The purchase of MIDT can cost airlines millions of Dollars each month, but provides market information data that is invaluable to all carriers. MIDT provides information detailing passenger volumes by each carrier, O&D details, and travel agency making sales for any city pair.

The use of market data intelligence in passenger marketing

Marketing Information Data (MIDT) is an expensive, but valuable, part of an airline's competitive structure. MIDT allows airlines to measure the passenger volumes they and their competitors are capturing on each route. It also allows airlines to identify the most valuable travel agents and develop relationships with them to improve revenue. It is also used by airline planning departments to measure passenger demand on a city-pair, facilitating the evaluation of a route's potential for sustaining service.

MIDT falls into three major categories: the data providers; the data processors; and the interrogation system. This review examines the options available to airlines in each category, and the benefits resulting from the purchase and use of this data.

MIDT used to capture 80-90% of passenger bookings. This percentage has fallen in some markets due to the increase of airline internet bookings, especially among low cost carriers. However, airlines can combine other data sources to get a representative picture of total passenger demand.

Although MIDT has some limitations, it is still the most comprehensive and valuable data source that an airline can purchase.

Data Description

MIDT is derived from a travel agency-based Global Distribution System (GDS). The booking that the travel agency makes is recorded, but is sold to the airlines after the passenger name and other personal data have been removed.

This data allows any airline purchasing the data to see the passenger volume, booking class, origin and destination (O&D), and airline from any travel agency. The value and power of this data is obvious: any airline can see the volumes of bookings that a competitor has on any route, and the travel agent making the sales. This information allows an airline, that purchases MIDT, to target the most productive travel agencies of its competitors and take marketshare from them. This is done by offering additional incentives and sales commissions.

MIDT is purchased as booked data from the GDS. It is then processed into two forms: advanced bookings, which cover bookings made but not flown; and travelled bookings.

Advanced booking data is valuable to an airline's sales force because it provides information about its own sales efforts, and its competitors' actions. Airlines can then target their competitor's customers, in particular high yield passengers.

Travelled data shows airlines the volume of people travelling between any city pair, and the dominant airline that is carrying them.

Due to its value as a business intelligence weapon, MIDT has a high purchase cost. The data is priced by line of output, with one output line equalling one passenger flight segment. During heavy booking months a major GDS can produce 60 million lines of data; the combined GDSs produce about 300 million lines of data per month. The cost of this data can be prohibitive, especially to smaller carriers, and only the large airlines can afford this investment.

In response to this, most GDSs offer a regional, or tailored, package that allows the airline to specify areas or countries that are of interest, reducing the amount of superfluous data. An airline in Asia for example, has little interest in intra-European, domestic US, or South American travel. The airline reduces the output data volumes and its cost by reducing the regions that are purchased.

An average price for a regional data set would be about $10,000-12,000 per month. Generally, airlines purchase data from vendors on a monthly basis, but some airlines are now purchasing data on a weekly or even daily basis. There is an increase in the processing charge for this, but the purchase cost of the actual data remains the same.

Data Limitations

MIDT is recorded by month of booking, not by month of travel. Therefore a booking made in June for travel in September will be recorded in June's data. Data is purchased on a monthly basis, so if an airline began to purchase data from August, the June data for September travel would be excluded. This would provide a distorted picture of booking demand. Depending on the provider, MIDT is recorded and stored from 13 to 24 months. It is generally viewed that nine months of data is the average amount required to gain an effective understanding of the market. The number of months required depends on a market's booking cycle. Domestic routes, typically late booking markets, have shorter booking cycles, since 80% of all bookings occur two months prior to travel. Long haul and holiday destinations are early booking markets, where the majority of bookings occur four to eight months prior to travel. Most other intermediate markets, for example the Transatlantic, trans-Tasman, intra-Europe, and selected trans-Pacific markets fall somewhere in between.

MIDT captures the bookings made from GDSs. It therefore cannot capture bookings made on an airline's own CRS system, which is how most internet sales are made. Previously, this was not a significant limitation, since few bookings

Market Data Intelligence (MIDT) can be purchased by an airline from the Global Distribution Systems. Its values include allowing airlines to measure passenger volumes on routes, booking classes and airline marketshares.

were made direct to the CRS, and the only ones were those processed through an airline's call centre. The age of internet booking has changed this. All airline booking engines are directly linked to the CRS, so no data record is created in the GDS for an on-line sale.

This creates an obvious gap in the data provided by MIDT, since it cannot capture all data for carriers with a high internet booking rate, such as US Airways or Qantas, and does not report low cost carriers at all.

However, MIDT does record travel details from third party internet booking sites, like Lastminute.com, Opodo, and Travelocity, since these sites use GDS systems for the reservation process.

Vendors

The GDS systems are the data source for MIDT. Each GDS has a different market share in any country. The major GDSs are Sabre, Galileo/Apollo, Amadeus, Abacus, Worldspan, Topas and Infini.

The market share of each GDS determines the amount of data it captures, and influences an airline's decision of which GDS data to purchase.

Sabre is dominant in the US market, and is vital for any airline reliant on US originating traffic. Amadeus is the market leader in Europe and South America, and controls parts of the Middle East, Africa and Asia Pacific.

Galileo/Apollo controls Australasian and United Kingdom bookings. Abacus has a major market presence in South America, Asia Pacific, particularly Singapore, and Hong Kong.

Worldspan controls part of the US, UK, and European market. Infini is a Japanese system, which has limited presence beyond Japan. Depending on a carrier's sphere of operations it may need to purchase data from all, or only some, of these GDSs.

When determining the benefit of MIDT data being purchased, GDS market penetration has to be examined to identify its value to an airline. The value of an individual GDS is governed by its market penetration, which must be evaluated prior to purchasing the data. This can be performed by the GDSs themselves, because they have access to each others' full data sets.

Hans Jorgensen, vice president of Amadeus' Airline Business Group explains. "Each GDS has all other GDSs' data available to them, through data exchange agreements. Therefore, we can tell the volume of bookings made on our system in relation to others. We can provide a breakdown of marketshare from country right down to travel agency level." When examining marketshare, airlines must be mindful of overstatement. Sabre, for example, includes the marketshare information of partners Abacus and Infini in its own market figures, which enables it to retain its dominant position in some regions, even though Amadeus has overtaken Sabre on an individual level in some markets.

Processors

Once the data is purchased it needs to be processed to enable decision making. The GDSs sell the data in a 'raw' format, with only the personal details removed. MIDT processing companies take the raw data, and manipulate it within rule boundaries that the airlines specify to produce meaningful data. The processing requires incredibly powerful computers, as well as custom built software, to process the data. Systems like SAS or Delphi are not powerful enough to process the data in an efficient manner, and mainframe systems are needed to perform this function.

Once the raw data is purchased from a GDS the data is processed according to rules specified by the airline. These rules are generally influenced by trip-break logic.

A trip-break is how an airline

identifies that a break in a journey has occurred, as opposed to a stopover. Airlines have different rules depending on the sector length for defining a trip-break: a sector less than 1,000nm is usually broken if a stopover exceeds three hours; a sector less than 3,000nm normally gets broken after six hours; and a sector longer than 3,000nm is broken after 12 hours.

Lufthansa Systems allows the user to define trip-breaks and other processing rules with user-influenced parameters. If a carrier alters its processing logic, all the previous data must be altered to ensure conformity.

The other area that is critical in the processing phase is the data cleansing process. This removes data points such as cancelled segments, passive segments, waitlist information and outlier data that violate trip-break or circuity rules.

Many companies can perform the processing function, these include: Shepherd Systems, Lufthansa Systems, Sabre, DOB Systems, and Lanyon Application Systems.

Each data set from each GDS must be processed to an airline's individual requirements, and then the multiple data sets must be combined to form a total data set. This is a time consuming process, that requires significant computing power.

Lufthansa Systems has developed its processing speed to the point where it can process a full data set in 3-4 hours. Gero von Götz, vice president strategic business segment passenger and sales service at Lufthansa Systems, explains: "The systems we use are incredibly powerful, and we have invested significantly in processor power to be the

market leaders. Most processors take 2-3 days to prepare the data. We offer a time that allows us to get the data into the market faster than anyone else. The turn-around time, and speed of delivering data back to the market are critical."

This speed also gives the added benefit of allowing airlines to reprocess their data. "If an airline wants to see some detail in the data we are able to reprocess their full data bank," says von Götz. "Generally, airlines seek this option to satisfy a specific analysis. We store data for 36 months before it is archived, and we can process this full amount if historical trends need to be identified. Our processing speed significantly reduces the time necessary to get the required data to the airline."

DOB systems is the processing partner for Amadeus, and is responsible for its Regional MIDT product, since Amadeus does not yet have its own in-house processing system. While Amadeus elects to outsource this function, most other GDSs perform it in house.

Sabre and Galileo offer in-house options, with Galileo's processing done by Shepherd Systems.

The processing of the data, either on a daily, weekly, or monthly basis, is the interim step before the data is housed in a relational database and a query tool is attached. The frequency of processing is determined by the airlines' needs. For general sales queries, and all queries relating to planning, monthly processing is all that is required. If an airline is aggressively pursuing market share, then weekly or daily processing is recommended. Daily processing allows the sales force to respond to daily changes in the market environment, but is only valuable if the airline invests in systems that can support the daily data feed.

System Providers

Raw, or even processed, data would have little value for an airline, because the data is very complex and difficult to read. The data is stored in relational data-bases, and a query tool is used to extract information. The relationship between the database and the query tool is critical. Without an effective query tool the data is difficult to understand and no value is gained.

"The tools we offer are about giving value to the airline, irrespective of the volume of data they purchase," explains Ned Gizinsky, vice president of sales at Shepherd Systems. "Data itself has no value. You need to be able to see the relationships and opportunities that are occurring in order to make good business decisions. A good system is one where the sales force is directed toward its goals, whether that is increased sales, shifting market share, or targeting premium passengers by the decision support tool they use. The system does not do the thinking for you, but it shows you where the greatest opportunity is in a market, and directs your focus to the area of greatest value. This has the double benefit of increasing productivity and directing the sales focus to the best market opportunities. Effective use of MIDT is one of the best revenue enhancement decisions an airline can make."

Shepherd Systems' main offering is its 'Market Master' solution. This is a web-based query tool that allows the user to drill down through seven levels of detail: The top level gives a regional overview of passenger flows between regions; the middle levels show increasing levels of detail on specific routes; and the bottom levels show the booking trends of the travel agencies for that route. For airlines that are just starting down the path of purchasing MIDT, this level of technology and processing is not required. For these newer entrants Shepherd Systems offers Market Master LE, with the purchase price including Galileo data. This satisfies the airline's basic MIDT needs, but at a lower price. Shepherd users include Cathay Pacific, Alaskan and All Nippon Airways. Shepherd has a suite of services that fit around Market Master, including an incentive management and a hand-held update system. Provided that the airline has selected daily processing, this hand-held system can alert the sales force immediately when a reservation has been made with a competitor. This is a particularly useful tool when the sales force is chasing additional customers. "Monthly data is valuable for both sales and planning purposes, and the majority of our customers will stay at that level," says Gizinsky. "Weekly or daily processing can provide additional benefit where carriers are in an aggressive market, or one that is very fluid and mobile. Timely information in this type of market contributes to airline revenue, and is a wise investment. Airlines that operate in this market, and do not use frequent processing, are in serious danger of being out-manoeuvred by their competitors. That is why we developed an alert system that is linked to a mobile-phone or hand-held device. Time is critical."

Sabre offers two main solution platforms: Litevision and Wisevision. Both systems are internet-based query tools, and are able to provide either sales data or more aggregated passenger numbers and O&D data for the planning department.

Litevision is an entry-level system that removes some levels of complexity due to the smaller database required. Sabre MIDT for the top 100 travel markets is included in the monthly price. Airlines are also able to identify for inclusion markets that are of interest, but may not have a high booking volume. While

airlines are able to purchase data for more than 100 markets if they wish, it soon becomes economic to purchase a regional data set instead. Sabre offers multiples of 100 markets, and the cost of a regional data set is only slightly larger than the cost of 200 markets.

Litevision also supplies airlines with the basic information they need to pursue their sales targets, while limiting the amount of data they have to purchase. It has proven to be a popular tool and its usefulness and ease of navigation make it popular with new MIDT users.

Wisevision is a more powerful tool that allows the airline to drill down and examine its bookings by region, segment, and agency. Wisevision users include American, Delta and Air France. This system is designed to be used with comprehensive data sets, and provides greater detail and sophistication in the query process, which is why it is used by network carriers.

Lufthansa Systems offers three systems: SalesAdvance, NetAdvance, and NetAdvance light. These systems, like the others, allow the user to drill down from a macro level to a travel agency level.

The NetAdvance systems are geared toward satisfying the planning requirements of network carriers, and are very popular. Lufthansa Systems customers include some of the largest network carriers, like Singapore Airlines, Thai Airways and Lufthansa. "Many of our customers are network carriers, who use MIDT to identify route opportunities and provide O&D analysis," says von Götz. "The solutions we offer provide airlines with a good understanding of what is happening on their network, and much of our technology is geared toward allowing airlines to understand data relationships."

In addition to these three options, Lufthansa Systems is investigating new developments that will spread their product range. "Daily processing is the direction the market will move toward, with more airlines seeking this option," says von Götz. "Currently Lufthansa Systems is evaluating its options to respond to this, and to assess where we can assist our customers. Speed and time to market is critical, with airlines requiring fast feedback on competitors as well as themselves. While daily processing is important for the sales effort, network planning would also benefit from weekly processing in fast moving and fluid markets. We intend to expand our product offerings to ensure that we meet the needs of our customers."

Amadeus is also examining its options in the product market. While it may take a while before Amadeus enters the market, due to the lead time required, its product offering will be closely monitored.
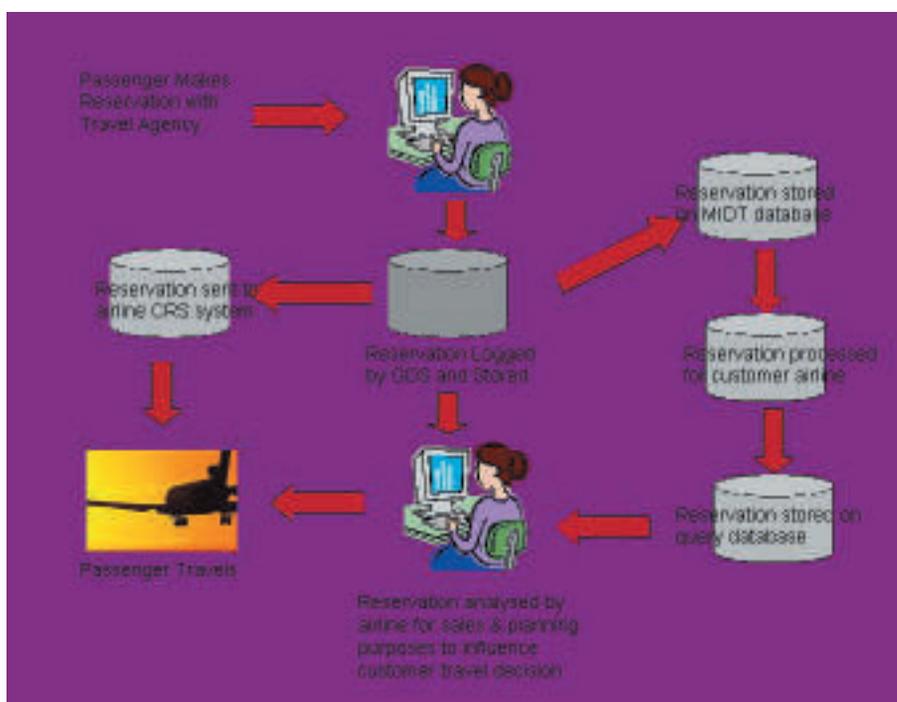
Developments

MIDT is sensitive, especially in relation to examining travel agency production, and as a result is tightly controlled. Airlines are not allowed to share their MIDT, even with a carrier they have a stake in. Only a carrier that owns 70% or more of another airline is allowed to share MIDT.

Several groups have tried to gain access to joint purchase and processing discounts, with the Arab Air Carriers Organisation (AACO) being among the most active.

Groups other than airlines are beginning to see the value of this data. Airports, for example, can use MIDT to assist in leakage studies and air service development. Leakage studies identify the volume of people that are within an airport's catchment area, but use another airport. Airports can also use MIDT to identify the true volume of people travelling between a city-pair, which is important if the airport wishes to convince a carrier to service that route.

GDSs have begun to create reports for such customers. "Amadeus has offered travel agents access to its MIDT files," says Jorgensen. "There is little value in small agencies purchasing this data, but the major agencies would get significant benefit."

A major change that MIDT is facing is the proposed changes within the US to restrict the level of detail that airlines can view. "The existing CRS rules expired four years ago, but must be replaced by March 2003. New rules are being drafted, and the DoT is proposing to remove all travel agency detail," says Jorgensen. "These rules are not in the best interests of competition, and Amadeus is currently presenting a case

for not proceeding in this direction."

The part of the proposed rule changes that is causing concern is travel agency visibility. Under the new proposal, an airline will not be able to see the travel agency that is making bookings. If this is introduced, the competitive value, and therefore the commercial value, of MIDT will be reduced. "If the rules were implemented as currently proposed, the use of MIDT would change. Planning departments would still get value, because they are interested in O&D and passenger volumes. The sales department's requirements will change, because they will not see booking detail," says Jorgensen. "These restrictions on GDS data may encourage other (non-GDS) sources to make similar data available."

Summary

MIDT is a valuable data source, and an airline can reap great benefit from accessing it. Unless an airline intends to purchase a worldwide data set, care must be taken in identifying the regions that would be excluded or included from a tailored data set. Excluding valuable markets makes an airline vulnerable to the competition which has market intelligence. Including unnecessary markets adds cost to an airline's MIDT purchase, while adding little value. The money would be better spent on purchasing more valuable regions.

A good data provider should be willing to assist an airline in identifying the areas of greatest value, which should be part of any purchase negotiations. The trade-off of cost versus benefit can be difficult to establish, but airlines need to determine this to find the solution that best suits their needs and budget. **AC**