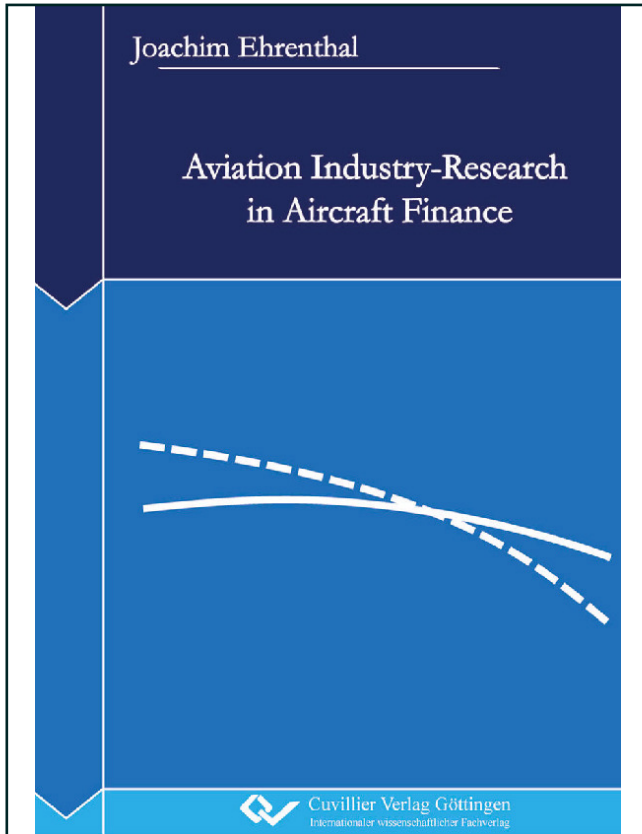




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Aviation Industry-Research in Aircraft Finance



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2 Conceptual Basis

This chapter gives definitions on the core concepts and aspects of aviation industry-research in aircraft finance. First, section 2.1 defines the term aviation as used in this book. Second, section 2.2 briefly characterizes financing. Third, section 2.3 defines strategy and highlights the strategic nature of aircraft investment and financing for airlines and financiers. Fourth, section 2.4 explores the goals and rationale of industry-research and its role in aircraft financing. Fifth, section 2.5 explores the concept of internationality and how it relates to aviation industry-research. Finally, section 2.6 provides a synopsis of aviation industry-research in aircraft finance.

2.1 Aviation

The AIR TRANSPORT ACTION GROUP (ATAG), a combination of key organizations and companies concerned with air transportation, define the aviation sector as airlines, airports, air navigation service providers and “those activities directly serving passengers or providing airfreight services.”³⁴ In this book, the term aviation industry also encompasses the aerospace industry, which comprises the manufacture and maintenance of aircraft and engines. The term aircraft refers to western-built commercial passenger jets with more than 100 seats if not indicated otherwise.

2.2 Financing

Financing refers to the process of raising capital in order to carry out investment projects.³⁵ While investments are characterized by an outflow of cash upon the inception of a project and positive cash inflows in later periods, financing includes a cash inflow at the start of a project and cash outflows thereafter.³⁶

2.3 Strategy

CHANDLER defines strategy as the determination of a company’s long-term objectives and the bundle of actions necessary for achieving these objectives.³⁷ Building on

³⁴ ICAO (2007), p. 4.

³⁵ Cf. Brealey, R.A./Myers, S.C./Allen, F. (2006), p. 7.

³⁶ Cf. Grinblatt, M./Titman, S. (2004), p. 302f. Section 2.3 discusses the strategic scope of aircraft investment and financing decisions, Chapter 3 focuses on aircraft financing.

³⁷ Cf. Chandler, A.D. (1962), p. 13. Others, such as PERLITZ/SEGER and EICHHORN also recognize the long time horizon of strategies, cf. Perlitz, M./Seeger, F. (1999), p. 215; Eichhorn, P. (2000), p. 286. CHAFFEE and HUNGENBERG emphasize that strategy is defined inconsistently in the literature, cf. Chaffee, E.E. (1985), p. 89; Hungenberg, H./Wulf, T. (2003), p. 183.

ANDREWS³⁸, MINTZBERG emphasizes the forward-looking and diverse nature of strategies and classifies strategies as plans of action, ploys to deal with specific situations, evolving patterns of actions over time, strategic positioning of companies within their environment, and visionary and guiding perspectives.³⁹ MINTZBERG/RAISINGHANI/THÉORÊT, NUTT and SCHREYÖGG/STEINMANN describe the corresponding process of strategic decision-making as sequential phases of problem recognition, information gathering and analysis, followed by the development, evaluation and implementation of problem solutions.⁴⁰ Commonly, these decisions have a larger spatio-temporal reach than tactical decisions⁴¹ and can relate to different strategic levels⁴² and objects, e.g. products, services, markets and technologies.⁴³ SEGAL-HORN concludes that the strategic planning process enables a company to identify, build and deploy resources towards attaining its objectives.⁴⁴

The high hierarchical setting of airline fleet planning and credit decisions at banks illustrates the strategic nature of aircraft investment and financing.

According to CLARK, a network carrier's fleet planning is typically in charge of aircraft acquisition decisions. However, it has strong cross-functional ties, especially with the strategic planning department, which deals with the airline product, brand management and forecasting. Also, fleet planning interacts with the flight operations unit on issues such as aircraft performance estimates, crew scheduling and training requirements as well as with the engineering department for maintenance and safety considerations. Moreover, fleet planning interrelates with corporate finance on sources of aircraft funding. Above all, because aircraft are at the core of airline operations, and due to the large amounts of capital involved, aircraft acquisition decisions require top-level management consent.⁴⁵

³⁸ Cf. Andrews, K.R. (1971), p. 28.

³⁹ Cf. Mintzberg, H. (1987), p.11ff.

⁴⁰ Cf. Mintzberg, H./Raisinghani, D./Théorêt, A. (1976), p. 266; Nutt, P.C. (1984), p. 421ff.; Schreyögg, G./Steinmann (1987), p. 95ff. HIRSHLEIFER defines information as the events tending to change individuals subjectively expected probability distributions over possible states of the world, cf. Hirshleifer, J. (1973), p. 31.

⁴¹ Cf. Coyne, K.P./Subramaniam, S. (1996), p. 20.

⁴² Cf. Slack, N./Chambers, S./Johnston, R. (2004), p. 68.

⁴³ Cf. Brauchlin, E./Wehrli, H.-P. (1991), p. 3ff.

⁴⁴ Cf. Segal-Horn, S. (2004), p. 140f.

⁴⁵ Cf. Clark, P. (2007), p. 4ff. Sections 3.1.1 and 4.1 explore further aspects of fleet planning.

Figure 1.1 illustrates the nesting of airline fleet planning.

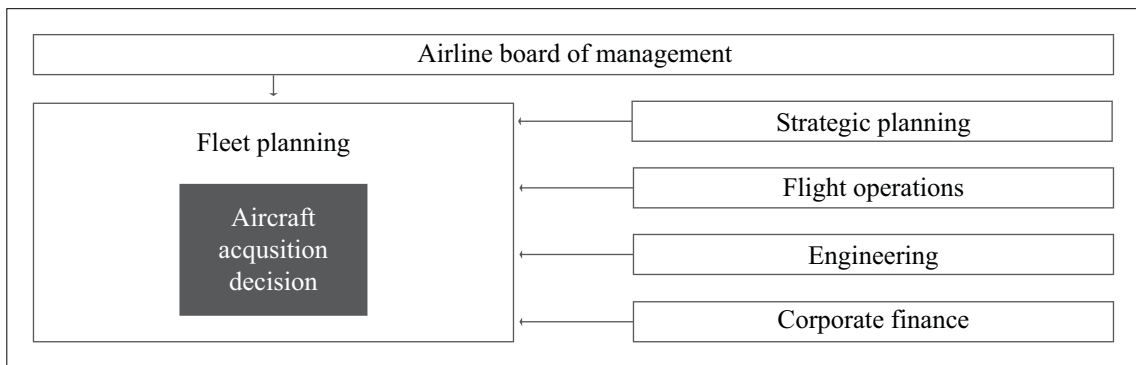


Figure 2.1: Airline fleet planning⁴⁶

In analogy to airline fleet planning, the decision to provide capital for aircraft investments is highly relevant to financiers, especially to those who commit substantial amounts of capital to aircraft transactions. An outline of credit approval at banks exemplifies the strategic impact of aircraft financing from a financier's point of view. Generally, a credit committee, which is composed of the bank's senior executives and the respective executive officers in charge of the transaction, decides on transactions exceeding specified credit amounts.⁴⁷ Risk management and risk controlling units support credit approval decisions by identifying, quantifying, monitoring and limiting risks.⁴⁸ For example, these risks include credit risk associated with the debtor and its business environment and asset risk in transactions with exposure to residual value, as often encountered in aircraft financing. Internal auditing monitors the credit approval process.⁴⁹ Figure 2.2 illustrates a bank's credit approval process via a credit committee.

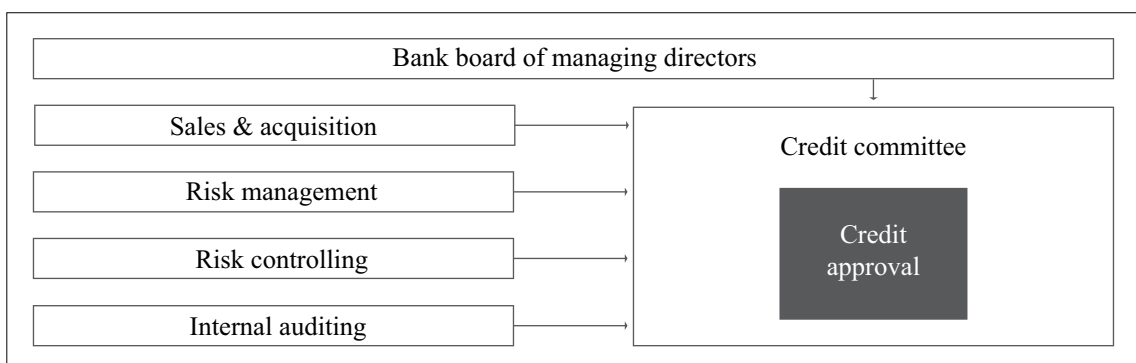


Figure 2.2: Credit approval at banks⁵⁰

⁴⁶ Own depiction adapted from Clark, P. (2007), p. 5.

⁴⁷ Cf. DVB Bank (2006), p. 71.

⁴⁸ Cf. Fischer, T.R. (2000), p. 1019f.

⁴⁹ Cf. Orix (2007), p. 58f.

⁵⁰ Own depiction adapted from DVB Bank (2006), p. 70; Orix (2007), p. 58.

2.4 Industry-Research

Industry-research is a systematic process to analyze an industry's internal and external environment. According to FLEISHER/BENSOUSSAN, it comprises the collection, evaluation and interpretation of all available information immediately or potentially significant to decision-making.⁵¹ Hence, industry-research seeks to identify competitors, determine the degree and dynamics of competition, assess overall market potential, opportunities, risks, and evaluate the impact of external developments, such as regulation affecting an industry. Thus, industry-research aims at supporting managerial decision-making by providing information about industry-specific events and developments whose knowledge has long-term or strategic implications.⁵²

Industry-research can also be classified as part of a company's operational knowledge management⁵³ and includes specific, nonrecurring analyses as well as continuous monitoring processes. The potential gains from industry-research lie in the utilization of informational advantages and superior understanding of market developments.⁵⁴ Thus, ZANDER/KOGUT, GRANT, LIEBESKIND, TEECE and others argue that knowledge management is essential to creating and sustaining a competitive advantage.⁵⁵ CAMPBELL/KRACAW, DIAMOND, FAMA, and WINTON emphasize the unique monitoring function of commercial banks.⁵⁶ In particular, MARSHALL/PRUSAK/SHPIBERG and GUPTA/GOVINDARAJAN highlight the importance of knowledge management in international environments and financial institutions, which arise from the additional complexity, risk and time-criticalness involved.⁵⁷

Two models for analyzing industries illustrate the rationale of industry-research and its connection to strategy. LEARNED ET AL. develop a dyadic framework to formalize corporate decision-making, which results from an evaluation of the company's

⁵¹ Cf. Fleisher, C.S./Bensoussan, B.E. (2003), p. 6.

⁵² Cf. Aguilar, F.J. (1967), p. 1.

⁵³ RUGGLES and BHATT define knowledge management as an integrated process of knowledge generation, validation, presentation and distribution, cf. Ruggles, R. (1998), p. 80; Bhatt, G.D. (2001), p. 68.

⁵⁴ Cf. Porter, M.E. (1998a), p. 605.

⁵⁵ Cf. Zander, U./Kogut, B. (1995), p. 87f.; Grant, R.M. (1996), p. 384; Liebeskind, J.P. (1996), p. 93; Teece, D.J. (1998), p. 76. BARNEY defines a competitive advantage as a unique, non-replicable value-creating strategy, cf. Barney, J. (1991), p. 102.

⁵⁶ Cf. Campbell, T.S./Kracaw, W.A. (1980), p. 863ff.; Diamond, D.W. (1984), p. 393ff.; Fama, E.F. (1985), p. 29ff.; Winton, A. (2003), p. 1273ff.

⁵⁷ Cf. Marshall, C./Prusak, L./Shpilberg, D. (1996), p. 81f.; Gupta, A.K./Govindarajan, V. (2000), p. 473f. RAJAGOPALAN/RASHEED/DATTA define complexity as the number of elements and their interconnectedness, cf. Rajagopalan, N./Rasheed, A.M.A./Datta, D.K. (1993), p. 358.

environment, competences and resources.⁵⁸ For achieving a given objective, this so-called Strength-Weaknesses-Opportunities-Threats (SWOT) model situationally identifies and analyzes a company's distinctive internal abilities and its external factors, such as the opportunities and risks in environmental conditions and trends.⁵⁹ The SWOT approach aims at creating advantages from opportune firm-environment congruencies.⁶⁰ Figure 2.3 depicts the basic elements of SWOT analysis.

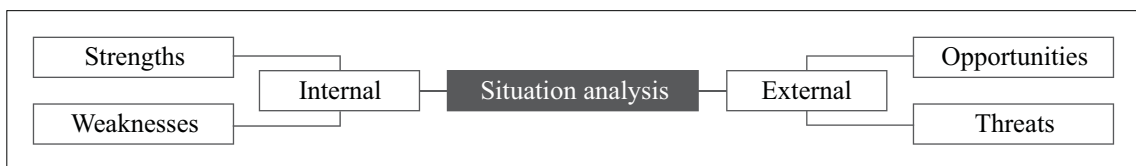


Figure 2.3: SWOT analysis⁶¹

The SWOT methodology is widely applicable. For instance, startup-airlines typically include a SWOT analysis in their business plan.⁶²

A further model for analyzing industries is PORTER'S Competitive Forces framework for assessing industry attractiveness.⁶³ It aims at achieving a favorable strategic positioning of a company within its competitive environment.⁶⁴ The framework consists of five factors that determine an industry's structural elements and competitive landscape, each of which potentially decrease an industry's average profitability and thus attractiveness. PORTER identifies the intensity of the rivalry between industry incumbents, the bargaining power of suppliers, the bargaining power of customers, the threat of substitute products and the threat of new entrants as key drivers of industry competition.⁶⁵ Consequently, the combination of high entry barriers, modest bargaining power of buyers and suppliers, few substitute products and stable competitive rivalry characterize attractive industries. Figure 2.4 visualizes PORTER'S framework of industry competition.

⁵⁸ Cf. Learned, E.P. et al. (1965), p. 170ff.

⁵⁹ Cf. Ghemawat, P. (2001), p. 5ff.

⁶⁰ Cf. Teece, D.J./Pisano, G./Shuen, A. (1997), p. 515.

⁶¹ Own depiction adapted from Cartwright, R. (2001), p. 29.

⁶² Cf. Gibson, W.E. (2007), p. 12.

⁶³ Cf. Porter, M.E. (1980), p. 1ff.

⁶⁴ Cf. Brandenburger, A.M. (2002), p. 58.

⁶⁵ Cf. Porter, M.E. (1998b), p. 5ff.

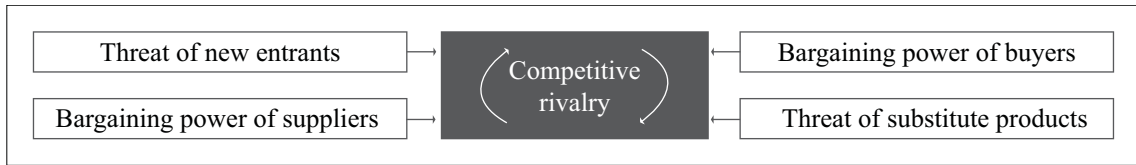


Figure 2.4: Competitive Forces analysis⁶⁶

Despite the criticism of these generic approaches,⁶⁷ SWOT and Competitive Forces analysis demonstrate the goals and rationale of industry-research, which can be subsumed as identifying, structuring and analyzing all factors and factor-interactions relevant to defining and achieving strategic objectives as well as mitigating the negative effects of uncertain future events.

As indicated in section 2.3, the knowledge of a borrowers' business environment and the estimation of asset risk are elementary to aircraft financing decisions. However, the relevant knowledge and information is distributed unevenly between airlines and financiers: Airlines, whose core competencies⁶⁸ are the selling of air transportation services and operating aircraft, have extensive knowledge of their operations, aircraft performance and other equipment and technology-related issues. Complementary, financiers who focus on aircraft financing have insight into other airlines' aircraft transactions and thus possess a broader knowledge of the primary and secondary markets for aircraft. Hence, industry-research can be seen as a means of managing risk by overcoming the informational discrepancies inherent in aircraft financing. Figure 2.5 summarizes informational asymmetries between airlines and financiers.

⁶⁶ Adapted from Porter, M.E. (1998b), p. 4.

⁶⁷ For instance, MINTZBERG, HILL/WESTBROOK, PICKTON/WRIGHT, MENON ET AL., NOVICEVIC ET AL. and DYSON critically review the applicability of and biases in SWOT analysis, cf. Mintzberg, H. (1990), p. 180ff.; Hill, T./Westbrook, R. (1997), p. 51; Pickton, D.W./Wright, S. (1998), p. 108; Menon, A. et al. (1999), p. 18ff.; Novicevic, M.M. et al. (2004), p. 92; Dyson, R.G. (2004), p. 638. HAMEL/PRAHALAD, RUMELT, BARTLETT/GHOSHAL, PORTER, MINTZBERG, PRAHALAD/HAMEL, BRANDENBURGER/NALEBUFF, TEECE/PISANO/SHUEN and others critically reflect several aspects of the Competitive Forces framework, including its static nature, macroeconomic assumptions and embeddedness in generic strategic recommendations, cf. Hamel, G./Prahalad, C.K. (1989), p. 64; Rumelt, R.P. (1991), p. 185; Bartlett, C.A./Ghoshal, S. (1991), p. 5ff.; Porter, M.E. (1991), p. 95ff.; Mintzberg, H. (1994), p. 110; Prahalad, C.K./Hamel, G. (1994), p. 7f.; Brandenburger, A.M./Nalebuff, B. (1995), p. 57ff.; Teece, D.J./Pisano, G./Shuen, A. (1997), p. 511.

⁶⁸ PRAHALAD/HAMEL define the core competency as an intra-firm pool of experience and knowledge that enables the creation, enhancement and transfer of cost or differentiation advantages, cf. Prahalad, C.K./Hamel, G. (1990), p. 81ff. MARKIDES/WILLIAMSON further characterize these advantages as imperfectly imitable, imperfectly substitutable, and imperfectly tradable, cf. Markides, C.C./Williamson, P.J. (1996), p. 341.