

Airline Revenue Management Data

The Evolution of Yield Management in the Airline Industry

This book chronicles airline revenue management from its early origins to the last frontier. Since its inception revenue management has now become an integral part of the airline business process for competitive advantage. The field has progressed from inventory control of the base fare, to managing bundles of base fare and air ancillaries, to the precise inventory

control at the individual seat level. The author provides an end-to-end view of pricing and revenue management in the airline industry covering airline pricing, advances in revenue management, availability, and air shopping, offer management and product distribution, agency revenue management, impact of revenue management across airline planning and operations, and emerging technologies in travel. The target audience of this book is practitioners who want to understand the basics and have an end-to-end view of revenue management.

Airline Revenue Management

The book provides a comprehensive overview of current practices and future directions in airline revenue management. It explains state-of-the-art revenue management approaches and outlines how these will be augmented and enhanced through modern data

science and machine learning methods in the future. Several practical examples and applications will make the reader familiar with the relevance of the corresponding ideas and concepts for an airline commercial organization. The book is ideal for both students in the field of airline and tourism management as well as for practitioners and industry experts seeking to refresh their knowledge about current and future revenue management approaches, as well as to get an introductory understanding of data science and machine learning methods. Each chapter closes with a checkpoint, allowing the reader to deepen the understanding of the contents covered. This textbook has been recommended and developed for university courses in Germany, Austria and Switzerland.

The Basics of Revenue Management

This dissertation, \"The Strategic Role of Airline Revenue Management Systems and the Importance of Change Management\" by Pui-lam, Stephen, Ip, 廖子良, was obtained from The University of Hong Kong (Pokfulam, Hong Kong) and is being sold pursuant to Creative Commons: Attribution 3.0 Hong Kong License. The content of this dissertation has not been altered in any way. We have altered the formatting in order to facilitate the ease of printing and reading of the dissertation. All rights not granted by the above license are retained by the author. DOI: 10.5353/th_b3126796 Subjects: Revenue management - China - Hong Kong - Case studies Organizational change - China - Hong Kong - Management - Case studies

Airline Revenue Management

(Uncorrected OCR) ABSTRACT Abstract of dissertation entitled [Airline Revenue Management, Passenger Right and Protection] Submitted by Sau Lim Tim WONG For the degree of Master of Arts in Transport Policy and Planning at The University of Hong Kong in June 2005 As the airline operating environment is changing, especially with the increasing emphasis on consumer right protection, problems results from applying revenue management techniques has received a lot of attention and generated some debate. This paper, begins with a discussion of the importance of filling empty seats on airlines, explains how and why the airline industry developed revenue management, with focus on overbooking, as a solution to the empty-seat problem. The paper then explores the problem as a result of the adoption of overbooking practice and examines passenger right by looking into the booking contract and their right to reservation under air travel contract as well as some contractual right of airlines to refuse the

carriage. Subsequently, the paper explores current passenger protection mechanism; both voluntary and involuntary adopted by airlines like denied boarding compensation scheme and statute-based passenger protection. Finally, the paper concludes by evaluating some potential solutions, ranging from reforming the selection of passengers to be offloaded, to setting the compensation for offloading, to expanding the overbooking disclosure requirements altogether.

The Strategic Role of Airline Revenue Management Systems and the Importance of Change Management

What is revenue management and why is it needed in the passenger transportation industry of today and tomorrow? Revenue management first appeared in the carrier industry

starting in the early 1980s. It arose from the need for accurate demand estimates and resource allocations in the newly deregulated environment. Therefore we begin this book and this module with a look back at the main causes and consequences of carrier deregulation in North America. The second section is an introduction to the basics of revenue management and will serve as a foundation for the rest of the modules in this course. In the final section we look to the future and consider how the internet is changing ticket distribution and some of the challenges and opportunities that it has created.

Airline Revenue Management

The airline industry has come a long way since deregulation in 1978. Yet its ROI to investors is lowest among all industries. This book provides the secrets of how advanced analytics helps profit

optimization. It is written with candor to show the limitations of today's most widely used systems and how new futuristic systems are needed for optimized decision making. It describes the systems, process and governance that align the entire management from the CEO down to the managers in making profitable decisions every time. Using numerous cases from the commercial functions of sales, revenue management, marketing and network planning, the book provides an insider look into the sub-optimal decision processes today. It shows how embedding advanced analytics from enterprise perspective optimizes the decisions. It provides a playbook for the CIO and C-Suite to build and ensure governance of the models, data and process for enterprise analytics. Commercial airlines that adopt the advanced analytics paradigm shift will see direct competitive advantage and lasting change in profits. This is the type of change recommended by Gopal Ranganathan, industry consultant and founder of Quad Optima Analytics, a company dedicated to helping airlines have

this advantage.

The Strategic Importance of Information Systems to Airline Revenue Management

There are few industries that have had a more profound impact on business and society over the last century than aviation. This book is an accessible, up-to-date introduction to the current state of the aviation industry which provides readers with the tools necessary to understand the volatile and often complicated nature of airline finance. Understanding finance is critical in any industry; however, the financial track record of the airline industry places even more importance on effective financial management. Foundations of Airline Finance provides an introduction to the basics of finance – including time value of money, the valuation of assets, and revenue management – and the particular intricacies of airline

finance where there can be wild fluctuations in both revenues and costs. The third edition of this text has been extensively updated to reflect the many changes in the air transport industry that have taken place since the publication of the second edition, and features an expanded chapter on aircraft leasing and many new international case examples. This thorough introduction to aviation finance is valuable reading as a general, introductory financial text, or as reading in specialized airline finance classes.

Introduction to Revenue Management

Addressing an emerging course in Revenue Management, this textbook covers the basic quantitative models in revenue management (RM) and price optimization. Having grown out of Operations Research, RM is now at the forefront of the pricing innovation. The text introduces the reader to the key concepts in

RM practices, such as capacity control and overbooking, and presents important prescriptive analytics models for pricing strategy. Numerous examples are provided to help the reader understand the concepts and apply the models in order to improve business decisions and gain competitive advantages. These examples illustrate the industrial applications of RM, e.g., in airlines, hotels, and car rental agencies. This textbook has been compiled in such a way as to offer an appropriate balance between theoretical and practical aspects of the field.

Profit Optimization Using Advanced Analytics in the Airline and Travel Industry

Seminar paper from the year 1998 in the subject Business economics - Supply, Production, Logistics, grade: 1.2, The University of Sydney, language: English, abstract: This paper

discusses the practice of price differentiation in the airline industry and how airlines use yield management systems to control their different prices. Consequently it is explained how price differentiation is realised. Emphasis has been laid on discussing whether price differentiation is discriminatory and why it should be acceptable, even if it is discriminatory. In the second part the principles of yield management are explained and the major challenges with regards to the latest developments in electronic commerce are reviewed.

Demand Estimation in Airline Revenue Management

This book provides an end-to-end view of revenue management in the hospitality industry. The book highlights the origins of hotel reservations systems and revenue management, challenges

unique to hotels, revenue management models, new generation retailing, and personalization and steps required to remain competitive in the marketplace. This book is intended for practitioners to understand the basics and have a comprehensive view of the impacts of revenue management on product distribution, reservations, inventory control, including the latest advances in the field of attribute-based room pricing and inventory control. There are several aspects of revenue management that are not covered in books and journal articles such as hotel pricing, hotel fully allocated costs, content parity, impact of Online Travel Agencies on hotels, competitive revenue management and attribute-based room pricing and inventory control which represents the last frontier in hotel revenue management with intelligent retailing. Leveraging emerging technologies, such as Artificial Intelligence and Blockchain and the future state of revenue management, are also addressed.

Airline Revenue Management with Shifting Capacity

This is a guide to the inner workings of the aviation industry. The topics examined in the book cover: international deregulation; alliances; low cost airlines; and new technology.

Foundations of Airline Finance

A story about science, technology, and people, The Future of Pricing provides an inside look at how airlines price tickets and how practices developed in the airline industry are now revolutionizing the world of pricing. This book is written for business professionals and students wanting to better understand the rapid growth of scientific pricing.

Revenue Optimization Models

Accurate forecasts are crucial to a revenue management system. Poor estimates of demand lead to inadequate inventory controls and sub-optimal revenue performance. Forecasting for airline revenue management systems is inherently difficult. Competitive actions, seasonal factors, the economic environment, and constant fare changes are a few of the hurdles that must be overcome. In addition, the fact that most of the historical demand data is censored further complicates the problem. This dissertation examines the challenge of forecasting for an airline revenue management system in the presence of censored demand data. This dissertation analyzed the improvement in forecast accuracy that results from estimating demand by unconstraining the censored data. Little research has been done on unconstraining censored data for revenue management systems. Airlines tend to either ignore the problem or use very simple ad hoc methods to deal with it. A literature review explores the current methods for

unconstraining censored data. Also, practices borrowed from areas outside of revenue management are adapted to this application. For example, the Expectation-Maximization (EM) and other imputation methods were investigated. These methods are evaluated and tested using simulation and actual airline data. An extension to the EM algorithm that results in a 41% improvement in forecast accuracy is presented.

Price Differentiation and Yield Management in the Airline Industry

This ground-breaking textbook covers all aspects of the subject and draws on a wide range of applications in the service industries. Three sections comprise this book: the first presents underpinning knowledge associated with Yield Management; the second examines contemporary models of Yield Management across a

number of service sectors; and the third reviews how Yield Management acts as a decision support system for front-line staff and managers, and also highlights the growing importance of new technologies. The book concludes with a range of case studies taken from airlines, hotels, restaurants, cruise lines and leisure industries.

Airline Revenue Management

Airline Operations and Management: A Management Textbook is a survey of the airline industry, mostly from a managerial perspective. It integrates and applies the fundamentals of several management disciplines, particularly economics, operations, marketing and finance, in developing the overview of the industry. The focus is on tactical, rather than strategic, management that is specialized or unique to the airline industry. The primary audiences

for this textbook are both senior and graduate students of airline management, but it should also be useful to entry and junior level airline managers and professionals seeking to expand their knowledge of the industry beyond their own functional area.

Simulation Based Analysis of Forecast Performance Evaluations for Airline Revenue Management

Modeling Applications in the Airline Industry explains the different functions and tactics performed by airlines during their planning and operation phases. Each function receives a full explanation of the challenges it brings and a solution methodology is presented, supported by numerical illustrative examples wherever possible. The book also highlights the main limitations of current practice and provides a brief description of future work related to each

function. The authors have filtered the rich literature of airline management to include only the research that has actually been adopted by the airlines, giving a genuinely accurate representation of real airline management and its continuing development of solution methodologies. The book consists of 20 chapters divided into 4 sections: - Demand Modeling and Forecasting - Scheduling of Resources - Revenue Management - Irregular Operations Management. The book will be a valuable source or a handbook for individuals seeking a career in airline management. Written by experts with significant working experience within the industry, it offers readers insights to the real practice of operations modelling. In particular the book makes accessible the complexities of the key airline functions and explains the interrelation between them.

Revenue Management in the Lodging Industry

This book aims to provide comprehensive coverage of the field of air transportation, giving attention to all major aspects, such as aviation regulation, economics, management and strategy. The book approaches aviation as an interrelated economic system and in so doing presents the “big picture” of aviation in the market economy. It explains the linkages between domains such as politics, society, technology, economy, ecology, regulation and how these influence each other. Examples of airports and airlines, and case studies in each chapter support the application-oriented approach. Students and researchers in business administration with a focus on the aviation industry, as well as professionals in the industry looking to refresh or broaden their knowledge of the field will benefit from this book.

Flying Off Course

Although the principles of Revenue Management (RM) have vaguely been used in business for a long time, an increasing number of organizations are implementing well structured RM systems in the last few decades due to the developments in science and technology, especially in economics, statistics, operations research and computer science. The improvements in information and telecommunication technologies, wide use of Internet, rise of e-commerce and successful supply chain management strategies have enabled organizations to model and solve complex RM problems. This dissertation research concentrates on airlines, the earliest and leading user of RM. Today, airlines face serious financial problems due to the increasing costs and competition. They continuously explore new opportunities especially in terms of RM to make profit and survive. In this study, two problems are analyzed within this scope; airline booking process with adapted options approach and aircraft

maintenance order control through RM. First; a new approach, financial options approach, is proposed to sell tickets in airline reservation systems. The options are used to overcome the uncertainty in air travel demand and competitors' actions. The seat inventory control problem is formulated with overbooking and embedded options respectively. Then a simulation study is conducted the potential of using options in airlines booking process. Accordingly, empirical results show that they present an opportunity both to utilize capacity more efficiently and to value seats more precisely compared to overbooking approach. Secondly; a peak load pricing concept is applied for aircraft maintenance order control problem. Aircraft maintenance centers face with peak loads in some seasons and the capacity is underutilized in other seasons. A peak load pricing model is proposed to shift some of the price elastic demand from peak seasons to off-peak seasons to balance demand and supply around the year. A dynamic programming algorithm is developed to solve the model and a code is written in C++. Results show that the

model improves both annual capacity loading factors and revenues without causing a discomfort from the perspective of the customers. The details of both studies are presented in this dissertation research. [PUBLICATION ABSTRACT].

An Integrated Approach to Single-leg Airline Revenue Management

Revenue management (RM) has emerged as one of the most important new business practices in recent times. This book is the first comprehensive reference book to be published in the field of RM. It unifies the field, drawing from industry sources as well as relevant research from disparate disciplines, as well as documenting industry practices and implementation details. Successful hardcover version published in April 2004.

The Future of Pricing

Extensively revised and updated edition of the bestselling textbook, provides an overview of recent global airline industry evolution and future challenges Examines the perspectives of the many stakeholders in the global airline industry, including airlines, airports, air traffic services, governments, labor unions, in addition to passengers Describes how these different players have contributed to the evolution of competition in the global airline industry, and the implications for its future evolution Includes many facets of the airline industry not covered elsewhere in any single book, for example, safety and security, labor relations and environmental impacts of aviation Highlights recent developments such as changing airline business models, growth of emerging airlines, plans for modernizing air traffic management, and opportunities offered by new information technologies for ticket distribution Provides detailed data on airline performance and

economics updated through 2013

Improved Forecast Accuracy in Airline Revenue Management by Unconstraining Demand Estimates from Censored Data

Introduction to Air Transport Economics: From Theory to Applications uniquely merges the institutional and technical aspects of the aviation industry with their theoretical economic underpinnings. Its integrative approach offers a fresh point of view that will find favor with many students of aviation. This third edition has been extensively updated throughout. It features new material that stresses the dynamic aspects of demand and supply and the ongoing competitive aspects of the marketplace. It now features an introductory chapter, and specific examples, to more directly relate management decisions to the economic theory.

Also, in addition to an expanded coverage of revenue management and pricing decisions, the third edition includes case studies that give real-world examples to reflect actual industry practice as well as a discussion of the more up-to-date computer applications that make the new techniques so effective. This book offers a self-contained theory and applications-oriented text for any individual intent on entering the aviation industry as a practicing professional in the management area. It will be of greatest relevance to undergraduate and graduate students interested in obtaining a more complete understanding of the economics of the aviation industry. It will also appeal to many professionals who seek an accessible and practical explanation of the underlying economic forces that shape the industry.

Yield Management

Major operational elements of the world's air transport system are examined in this important book, which provides a rare overview and an invaluable single information source to managers in all sectors of the air transport industry. The air transport system considers route structure options in terms of operational impacts and describes the context and boundaries of the industry – the natural, regulatory and operational environments. 'Systems' perspectives are introduced to integrate the discussion of aircraft, airlines, airports and airspace issues. The issues faced in ensuring symbiosis of all these elements of the changing scene and the scope for developing balanced strategies to suit all stakeholder requirements are considered in depth to produce a comprehensive text with the potential to influence how well the air transport industry succeeds in meeting its many future challenges. Examines major operational elements of the world's air transport system Considers route structure options in terms of operational

impacts Examines the natural, regulatory and operational boundaries of the industry

Airline Operations and Management

The current practice of revenue management is either quantity based or price based. A quantity based revenue management is most commonly observed in the airline industry; whereas a price based revenue management is practiced in retail enterprises. Recent improvement of information technology has not only increased the market size, but also has increased market competition. In a competitive environment customers choose among substitutable products depending on several rationalities, however a paramount factor in most selections is price. This thesis investigates pricing issue in revenue management and makes three contributions. First, price based revenue management is

studied in the airline industry in a competitive market. Airlines compete for customers using their fare pricing strategies while having fixed capacity allocated in each fare class. The demand for each fare class of an airline is dependent on its fare price and the fare price offered by rival airline(s). A game theoretic approach is used to address the problem assuming both the deterministic and stochastic price sensitive customer demand for each fare class. The existence and uniqueness of Nash equilibrium for the game is shown for both deterministic and stochastic demands. A sensitivity analysis is carried out to determine fare pricing in each fare class considering various situations in the case of deterministic demand. The analysis is further extended to stochastic price sensitive demand, and a sensitivity analysis of the fare prices for each fare class is also reported. Second, an integrated approach to price and quantity based revenue management with an application to the airline industry is presented. The models proposed enable joint control of fare pricing and seat allocation in a duopoly competitive market. Both non cooperative and cooperative bargaining games

are studied. Numerical experimentation is performed to study both competitive and cooperative fare pricing along with seat inventory control assuming a nested control on booking limits. In the case of a non cooperative game, Nash equilibrium for the competing airlines is determined assuming both symmetric and asymmetric market competition. A sensitivity analysis based on a statistical design of experiments is also presented to study the behavior of the game. Statistical evidence is established which shows that cooperation improves the revenue to the competing airlines. Lastly, a distribution free approach for pricing in revenue management is explored. The approach assumes the worst possible demand distribution and optimizes the lower bound estimate on revenue, while jointly controlling the price and capacity. The approach is first addressed to revenue management's most commonly observed standard newsvendor problem. Extensions to the problem are identified which can be applied to airline industry. Later the analysis is extended to consider the following cases: a shortage cost penalty; a holding

and shortage cost; a recourse cost, with a second purchasing opportunity; and the case of random yields. An application of the approach is also suggested to capacity constrained industries facing restrictions such as limited budget. A numerical study reveals that the approach results in a near optimal estimate on revenue. Using a statistical comparison it is also shown that the outcomes of the standard newsvendor problem are significantly different than its extensions.

Revenue Management for Strategic Alliances with Applications to the Airline Industry

This book, first published in 1965, illustrates the world of management in the airline industry. It examines the external relations with customers, government, investors, suppliers and competitors, as well as internal relations within the business such

as organization and industrial relations.

Origin-destination Airline Revenue Passenger Survey

This book is a step-by-step guide for managers to understanding and implementing yield management -one of the key management tools used by the airline and other service industries today. Written by two acknowledged experts in the field, the book traces the development of yield management procedures in response to the new competitive challenges that arose after deregulation of the U.S. airline industry. It then takes readers through the principle concepts and tools of yield management, the development and implementation of a yield management system; its strategic dimensions and potential; current practices and potential uses; and case histories from the air and rail transport, car rental, hotel

and other service industries.

IATA Ground Operations Manual (IGOM)

Through six previous editions, Airline Marketing and Management has established itself as the leading textbook for students of marketing and its application to today's airline industry, as well as a reference work for those with a professional interest in the area. Carefully revised, the seventh edition of this internationally successful book examines an exceptionally turbulent period for the industry. It features new material on: *Changes in customer needs, particularly regarding more business travellers choosing - or being forced - to travel economy, and analysis of the bankruptcy of 'All Business Class' airlines. * An explanation of the US/EU 'Open Skies' agreement and analysis of its impact. *The increase in alliance activity and completion of several recent mergers, and the

marketing advantages and disadvantages that have resulted. *

Product adjustments that airlines must make to adapt to changes in the marketing environment, such as schedule re-adjustments and the reconfiguration of aircraft cabins. *

Changes in pricing philosophies, with, for example, airlines moving to 'A La Carte' pricing, whereby baggage, catering and priority boarding are paid for as extras. *

Airline websites and their role as both a selling and distributing tool. *

The future of airline marketing. A review of the structure of the air transport market and the marketing environment is followed by detailed chapters examining business and marketing strategies, product design and management, pricing and revenue management, current and future distribution channels, and selling, advertising and promotional policies. The reader will benefit from greater understanding of both marketing and airline industry jargon and from knowledge obtained regarding the extraordinary strategic challenges now facing aviation. Written in a straightforward, easy-to-read style and combining up-to-date and relevant examples drawn from the worldwide aviation

industry, this new edition will further enhance the book's reputation for providing the ideal introduction to the subject.

Modeling Applications in the Airline Industry

Over the past thirty-five years, a substantial amount of theoretical and empirical scholarly research has been developed across the discipline domains of Transportation. This research has been synthesized into a systematic handbook that examines the scientific concepts, methods, and principles of this growing and evolving field. The Handbook of Transportation Science outlines the field of transportation as a scientific discipline that transcends transportation technology and methods. Whether by car, truck, airplane - or by a mode of transportation that has not yet been conceived - transportation obeys fundamental properties. The science of transportation defines these properties, and

demonstrates how our knowledge of one mode of transportation can be used to explain the behavior of another. Transportation scientists are motivated by the desire to explain spatial interactions that result in movement of people or objects from place to place. Its methodologies draw from physics, operations research, probability and control theory.

Aviation Systems

Revenue Management in Airline Operations

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