing similar profiles. The shared model responds precisely to this zone of recurring but partial demand.

Lira (2017, pp. 104–106) associates aircraft sharing with expanded access to general aviation and economic development in Brazil. This contribution allows fractional ownership to be examined not merely as a mechanism for reducing individual costs but as a means of organizing the use of a high-value asset for the benefit of multiple users. The model's rationale lies in connecting dispersed demand with available operational capacity.

Nevertheless, fractional ownership should not be regarded as an automatic solution. It may be less suitable for individuals who fly infrequently, since occasional charter services may better satisfy their needs. It may also be insufficient for those who fly extensively, as full ownership or dedicated operations may provide greater control. Its value emerges in the intermediate segment: users who require regularity but not absolute exclusivity.

From a practical perspective, the viability of fractional ownership as an alternative to full ownership depends on three forms of compatibility. The first is economic: the cost of ownership shares and monthly expenses must be justified by expected utilization. The second is operational: the aircraft must satisfy route requirements, runway limitations, range needs, and passenger profiles. The third is behavioral: participants must accept that the asset is shared and that availability depends upon established rules rather than individual preference.

4.4 OPERATIONAL STRUCTURE OF THE PROGRAM AND THE ROLE OF THE PROGRAM MANAGER

The operational structure constitutes the core of a fractional ownership program. Without professional management, the model risks becoming a form of co-ownership characterized by scheduling conflicts, unclear responsibilities, and low predictability. The program manager is responsible for organizing the relationship among participants, the aircraft, the flight crew, maintenance activities, scheduling, and compliance with regulatory requirements.

The FAA (2009, p. 3) describes a fractional ownership program as a system involving a single manager responsible for providing management services to fractional owners. This element distinguishes the model from an informal division of property. The manager does not merely coordinate usage. Rather, the manager structures operations, controls documentation, organizes crews, coordinates

maintenance, records information, and ensures that the program operates according to standardized procedures.

Within the Brazilian framework, the model likewise requires regulatory attention. ANAC Resolution No. 606/2021 introduced requirements applicable to fractional ownership programs within RBAC No. 91, thereby reinforcing the need for regulatory compliance (ANAC, 2021, Art. 1). The existence of a specific regulatory framework indicates that program administration cannot be treated solely as a private relationship among shareholders. Regulatory authorities have an interest in how operations are structured, supervised, and conducted.

The role of the program manager may be divided into four principal functions. The first is operational: organizing flight crews, scheduling, flight planning, documentation, and aircraft availability. The second is technical: ensuring scheduled maintenance, record control, airworthiness monitoring, and management of aircraft unavailability. The third is contractual: applying usage rules, priority systems, hourly limitations, overnight policies, variable costs, and conflict-resolution procedures. The fourth is regulatory: maintaining compliance with applicable regulations and any administrative specifications that may be required.

The FAA (2009, p. 9) describes the process for obtaining management specifications as involving pre-application, formal application, documentation review, demonstration, inspection, and certification stages. This framework demonstrates that program managers must prove their capability to organize operations before conducting them on a regular basis. Program administration is therefore not merely a convenience service; it is a component of safety, predictability, and regulatory compliance.

In practice, the program manager also serves as a filter between the shareholder's commercial preferences and the operational realities of flight operations. A participant may request changes in schedule, destination, or return time. However, such decisions must consider weather conditions, aircraft availability, crew duty limitations, maintenance requirements, existing reservations, and associated costs. Without clearly defined authority, every request risks becoming an individual negotiation, thereby weakening the program.

For *Serra Gaúcha*, this issue is particularly important because regional demand may involve users with similar profiles and overlapping schedules. Companies may wish to travel on the same weekdays, return at similar times, and

use comparable destinations. The program manager must transform this demand into an orderly operation. Without rules governing priority, advance notice, time away from the home base, repositioning, and excess usage, the model is likely to generate dissatisfaction.

An appropriate operational structure must therefore combine predictability and flexibility. Predictability ensures that shareholders understand how to use the aircraft, what costs they will incur, and what limitations apply. Flexibility enables the program to accommodate reasonable schedule adjustments without compromising safety, maintenance requirements, or the rights of other participants. The quality of the model depends less on the promise of unlimited availability and more on the ability to manage shared availability transparently and effectively.

4.5 SCHEDULE MANAGEMENT, AIRCRAFT AVAILABILITY, AND USAGE CONFLICTS

Schedule management is one of the most sensitive aspects of any fractional aircraft ownership program. Participants do not acquire unrestricted availability, as would occur under full ownership, but rather organized access to a shared asset. Consequently, the efficiency of the model depends less on the theoretical number of contracted flight hours and more on how those hours are distributed among users, destinations, peak-demand periods, and the operational limitations of the aircraft.

Availability must be understood in a broad sense. It is insufficient to verify whether a shareholder still has unused monthly flight hours. It is also necessary to determine whether the aircraft is at its home base, whether a qualified crew is available, whether maintenance requirements permit the flight, whether crew duty limitations remain within applicable limits, whether the destination airport can accommodate the operation, and whether the requested flight conflicts with another participant's reservation. Thus, actual availability results from the interaction among aircraft status, crew resources, maintenance requirements, meteorological conditions, airport characteristics, scheduling considerations, and contractual provisions.

Worrells, NewMyer, and Ruiz (2001, p. 42) indicate that the attractiveness of fractional ownership is associated with convenient access to business aviation at a lower entry cost. However, such access must be governed by transparent rules. A

program that promises flexibility while failing to establish usage priorities, minimum notice requirements, overnight limitations, and procedures for handling simultaneous flight requests is likely to generate dissatisfaction, even when the aircraft possesses adequate technical capacity.

A practical example involves aircraft use during holiday periods or weeks characterized by major business events. Five participants may hold equivalent ownership interests, yet all may wish to fly on the same Friday afternoon. In such a case, the conflict does not arise from a shortage of total available hours but from the concentration of demand within the same operational window. The solution lies not merely in increasing the number of hours sold or limiting the number of participants, but in establishing objective rules regarding priority, advance reservations, waiting lists, excess utilization, and potential sharing of flight segments when destinations are compatible.

Another recurring issue concerns aircraft occupancy away from the home base. A shareholder may accumulate relatively few flight hours while keeping the aircraft unavailable for several days at another airport. If the contract considers only flight time, that participant may appear to consume little of the program's resources. In practice, however, the participant may significantly affect overall availability. Consequently, program management must monitor overnight stays, off-base occupancy periods, repositioning requirements, and their impact on future reservations.

Within the *Serra Gaúcha* context, this issue becomes particularly relevant because a substantial portion of business demand may concentrate on weekdays, with departures in the morning and returns at the end of the day. The schedules of industrial entrepreneurs, independent professionals, commercial representatives, and event organizers often follow similar patterns. Program administration must anticipate this concentration of demand; otherwise, it risks selling a level of availability that cannot be delivered in day-to-day operations.

Effective schedule management does not eliminate all conflicts, but it reduces uncertainty. Before joining the program, participants should understand under what conditions they may reserve the aircraft, when they will have priority, which requests require operational approval, and how flights affecting other shareholders will be managed. The clearer these rules are, the lower the likelihood that the program will be perceived as failing to deliver its promises.

4.6 COMPOSITION OF FIXED COSTS, VARIABLE COSTS, AND MANAGEMENT FEES

The economic rationale of fractional ownership depends on a clear distinction among fixed costs, variable costs, and management compensation. This distinction is necessary because each category of expense possesses a different nature. Fixed costs exist regardless of aircraft utilization. Variable costs arise directly from specific flight operations. Management fees compensate the structure responsible for organizing, controlling, and making the program available to participants.

Fixed costs generally include hangar facilities, insurance, crew salaries or availability expenses, training, technical oversight, planning systems, documentation, scheduled maintenance, and permanent administrative expenditures. These costs must be allocated among participants in a predictable manner. If cost allocation is not transparent, shareholders may join the program based solely on the cost of their ownership share and subsequently discover that monthly expenses exceed their actual utilization needs.

Variable costs are associated with specific operations. Fuel, airport fees, crew overnight expenses, per diem allowances, catering, handling services, repositioning flights, and destination-related expenses should be allocated according to actual usage or another predefined criterion. This issue requires particular attention because two missions with identical flight durations may generate significantly different variable costs. A same-day round trip does not produce the same financial impact as a mission involving overnight stays, repositioning flights, and extended waiting periods.

Gleimer (1999, p. 979) describes fractional ownership as an alternative that reduces the initial investment required compared to full ownership. However, this reduction does not eliminate the need for economic transparency. The model is sustainable only when participants understand that a fractional ownership or usage interest does not represent the total cost of the operational experience. The ownership share constitutes only one component of the equation; the other includes maintenance of the operational structure, flight-related expenses, and management services.

Management fees should be treated with the same degree of transparency. They should not appear as artificial charges or concealed profit margins. In a

properly structured program, management delivers tangible services, including flight coordination, scheduling, maintenance oversight, crew recruitment and training, document management, supplier relations, cost control, and regulatory supervision. Compensation for these activities should be explicitly stated and directly linked to the services provided.

A practical example illustrates the importance of separating costs. If one shareholder conducts a same-day round trip, variable expenses are relatively straightforward. If another requests an overnight stay away from the home base, costs may include hotel accommodations, per diem allowances, additional fees, and potential aircraft unavailability. If repositioning is required to serve another participant, an additional question arises: who pays for the non-revenue flight segment? The answers should be clearly defined before operations begin.

Lira (2017, pp. 104–106) associates aircraft sharing with expanded access to general aviation and economic development. While this perspective is valuable, it does not eliminate the need for caution. Sharing may increase accessibility when costs are allocated rationally. If costs are poorly classified or inadequately communicated, the model may generate an initial perception of advantage followed by subsequent dissatisfaction.

For *Serra Gaúcha*, cost composition should reflect regional usage patterns. Short and frequent flights, travel to financial centers, overnight missions, event participation, and last-minute transportation requests each affect total costs differently. The model will be more robust if participants can estimate, before joining the program, both the cost of maintaining their ownership interest and the expenses they are likely to incur when actually using the aircraft.

4.7 BRAZILIAN REGULATORY REQUIREMENTS APPLICABLE TO THE MODEL

Fractional aircraft ownership in Brazil must be analyzed within the broader regulatory framework of civil aviation. The model extends beyond the contractual intentions of participants because it involves aircraft operations, administrative responsibilities, operational safety, crew management, maintenance, and compliance with technical requirements. The existence of ownership or usage fractions does not eliminate the need to comply with the applicable regulatory regime.

ANAC Resolution No. 606/2021 amended RBAC No. 91 and introduced requirements applicable to fractional aircraft ownership programs (ANAC, 2021, Art.

1). This amendment is significant because it formally recognizes the model within the Brazilian regulatory structure. As a result, the discussion no longer depends solely on analogies with co-ownership or charter operations but instead benefits from a dedicated regulatory framework.

RBAC No. 91, particularly Subpart K, should be considered the principal regulatory foundation for the subject. In practical terms, the program must comply with requirements concerning program managers, operations, aircraft, participants, maintenance, crew members, and responsibilities associated with shared usage. The central objective is to ensure that the structure is organized in a manner compatible with operational safety and oversight by the aviation authority.

The FAA (2009, pp. 2–3), in discussing U.S. fractional ownership programs, emphasizes that the expansion of the model required greater clarity regarding operational control, regulatory compliance, and responsibilities. Although the Brazilian regulatory environment possesses its own rules, international experience helps explain why fractional ownership cannot be treated as a simple commercial arrangement. The model occupies an intermediate position among private ownership, professional management, and recurring use by multiple participants.

Regulatory compliance has a direct effect on regional feasibility. A model proposed for *Serra Gaúcha* cannot be designed solely on the basis of business demand or ownership-share pricing. Before implementation, it must be verified that the intended operation is correctly classified, that a qualified program manager exists, that the aircraft is appropriate for the intended operation, that crew and maintenance requirements are compatible, and that contractual provisions accurately reflect operational responsibilities.

An additional point of caution concerns the distinction between shared ownership and commercial air transportation. Fractional ownership should not be used to disguise unauthorized commercial passenger transport. The differences among fractional ownership, charter services, air taxi operations, and private aviation must remain clear. If the model is structured merely as the sale of seats, transportation of third parties, or public transportation services without the appropriate regulatory framework, it may depart from the intended purpose of fractional ownership regulation.

Therefore, regulation should not be viewed as an external obstacle to the model but rather as a condition of legitimacy. In an industry such as aviation,

regulatory predictability protects program managers, shareholders, crew members, passengers, and the market itself. For *Serra Gaúcha*, this means that the applicability of the model depends upon an architecture that combines regional opportunity with aeronautical compliance.

4.8 OPERATIONAL SAFETY, REQUIRED DOCUMENTATION, AND MINIMUM MANAGEMENT STRUCTURE

Operational safety constitutes a foundational element of fractional aircraft ownership. The fact that an aircraft is utilized by multiple participants does not reduce the need for standardization, technical oversight, and clearly defined operational authority. On the contrary, the greater the number of users, schedules, and interests involved, the greater the need for clarity regarding documentation, systems, organizational roles, and responsibilities. Consequently, a fractional ownership operation conducted under Subpart K of RBAC No. 91 should not be interpreted as a simple private operation. Rather, it is a regulated modality within RBAC No. 91, subject to specific requirements regarding administration, operational safety, document control, and regulatory oversight.

The first consideration concerns regulatory classification. Section 91.1001 of RBAC No. 91 establishes requirements applicable to shareholders, shareholder associations, and program managers involved in fractional ownership programs. The regulation defines such programs as systems involving a single program manager, aircraft included within the program, shareholders, management contracts, usage rules, and management structures (ANAC, 2026). This definition demonstrates that fractional ownership differs fundamentally from informal co-ownership arrangements because it requires its own administrative and operational framework.

The program manager occupies a central position within the model. This individual or organization coordinates the relationship among shareholders, aircraft, flight crews, maintenance activities, operational records, schedules, costs, and regulatory compliance. Without a program manager, fractional ownership risks devolving into a disorganized ownership arrangement characterized by usage conflicts, unclear responsibilities, and weak operational control.

Section 91.1021 of RBAC No. 91 requires program managers to establish, implement, and maintain a Safety Management System (SMS). The SMS is intended to organize safety policies, hazard identification processes, risk assessments,

corrective actions, oversight activities, internal audits, safety communications, and recordkeeping procedures. Within a shared ownership program, the SMS plays an essential role by ensuring that operations are not driven solely by shareholder scheduling demands. Decisions to conduct flights must be based on technical criteria rather than commercial convenience.

The SMS must be documented in a Safety Management Manual (SMM). The regulation requires this document to describe processes, responsibilities, records, controls, safety policies, risk management procedures, safety assurance mechanisms, and safety promotion activities. In practical terms, the SMM prevents operational safety from depending solely on the individual experience of pilots or administrators by transforming safety into a documented and verifiable process.

In addition to the SMS and SMM, Section 91.1023 of RBAC No. 91 requires a Program Operations Manual. This manual consolidates policies, procedures, and guidance applicable to flight personnel, ground personnel, and maintenance personnel. Section 91.1025 further specifies the contents of the Operations Manual, including administrative responsibilities, operational control authority, weight and balance procedures, administrative specifications, accident and incident reporting procedures, maintenance requirements, mechanical irregularity reporting, refueling procedures, passenger instructions, emergency procedures, inspection programs, performance data, maintenance records, scheduling procedures, flight-following systems, airworthiness management, emergency equipment, and standardized operating procedures.

The regulation also requires a Declaration of Compliance. This document identifies applicable regulatory requirements and explains how each requirement is satisfied within the program structure. Its purpose is to ensure that program managers can demonstrate, in an organized manner, how compliance is achieved rather than merely asserting that operations are safe or lawful.

Operational and technical records constitute another indispensable element. Program managers must maintain documentation relating to aircraft, shareholders, pilots, qualifications, training activities, medical certificates, duty periods, flight hours, maintenance actions, and airworthiness conditions. Such records are essential for demonstrating compliance and ensuring that operations are not conducted in an improvised manner.

Standardized operating procedures, checklists, current aeronautical publications, and appropriate onboard documentation must also be maintained. These elements ensure that aircraft operations remain standardized regardless of which shareholder requests a particular flight.

The Minimum Equipment List (MEL) should also be considered whenever applicable. The MEL may be understood as an approved document identifying equipment or instruments that may be temporarily inoperative without preventing flight operations, provided that specified limitations, procedures, and conditions are respected. The MEL therefore does not authorize unrestricted operation with defective equipment; rather, it establishes a technical and documented distinction between situations requiring aircraft grounding and situations in which safe operations may continue under defined conditions.

From an organizational perspective, the minimum management structure should be proportional to program complexity. In practical terms, the structure should include an accountable executive, an operations manager or director, a safety manager, and a maintenance manager or director. These positions should not be viewed as mere formalities. They establish the program's decision-making framework and prevent shareholders, pilots, or commercial personnel from making decisions that properly belong to technical and regulatory management.

The study further recommends that regional fractional ownership programs in *Serra Gaúcha* include a permanent aeronautical engineer to support technical management of the aircraft, engines, maintenance programs, and operational records. Such professionals can contribute to long-term cost control, engine trend monitoring, component life management, inspection planning, service bulletin evaluation, and maintenance strategy development. Their participation may reduce aircraft downtime, improve financial predictability, and preserve asset value.

Ultimately, the shareholder should not exercise direct operational control. Participants may request flights and indicate destinations, schedules, and business requirements, but operational authorization must remain under the authority of the program's technical structure. Decisions involving weather conditions, maintenance requirements, operational risks, crew limitations, aircraft performance, and regulatory compliance must always be based on technical judgment rather than commercial pressure.

Accordingly, fractional aircraft ownership in *Serra Gaúcha* should not be presented merely as an economic alternative for accessing business aviation. It should be understood as a regulated, documented, and professionally managed aviation program whose viability depends upon regulatory compliance, an SMS, an SMM, a Program Operations Manual, a Declaration of Compliance, comprehensive records, standardized procedures, maintenance oversight, qualified pilots, aeronautical engineering support, and an appropriate management structure. The model may provide significant regional benefits, but only when implemented as an organized aeronautical program rather than as a simple private cost-sharing arrangement.

5 RESULTS AND DISCUSSION

5.1 PARAMETERS FOR THE APPLICABILITY OF THE MODEL TO *SERRA GAÚCHA*

The analysis conducted in this study allows the conclusion that fractional aircraft ownership may be considered a viable alternative for business mobility in *Serra Gaúcha*, provided that the model is treated as a structured aviation program rather than as a simple division of aircraft ownership. The first applicability parameter is the existence of regional demand compatible with shared use. Such demand does not need to reach the level that would justify full aircraft ownership, but it must be sufficiently recurrent to support fixed costs, operational availability, and professional administration.

Serra Gaúcha presents characteristics that support this discussion. César (2019, pp. 1–2) identifies Caxias do Sul as a regional center associated with the metal-mechanical sector and the territorial structure of the region, maintaining connections with tourism and hospitality infrastructure. Lins (2022, pp. 161–162) likewise highlights *Serra Gaúcha* as a consolidated tourism region capable of generating income and economic circulation. These elements indicate that the regional focus extends beyond a market for private travel, encompassing business activity, tourism, services, events, and integration with other economic centers.

The second parameter is the compatibility between user profile and the logic of sharing. Fractional ownership tends to be more suitable for users who require business aviation on a recurring basis but not at a level sufficient to justify owning an aircraft. Gleimer (1999, p. 979) presents fractional ownership as an alternative that

provides access to the benefits of business aviation with a lower initial investment than full ownership. Worrells, NewMyer, and Ruiz (2001, pp. 41–42) similarly associate the evolution of the model with expanded access to business aviation and reduced barriers to entry.

The third parameter is the operational suitability of the aircraft to regional requirements. Aircraft selection should not be based solely on acquisition cost or commercial appeal. The aircraft must be compatible with expected routes, airport infrastructure, required range, average passenger loads, maintenance availability, technical support networks, spare parts costs, operational reliability, and residual value. An aircraft may appear economically attractive at the time of acquisition yet prove unsuitable due to low availability, expensive maintenance, or operational limitations affecting frequently used destinations.

The fourth parameter is the existence of a program manager possessing technical, regulatory, and administrative capabilities. The FAA (2009, p. 3) describes a fractional ownership program as a structure involving a single manager responsible for providing management services to fractional owners. In Brazil, Subpart K of RBAC No. 91 also establishes specific requirements for fractional ownership programs, demonstrating that the model depends upon formal governance, documentation, qualified personnel, and continuous oversight (ANAC, 2026).

Therefore, the applicability of the model to *Serra Gaúcha* depends on the convergence of business demand, appropriate aircraft selection, regulatory structure, professional management, and realistic shareholder expectations. The model should not be presented as a universal solution but rather as an alternative for a specific regional mobility profile: users who value time, predictability, flexibility, and organized access to business aviation without individually assuming the costs and responsibilities associated with full ownership.

5.2 POTENTIAL BENEFITS FOR BUSINESS MOBILITY AND ECONOMIC INTEGRATION

The principal expected benefit of fractional aircraft ownership is the reduction of individual costs associated with access to business aviation. This benefit extends beyond the fractional acquisition of the asset itself, encompassing the sharing of fixed costs, centralized administration, and more efficient utilization of an aircraft that might otherwise remain idle for significant periods under full ownership. The

economic rationale of the model lies in connecting users with partial but recurring mobility needs and transforming fragmented demand into more efficient collective utilization.

For business mobility, the most visible advantage is time savings. In a productive region, travel time directly affects the ability to visit clients, participate in meetings, supervise operational units, negotiate contracts, host investors, or return to the workplace within the same day. Business aviation may allow schedules that would otherwise be impractical through ground transportation to be completed with less time away from organizational responsibilities.

Another benefit is predictability. Occasional charter services may satisfy many transportation needs, but they depend on aircraft availability, price negotiations, positioning flights, and individual contracting arrangements. Fractional ownership tends to offer greater predictability of access, provided that scheduling rules are clearly established and the program is managed transparently. For entrepreneurs and professionals who rely on recurring travel, predictability may be as valuable as speed.

Regional economic integration may also be enhanced. Shared aircraft can strengthen connections between Serra Gaúcha and financial, industrial, technological, and administrative centers. This proximity should not be understood merely in physical terms but also in terms of responsiveness. A manager capable of traveling, making decisions, and returning within the same day possesses an advantage over one who depends on lengthy ground transportation or inconvenient connections.

An additional benefit may arise for business tourism and event-related activities. Tomazzoni (2007, pp. 25–27) associates tourism and regional development with territorial articulation and the organization of local arrangements. In this context, executive air mobility may complement regional attractiveness by facilitating the arrival of investors, speakers, event organizers, commercial representatives, and strategic visitors. Shared aircraft do not replace scheduled air transportation but may serve specific flows characterized by high economic value.

These benefits, however, depend upon appropriate program design. Fractional ownership does not generate regional development independently. It may contribute when linked to genuine demand, suitable aircraft, competent administration, and users with compatible profiles. Economic benefits emerge when

time savings, operational flexibility, and schedule predictability outweigh participation and operating costs. The authors recognize the existence of multiple management models but have chosen to examine those considered most efficient, modern, and economically viable for *Serra Gaúcha* in 2026.

5.3 MINIMUM GOVERNANCE CONDITIONS FOR IMPLEMENTING THE MODEL

The implementation of the model requires governance. This represents one of the most significant findings of the analysis. Fractional aircraft ownership cannot be sustained solely through ownership-share agreements, cost allocation, and aircraft availability. It depends upon a structure capable of organizing decisions, responsibilities, records, maintenance activities, safety procedures, scheduling, shareholder communications, and regulatory compliance.

The first minimum condition is the existence of a program manager with clearly defined authority. The manager must oversee operations, apply usage rules, coordinate flight crews, supervise maintenance, maintain records, and ensure that the aircraft is operated within technical and regulatory limits. If each shareholder attempts to exert direct influence over pilots, mechanics, schedules, or flight releases, the model loses standardization and becomes more vulnerable to conflict.

The second condition is the separation between commercial interests and operational decisions. Shareholders may request flights, modify schedules, indicate destinations, and present business requirements. However, operational decisions must remain within the authority of the program's technical structure. Meteorological conditions, crew duty limitations, maintenance requirements, aircraft performance, airport conditions, and future availability cannot be subordinated to the immediate convenience of any participant.

The third condition is the existence of safety management systems and supporting documentation. Section 91.1021 of RBAC No. 91 requires the implementation of a Safety Management System (SMS), while Sections 91.1023 and 91.1025 address the Program Operations Manual and its operational and administrative content (ANAC, 2026). These requirements demonstrate that governance must be documented. Safety cannot depend solely upon personal experience or informal decision-making.

The fourth condition is the maintenance of records. Section 91.1027 of RBAC No. 91 addresses record retention by program managers, including information

relating to aircraft, shareholders, pilots, qualifications, training, duty periods, flight hours, maintenance, and airworthiness (ANAC, 2026). Properly maintained records protect operations, shareholders, and the residual value of the aircraft.

The fifth condition concerns personnel structure. Section 91.1051 of RBAC No. 91 establishes management functions including an accountable executive, an operations manager or director, a safety manager, and a maintenance manager or director (ANAC, 2026). Beyond these positions, the analysis recommends support from qualified pilots, operational control personnel, scheduling coordinators, administrative-financial professionals, legal-regulatory advisors, and an aeronautical engineer or equivalent technical specialist responsible for maintenance oversight, engine monitoring, records management, and asset preservation.

The inclusion of an aeronautical engineer deserves particular emphasis. In fractional ownership programs, the aircraft functions simultaneously as a transportation resource and a capital asset. Competent technical management may support maintenance planning, engine monitoring, cycle tracking, service bulletin evaluation, inspection scheduling, record organization, and preservation of technical history. Such efforts may reduce maintenance expenses, minimize aircraft downtime, and strengthen future resale value because aircraft with complete documentation and organized technical records tend to inspire greater market confidence.

The sixth condition is contractual transparency. The agreement must clearly explain what shareholders are acquiring: shared access rather than unrestricted availability. It should define flight hours, overnight policies, scheduling priorities, excess usage, repositioning costs, variable expenses, maintenance obligations, technical unavailability, aircraft substitution procedures when applicable, cancellations, fee adjustments, responsibilities, and conflict-resolution mechanisms. A clear contract reduces expectations that are incompatible with operational reality.

Accordingly, minimum governance combines personnel, documentation, procedures, contractual arrangements, and operational culture. Without these elements, the model may appear simple during the sales process but prove complex and fragile during execution. With them, fractional ownership becomes an organized business mobility program.

5.4 REGULATORY, OPERATIONAL, AND ECONOMIC CONSIDERATIONS

The first area of concern is regulatory compliance. Fractional ownership must not be used to disguise unauthorized commercial air transportation. It is necessary to distinguish clearly among fractional ownership, air taxi operations, occasional charter services, public air transportation, and private aviation. Subpart K of RBAC No. 91 provides a specific framework for fractional ownership programs, and this framework must be respected from contractual design through operational execution (ANAC, 2026).

The second concern involves obtaining and maintaining the necessary administrative conditions. Section 91.1001 of RBAC No. 91 defines the structure of the program, while provisions related to the SMS, Operations Manual, Declaration of Compliance, recordkeeping, and administrative functions demonstrate that program managers must maintain a formal and auditable organization (ANAC, 2026). This requirement prevents the model from being reduced to a simple arrangement among owners.

The third concern is operational. Aircraft must remain available, properly maintained, adequately crewed, and fully documented. Availability must be genuine rather than merely contractual. An aircraft may possess unused flight hours within a monthly plan while still being unavailable due to maintenance requirements, crew duty limitations, weather conditions, overnight stays away from the home base, or scheduling conflicts. Consequently, management must monitor not only flight hours but also operational occupancy of the aircraft.

The fourth concern relates to the management of the Minimum Equipment List (MEL), when applicable. The MEL should not be interpreted as a general authorization to operate aircraft with defects. It is a technical document specifying, under defined conditions, which items may be temporarily inoperative without preventing flight operations. Advisory Circular IS 91-012C addresses the methodology for developing and using an MEL, including procedures, recordkeeping requirements, operational communications, and personnel training (ANAC, 2025). Within a shared ownership program, such control is particularly important because shareholder scheduling pressures may seek to transform technical exceptions into commercial conveniences.

The fifth concern is economic. Dividing an aircraft into ownership shares does not eliminate either fixed or variable costs. Hangar facilities, insurance, crew expenses, training, maintenance, technical oversight, and administration must be

financed even during periods of limited utilization. Fuel, airport charges, overnight expenses, per diem allowances, catering, handling services, and repositioning flights vary according to each mission. If these costs are not clearly explained before participation, an initial perception of economic advantage may later become a source of dissatisfaction.

The sixth concern is aircraft selection. An aircraft that is inexpensive to acquire may be expensive to maintain. An aircraft with strong performance characteristics may nevertheless be unsuitable for certain runways or mission profiles. A model supported by a limited service network may experience significant availability challenges. Selection decisions should consider total lifecycle cost, technical support infrastructure, reliability, engine characteristics, parts availability, maintenance records, operational range, airport compatibility, and residual value.

The seventh concern is user compatibility. The program should not merely assemble individuals capable of purchasing ownership interests; it should bring together users whose travel requirements can be managed effectively within a shared structure. If all participants desire access to the aircraft on the same days, at the same times, and for the same destinations, conflicts become highly likely. Schedule compatibility should therefore be evaluated before ownership shares are sold rather than afterward.

The eighth concern is commercial communication. The program should not market itself as an opportunity to “own a private jet” without explaining that it involves shared usage. Commercial messaging must remain consistent with both contractual provisions and operational realities. Shareholders must understand that safety requirements, maintenance activities, crew duty limitations, weather conditions, and reservations made by other participants may affect aircraft availability.

These considerations indicate that the success of the model depends less on the isolated attractiveness of ownership shares and more on the consistency among regulation, operations, costs, and user expectations. Fractional aircraft ownership may represent a useful solution for *Serra Gaúcha*, but its implementation requires rigorous technical design.

5.5 ANALYTICAL SYNTHESIS OF THE PROPOSED MODEL FOR THE REGIONAL CONTEXT

The analytical synthesis of this study indicates that the fractional aircraft ownership model applied to *Serra Gaúcha* should be conceived as a regulated program for regional business mobility. Its purpose is neither to replace scheduled commercial aviation nor to compete with all forms of charter services, nor to promise unrestricted aircraft availability. Rather, its function is to provide organized access to business aviation for users whose travel requirements are recurring but insufficient to justify full aircraft ownership.

To ensure the consistency of the model, the following practical checklist is recommended prior to implementation:

1. Has the actual profile of potential users in *Serra Gaúcha* been identified?
2. Do the users have recurring transportation needs that are insufficient to justify exclusive aircraft ownership?
3. Have the likely routes been mapped based on actual business travel requirements?
4. Have the most frequent destinations been evaluated in terms of runway characteristics, infrastructure, meteorological conditions, fueling availability, and ground support services?
5. Is the selected aircraft compatible with the required range, passenger capacity, runway conditions, operating costs, and maintenance support network?
6. Has the acquisition cost been analyzed together with total operating costs, maintenance expenses, engine programs, spare parts, insurance, and residual value?
7. Has the availability of spare parts and technical support for the selected aircraft model been evaluated?
8. Has a technical assessment been conducted regarding engine monitoring programs, life-extension programs, preventive maintenance, and record preservation?
9. Has a single program manager been formally designated?
10. Does the program manager possess the technical, operational, financial, and regulatory capabilities required to administer the program?
11. Has compliance with RBAC No. 91 Subpart K been verified prior to any commercial offering?
12. Have the required Administrative Specifications been considered during the planning process?

13. Has a Safety Management System (SMS) been incorporated as a mandatory safety management framework?
14. Has a Safety Management Manual (SMM) been developed as a formal operational safety document?
15. Has a Program Operations Manual been established in accordance with the principles of Subpart K?
16. Has a Declaration of Compliance been incorporated as a regulatory compliance demonstration tool?
17. Will records relating to aircraft, shareholders, pilots, maintenance, training, duty periods, and airworthiness be maintained in an organized manner?
18. Are standardized operating procedures established for program operations?
19. Will checklists and aeronautical publications be maintained in current and updated form?
20. Will the Minimum Equipment List (MEL), when applicable, be used exclusively according to technical criteria, with appropriate documentation and training?
21. Has an accountable executive been formally designated?
22. Has an operations manager or director been appointed?
23. Has an independent safety manager been designated when required?
24. Has a maintenance manager or director been appointed?
25. Is there an aeronautical engineer or equivalent technical support professional responsible for maintenance oversight, engine management, records control, and preservation of aircraft residual value?
26. Are pilots qualified on the aircraft type and trained for the proposed operation?
27. Is there a designated individual responsible for scheduling, agenda management, and availability control?
28. Is there a designated individual responsible for shareholder relations and operational communications?
29. Is there a professional or department responsible for contracts, billing, cost allocation, and financial reporting?
30. Does the contract clearly distinguish among fixed costs, variable costs, and management fees?
31. Does the contract define responsibility for fuel, airport charges, overnight expenses, per diem allowances, catering, handling services, and repositioning costs?

32. Does the contract establish flight-hour limits, overnight restrictions, minimum notice requirements, and scheduling priorities?
33. Does the contract define how scheduling conflicts among shareholders will be resolved?
34. Does the contract establish rules governing usage beyond the allocated share?
35. Does the contract define procedures applicable during scheduled maintenance or technical unavailability?
36. Does the contract clearly explain that shareholders acquire shared access rather than unrestricted availability?
37. Does the commercial communication avoid suggesting freedoms equivalent to full ownership?
38. Does the safety policy clearly establish that shareholders do not exercise direct operational control?
39. Do decisions regarding weather conditions, maintenance, crew duty limitations, aircraft performance, and operational safety remain under the authority of the technical management structure?
40. Does the model include mechanisms for internal audits, periodic reviews, and continuous improvement?
41. Does the program include an aircraft replacement or renewal plan when maintenance costs or operational age affect efficiency?
42. Will maintenance history and technical records be preserved to support the future resale value of the aircraft?
43. Has the cost structure been tested under low-utilization, normal-utilization, and high-utilization scenarios?
44. Has compatibility among shareholder schedules been evaluated prior to enrollment?
45. Does the program establish objective criteria for approving or denying route, schedule, or destination changes during a mission?
46. Does the operation consider regional seasonality, trade fairs, tourism activity, events, and periods of heightened business demand?
47. Does the model provide for transparent communication whenever the aircraft becomes unavailable?

48. Does the program manager possess the authority to deny a flight for technical, meteorological, regulatory, or operational reasons?
49. Have shareholders been adequately informed about the limitations inherent in fractional ownership?
50. Has the program been structured as a regulated aviation organization rather than as a simple private cost-sharing arrangement?

This checklist represents the main applied outcome of the research. It demonstrates that fractional aircraft ownership may be analyzed as an alternative for business mobility and economic integration in *Serra Gaúcha*, but only when structured with regional alignment, governance mechanisms, operational safety, regulatory compliance, technical management, and economic transparency. The value of the model lies not merely in reducing the cost of access to an aircraft, but in organizing a reliable executive mobility system for users who share similar transportation needs without compromising safety or regulatory compliance.

6 CONCLUSION

The purpose of this study was to analyze the fractional aircraft ownership model as applied to business mobility and regional development in *Serra Gaúcha* through a bibliographic and documentary review of fractional ownership, business aviation, regional development, and aeronautical regulation. The research was based on the hypothesis that fractional ownership could represent an intermediate alternative between full aircraft ownership and the occasional contracting of air transportation services, thereby expanding access to executive mobility for users with recurring transportation needs that are nevertheless insufficient to justify exclusive aircraft ownership.

The results obtained allow this hypothesis to be considered partially confirmed. The literature reviewed demonstrates that fractional ownership has become internationally established as a model capable of reducing barriers to entry into business aviation by distributing costs, responsibilities, and asset utilization among multiple participants. Likewise, the analysis of the economic, business, and territorial characteristics of *Serra Gaúcha* indicates the presence of elements compatible with the discussion of this model, particularly due to the existence of industrial, commercial, tourism, and service activities that maintain frequent relationships with other economic centers throughout the country.

Throughout the research, it became evident that business mobility should not be interpreted merely as physical movement between locations. In productive environments, the time available for decision-making, negotiations, operational supervision, client engagement, and participation in strategic events possesses significant economic value. Within this context, business aviation may serve as a connectivity tool, enabling entrepreneurs and managers to reduce travel times, improve responsiveness, and maintain stronger integration with markets located outside their region of origin.

The analysis also demonstrated that fractional ownership should not be understood solely as a mechanism for cost reduction. Its potential is associated with the possibility of structuring an organized mobility solution for users who value availability, flexibility, and operational predictability but whose travel requirements do not justify the acquisition and maintenance of an aircraft on an exclusive basis. In this way, the model occupies an intermediate position between exclusive ownership and the occasional procurement of air transportation services, serving a specific profile of business aviation utilization.

With regard to regional development, the findings suggest that fractional ownership may contribute to strengthening the economic connectivity of *Serra Gaúcha* with financial, industrial, technological, and administrative centers located in other regions of Brazil. Although a shared aircraft cannot replace existing transportation infrastructure or scheduled airline services, it may complement available mobility systems by enabling more efficient travel for business activities, events, strategic meetings, technical visits, and business development initiatives. In this sense, the model's potential contribution is less related to transportation itself and more closely associated with its capacity to connect economic actors, facilitate the circulation of decisions, and reduce barriers between markets.

However, the research also demonstrated that the mere existence of business demand is insufficient to guarantee the effectiveness of a fractional ownership program. The model depends upon the integration of regulatory, operational, administrative, and economic factors. The analysis of Subpart K of RBAC No. 91 revealed that fractional ownership cannot be understood as a simple private co-ownership arrangement. Rather, it is a regulated modality that requires a program manager, a Safety Management System (SMS), specific documentation,

permanent records, a defined organizational structure, and formal governance mechanisms.

One of the principal findings of the study was the identification of governance as a factor that is as important as the aircraft itself. The quality of management, availability control, cost management, maintenance of regulatory compliance, and preservation of operational safety directly influence the sustainability of the program. The research demonstrated that models structured solely around cost-sharing tend to exhibit weaknesses when confronted with issues involving scheduling, maintenance, operational responsibilities, and conflicts among shareholders.

The analysis further indicated that the success of a fractional ownership program depends not only on aircraft acquisition or the sale of ownership shares. The model requires structured governance, a qualified program manager, an SMS, a Safety Management Manual (SMM), a Program Operations Manual, document control systems, planned maintenance, availability management, and clear procedures for resolving usage conflicts. The professionalization of management constitutes a central element in ensuring long-term sustainability. In this context, the participation of specialized professionals, including aviation managers, safety managers, maintenance specialists, and aeronautical engineers, may contribute to reducing lifecycle costs, improving operational availability, monitoring engines and components, preserving residual asset value, and strengthening shareholder confidence.

Another relevant aspect identified during the research was the importance of technical management as a tool for asset protection. In fractional ownership programs, the aircraft should be viewed not only as a transportation resource but also as a high-value economic asset. Proper recordkeeping, systematic airworthiness monitoring, the use of engine monitoring programs when applicable, inspection planning, and documentary traceability can reduce future costs, minimize aircraft downtime, and contribute to maintaining aircraft value during eventual replacement or resale processes.

The results and discussions also made it possible to consolidate a set of practical parameters for implementing the model, synthesized through an operational, regulatory, administrative, and economic checklist. These elements reinforce the conclusion that the viability of a fractional ownership program does not depend on any single isolated factor but rather on the integration of regional demand,

appropriate aircraft selection, management structure, regulatory compliance, financial planning, and a continuous commitment to operational safety.

As a limitation, this study did not conduct empirical research involving entrepreneurs, operators, investors, or potential users within *Serra Gaúcha*. Likewise, no financial analyses, demand projections, fleet modeling exercises, or quantitative economic feasibility studies were performed. Consequently, the conclusions presented should be interpreted as conceptual, documentary, and regulatory findings consistent with the objectives established for the research.

As opportunities for future research, the study recommends market analyses aimed at identifying potential demand for fractional ownership in *Serra Gaúcha*, comparative evaluations of different categories of business aircraft, economic assessments of the costs and benefits associated with the model, studies addressing organizational governance in fractional ownership programs, and research examining the use of digital tools for integrating operational management, maintenance, operational safety, cost control, and aircraft availability administration.

It may therefore be concluded that the fractional aircraft ownership model demonstrates conceptual alignment with the business mobility needs identified in *Serra Gaúcha* and possesses the potential to contribute to enhanced regional connectivity between economic actors and strategic decision-making centers. Although it is not possible to affirm its economic viability without complementary empirical studies, the literature reviewed, the current regulatory framework, and the operational parameters identified suggest that the model may represent a relevant alternative for expanding access to business aviation in regional contexts. Its success, however, depends upon the adoption of a professional management structure, regulatory compliance, robust governance, and a continuous commitment to operational safety. More than a method of aircraft acquisition, fractional ownership should be understood as an integrated business mobility system capable of combining shared access, operational efficiency, asset preservation, and a potential contribution to the regional development of *Serra Gaúcha*.

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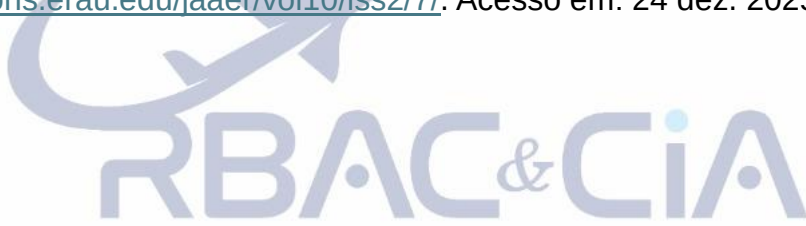
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