

Why survey data is fundamental to developing data-driven strategies

Received (in revised form): 12th January, 2021



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Abstract

Understanding airport customers is ever more critical to adapt operations to the current and post-COVID-19 airport market. Gathering insight as to how the airport market has changed is critical to help instill confidence in air travel, meet the needs of airport users and identify opportunities to enhance revenues. Survey research is the most reliable method of collecting information directly from individuals about what they believe and how they behave. Surveys can be administered using a variety of formats to help identify short-term operational challenges as well as long-term planning strategies. Survey design and data analysis, however, must be carefully executed. Ideally, project professionals should possess a deep knowledge of survey research methods and statistical analysis, as well as experience with the nuances of the entire airport ecosystem to ensure scarce budgets and resources are best used.

Keywords

airport research, surveys, airport operations, business planning, passenger profiles, guest satisfaction, revenue opportunities, COVID-19, travel behaviour, decision-making, data analytics

INTRODUCTION

In almost every industry, surveys are essential in understanding what consumers need and value so organisations can develop strategic, data-driven business decisions. This need has been sharply escalated with the global impact of COVID-19 on consumer confidence.

This is especially evident in the air travel sector. Airports must take

immediate and ongoing action to address consumer concerns about travel and stay abreast of how regulatory changes impact passengers.

Survey research can uncover a wide variety of information vital to evaluating airport processes and developing short- and long-term business strategies: variations in the profile of their user market, behaviour patterns, satisfaction

levels, needs, preferences and operational challenges — all directed at assessing current conditions, developing terminal plans, creating customer service initiatives, justifying expenditures, identifying opportunities to enhance revenue generation and overall satisfaction.

Data-driven analytics provide airport administrators a firm and defensible grasp on the make-up of their complex consumer base and their associated investments.

Survey data is critical in assessing operations

Amid the COVID-19 pandemic, providing a safe and frictionless passenger experience is key to rebuilding confidence in air travel.

Solutions can be informed by supportive data. Statistical information an airport may already have on hand, such as passenger traffic numbers, Transportation Security Administration (TSA) processing numbers, parking usage and concession transactions, can be used alongside high-quality survey research data to evaluate current conditions, help predict future behaviour and identify opportunities to better serve customers.

Understanding a transformed market

The industry needs to adapt to today's 'normal'. The big question is: what is the new 'normal'? How can airports and their business partners develop solutions for the short term and sustain themselves under the new 'normal'?

There is no single answer. Airports differ in the markets they serve and how the COVID-19 pandemic has impacted their local economy, travel and tourism. Survey research helps airports identify changes in their travel market

and opportunities to enhance service and optimise revenues.

Everyone's voice counts

Aside from passengers, airport stakeholders include business partners, employees and airport visitors — individuals who drop off (well wishers) or pick up a traveller (meeter/greeters) (see Figure 1). The local business community can be another resource to provide insight into the travel market.

Airports can understand their large consumer base by listening to stakeholder and customer perceptions, concerns, desires and expectations. Giving these audiences a voice by using surveys replaces guesswork and provides airports with quantitative data so management can make strategic decisions to address challenges and respond to changing conditions.

Additionally, survey data can provide valuable intelligence about travel destinations, desire for additional routes and the economic impact of the airport itself in terms of jobs and revenues for the local area.



Figure 1 Airport stakeholders

The pressure to evolve is unrelenting, and airports are challenged to be nimble and innovative as they strive to enhance service and drive non-aeronautical revenues.

Airports would benefit from surveying one or more of the five market sectors described below.

Passengers

Due to the vastly reduced amount of air travel taking place, airports compete for a reduced pool of passengers.

Obtaining the demographic profile and travel characteristics of passengers is a critical first step to increase the airport's knowledge of their new market. A survey can uncover passengers' opinions and desires for airport-specific services — a key differentiator that can improve market competitiveness. While the list of topics that could be explored in a passenger survey is expansive (Table 1), even a small survey effort that covers one specific area can help an airport address today's pressing issues.

Table 1 Comprehensive topics covered in passenger surveys

Travel characteristics	Travel Behaviour	Personal information
Airline used	Mode of transportation	Age
Dwell/layover time	Parking usage	Area of residence
Final destination	Roadways used	Education
Frequency of travel	Services used	Ethnicity
Length of trip	• Airline/VIP lounge	Gender
Point of origin	• Airport hotel	Income
Processing times	• Airport information desk	Marital status
• Airline check-in	• Art exhibit	Occupation
• Luggage check-in	• Concessions	Social media usage
• Customs/immigration	• In-terminal transportation	Use of mobile apps
• Security checkpoint	• Paging/airport phones	Website usage
Special needs assistance	• Pet relief	
Travel party size	• Restroom	
Trip purpose	• Skycap	
Type of passenger	• Water filling station	
Well wishers	• Wi-Fi	
	Spending habits	
Airport experience	Preferences	COVID-19 concerns
Airport access	Amenities/services	Face coverings
Airport facilities	Delivery to gate	Hand sanitisers
Baggage claim	Loyalty programmes	Plexi-glass dividers
Airline check-in	Ordering options	Sanitation/cleaning
Customs/immigration	Pricing	Social distancing
Food and beverages	Technology	Touchless options
Getting around airport	Types of concessions	
Retail shops		
Security check process		

As a result of the pandemic, some critical areas an airport may want to explore today include:

- How has the pandemic impacted passengers' confidence to travel?
- How have passenger profiles changed and how do those changes impact passenger behaviour at the airport?
- Have processing times increased for airline check-in or security screening, leaving passengers with less discretionary time?
- Are passengers arriving at the airport earlier than in the past due to the uncertainty of the travel experience?
- Are passengers using a different mode of transport to travel to and from the airport?
- How are changes in travel characteristics impacting airport operations?
- Are there new services or concessions passengers need or want at the airport?

On a basic level, all passengers want to be safe when travelling. The ability for airports to meet sanitation and safety protocols and communicate effectively about these is paramount to increasing consumer travel confidence. These essential measures include frequent cleaning, availability of hand sanitisers, social distancing measures and touchless processing or payment options.

Business partners

Business partners, such as the airlines, ground transportation, TSA personnel, concessionaires, parking vendors, rental car agencies and service providers, are key stakeholders that interact with passengers throughout their journey. While these businesses are not necessarily under the direct control of airport

management, the service they provide impacts how passengers view the overall airport experience.

More airports are conducting surveys of their business partners to identify ways to help support their operations. Business partners interact with passengers at the front line and have helpful insight on the passenger's experience. Further, businesses that operate at the airport have a substantial impact on the local economy in terms of jobs and revenues. As partners of the airport, these businesses must function effectively to provide passengers optimal service. Business partner surveys can reveal the following information:

- Changes in operations due to the impact of COVID-19
- New challenges in operations
- Opportunities to enhance relationships with the airport
- Insight into passenger behaviour, needs, wants and service gaps
- Impacts on the local economy — size of operation, number of employees, etc.
- Insight into passenger's impressions of the airport's business partners

Employees

Employees are highly valuable stakeholders in the airport community who possess essential information about passengers and the airport experience. Gathering their feedback can give airports a powerful perspective on operations. As they often work more closely with passengers, employees often have a keen awareness of their needs and requests — plus ideas to help generate revenues or institute cost-saving measures.

Many airport employees purchase concessions at the airport and contribute to the overall revenue stream. Therefore, they also represent a segment of the consumer market at airports.

Perhaps foremost, airport employees need to feel valued and appreciated, and it is imperative to evaluate how the pandemic has impacted them. Soliciting feedback from them is a potent way to demonstrate that they are a vital member of the airport community.

Some information that could be collected from an employee survey include:

- Satisfaction with employer response to pandemic
- Management interaction/support
- Needs for employee services
- Comprehension of passenger behaviour, needs, wants and service gaps
- Insight into gaps that may exist between employees, employers and the airport

Airport visitors

Airport visitors who drop off or pick up passengers can provide instructive feedback about airport services and operations. Although airports are restricting access only to travellers during the pandemic, airport visitors should not be overlooked in short- and long-term planning.

Airport visitors use the roadways, parking lots and landside facilities, and thus, management should study their needs. An airport visitor survey could explore the following topics:

- Clarity of information regarding airport use during pandemic
- Access to the airport
- Satisfaction with airport facilities and services
- Gaps in service

Community partners

Local area hotels, off-airport parking lots, rental car agencies, convention centres and visitor bureaus may also serve as a good resource for additional insight regarding visitor trends and profiles. The pandemic is severely affecting these businesses and organisations as well, and joining forces to share data could be valuable to all parties. Information that could be gathered from a survey of local community partners includes:

- Historical and projected numbers of users/visitors
- Demographic and trip profiles of users/visitors
- Schedule of local events and conferences

ELEMENTS OF SURVEY PLANNING

A well-developed survey plan is vital, as a poorly executed approach could lead to mistaken conclusions, as well as a waste of valuable time and resources.

Data-driven business strategies must be practical, actionable, defensible and measurable. One of the more challenging tasks for airport management is therefore to choose the most effective survey methodology.

Upfront planning and collaboration is a must. A crucial factor in conducting a survey is to ensure that the data collected answers the questions that are most central to an airport's immediate issues and opportunities.

Further, survey data must be statistically sound and meaningful to gain an in-depth understanding of the airport market.

While the discussion here covers some basic elements in conducting surveys, it is important to note this list is not exhaustive and airport management should consult with an airport research

professional to ensure the data collected from a survey initiative is meaningful.

Some things to consider when planning a survey include:

- What problem(s) or opportunities must be explored?
- What questions should be included in a survey questionnaire?
- What audiences need to be surveyed?
- Within the audiences surveyed, are there demographic or other groups that need to be represented and compared?
- How many surveys should be collected?
- How should surveys be administered?

Survey design tips

First and foremost, any survey project should have specific goals and clear objectives. Designing an effective questionnaire is complicated: each question must be very clearly articulated and intended to elicit information about preferences, behaviours, experiences and/or attitudes.

Shorter surveys are optimal. One of the biggest mistakes in designing a survey is to include too many questions. This can be overwhelming for participants to complete, resulting in rushed responses, or worse, low completion and response rates. If a question does not directly relate to the survey objectives, exclude it. Make every question count.

The wording of questions and choices is likewise essential. Questions should be clear, concise and to the point to ensure all respondents interpret the question the same way. Core vocabulary, used in common speech, and simple questions and responses should always be utilised. The questionnaire should be also presented in an easy-to-read, typo-free format.

Other best practices to keep in mind when constructing a questionnaire is to

group topics of similar nature to keep the flow of the survey fluid. Key questions should be asked first — more sensitive or personal questions should be reserved for the end of the questionnaire.

Use a variety of question types including multiple choice, rating/ranking scales and questions that allow for open-ended responses. Keep in mind, however, that too many open-ended questions will result in response data that is more difficult to process and analyse.

Importantly — depending on the diversity of the airport market or intended survey audience — the questionnaire may need to be translated to other languages to allow a wide range of responses. This is especially important at large international airports.

Survey administration: pros and cons

Methods of administering surveys can differ depending on budget and intended response rates. Each method presents advantages and disadvantages.

The process of survey administration selected by an airport is often dependent on the resources available as well as the objectives of the project:

Intercept surveys:

- Electronic based
- Paper questionnaire

Online surveys:

- Link via e-mail or mobile questionnaire
- Website or social media
- Requirement of participation to access airport Wi-Fi

Intercept or face-to-face surveys generally produce the highest response rates

but can be more costly to execute than other options.

Intercept interviews can be conducted via an electronic device or paper questionnaire. One advantage of using an electronic device is that skip patterns can be programmed into the questionnaire, facilitating a smooth and efficient survey that is adaptive to segments of participants. Further, results from surveys conducted by electronic means are often available immediately.

A person-to-person intercept interview allows the surveyor the ability to clarify questions, which helps minimize respondent misinterpretation and error. A new challenge with conducting intercept surveys, however, is the need for social distancing.

Maintaining a six-foot distance between the interviewer and the respondent may be difficult to execute. A face covering worn by each party will help provide protective measures and ease the stress of a close interaction but may prove more challenging in conducting a natural conversation.

Another option to conduct in-person interviews is to distribute paper survey questionnaires and collect completed responses in a central location. The downside to this method is the extra cost for printing survey questionnaires and manual data tabulation.

Manual survey data entry results in the risk of human error and a longer wait time to receive survey results.

Conducting online surveys is common and tends to be less costly. Potential respondents can be contacted via a flyer, mail or e-mail with a link to the survey. Many airports maintain a database of passenger, employee and business e-mail addresses, which would provide a cost-efficient method to promote a survey.

Valid concerns, however, about online surveys are the low response rate and self-selection bias. Some individuals will exhibit a higher tendency to respond to an online survey, while others ignore it, leading to a systematic bias. This is not an insignificant risk. Those inclined to avoid online surveys are still incredibly valuable contributors.

A more intrusive but highly effective approach to collect passenger data is to feature a questionnaire on the airport's Wi-Fi landing page. In this scenario, users are required to participate in the survey before being allowed access to the airport's Wi-Fi. The primary concern with this method is its possible impact on the passenger experience. Passengers may find the request to complete the survey a hassle or annoying. Another disadvantage to this technique is that responses to the survey are limited to only passengers wishing to connect to the airport's Wi-Fi, which introduces a level of bias that must be factored into data interpretation.

Another option to conduct online surveys of airport users is to feature the questionnaire on the airport's website and/or social media accounts. As with all online methods, data collected in this way is subject to interpretation based on biases introduced by collection method.

Airports should thoroughly weigh the pros and cons of each data collection approach to determine which method best meets their objectives and cost or time constraints.

Data analysis and reporting

Gathering valuable, relevant and actionable data is a task that requires skill and discipline. Data on its own, however, is meaningless without proper analysis.

Once data is collected, it is imperative to interpret and measure the results in an integrous manner. The purpose of all analyses should be to summarise the information collected so that it is easily understood and provides clear answers to the original questions, and that decision makers have no question about the results.

Effective analyses are highly dependent on the survey methodology and initial design of the questionnaire. An inept approach will not provide dependable findings.

Graphic representation of results helps a broader audience quickly interpret results; therefore, simpler charts are more useful to most.

Some airports have found that dashboards are also a valuable and effective way to store historical data and future survey output. Dashboards can be designed to automatically refresh periodic survey information and enable historical comparisons at a glance. Further, dashboards can be customised to provide flexible access to summaries and cross-tabulations of airport survey data and include dynamic frequency and trend analyses.

CONCLUSION

As passenger traffic slowly recovers, airport managers must have an in-depth awareness of their market so they can stay well informed of the

evolving characteristics, expectations and behaviours of today's travellers.

It is likely that pre-COVID-19 data is not valid and new information must be collected.

The pandemic could have long-term and possibly permanent impacts on air travel and consumer behaviour. Thus, conducting airport surveys has never been more critical to best comprehend the new airport landscape. Surveys are the most effective and accurate technique of collecting information directly from individuals about what they believe, know and think.

It is worth noting that conducting a survey does not need to be an arduous task or a costly endeavour; rather a simple, well-executed survey can provide airports with critical information that can be used to address challenges and opportunities.

Survey purposes and methods fall on a continuum and can be administered using a variety of formats, and potential topics are endless. Conducting successful survey research is a science, however. It is a complex process that must be carefully implemented from the initial planning stage through execution, considering any findings can ultimately impact airport service and operations. A deep knowledge of questionnaire design, statistics and the airport ecosystem is required to maximise the airport's ability to create impactful initiatives.