

Press Release

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PolyU Study Finds Airlines Must Improve Staff Satisfaction with Information Systems

Developing technologically advanced information systems may not be sufficient for airlines to increase their operational efficiency and passenger satisfaction, according to Dr Norman Au of the School of Hotel and Tourism Management (SHTM) and Dr T.C.E. Cheng in a recent research article. Advanced technology has the potential to bring many benefits to airlines, but not on its own. As frontline employees are the actual users of the information systems that airlines deploy, it is crucial that more attention be paid to how satisfied they are with using those systems.

Airlines are an important sector of the tourism industry and have contributed significantly to its recent growth. The researchers suggest that increasing economic pressure has encouraged airlines to develop more advanced information systems to “gain overall operational efficiency and passenger satisfaction”. Information systems are used to handle operations such as reservations, seat allocations, passenger check-in and baggage handling. Such systems can also provide “high-level decision support systems and yield management systems” to help airlines in their strategic decision making.

Many airlines offer various Internet services for passengers that make use of information systems, such as online seat reservation, e-ticketing and check-in services. However, as many customers do not feel comfortable using such services and their uptake remains low, the researchers argue that “providing quality service through human interaction” remains an important part of airlines’ service delivery. This essentially means that airline employees remain the dominant users of airline information systems.

Yet employees are not simply just the end-users of airline information systems. They are also, according to the researchers, “one of the most significant assets of an airline”. It thus makes sense to ensure that employees are satisfied with the systems they depend on for their work, because “an unhappy or frustrated service operational employee can greatly influence the overall experience of the airline customers”.

Some airlines seem to be aware of the need for IT training and have allocated considerable resources to it in the hope of ensuring employees satisfaction with their information systems”. However, the researchers argue that a better understanding of employees’ perceptions and expectations of such systems would benefit airlines by helping them to make improvements, which in turn would improve overall performance and profitability.

The researchers surveyed the Hong Kong employees of eight airlines to assess various factors that may have influenced their satisfaction with the information systems they used at work. One obvious factor that the researchers needed to consider was the performance of the system. Yet even though airlines might expect staff to be satisfied if the system they use performs well, that might not necessarily be the case.

Although a high-performing system may be technologically sound, it may fail to meet its objectives because, as the researchers point out, “psychological and organisational issues are not well addressed during the development, implementation, and initial use” of the system. Hence they decided to assess users’ expectations of the system, whether the benefits gained from using the system matched the effort needed to use it and how much input users had in the design and development of the system.

The researchers received replies from 199 employees who “routinely use IS at work and also have direct contact with customers”. Around three-quarters of the respondents (78%) were female and again around three quarters (76%) were aged between 22 and 30. Approximately one-third had a undergraduate degree or above level of education (30%). More than half of the respondents (53%) had worked for their current airlines for more than 10 years, which the researchers suggest indicates a “rather low level” of turnover.

The researchers found that both the actual and expected performance of an information system influences user satisfaction, which is “not surprising as it is difficult to imagine that a technically poor performing IS can satisfy users at work”. Good performance is particularly important for frontline employees, because a “small technical glitch or a slight delay could be disastrous for passengers”.

Nevertheless the performance of the systems only barely exceeded staff expectations. The researchers suggest that airlines should not only ensure their information systems are technically sound, but should also collect user feedback that “could provide useful clues as to what performance and features the users expect”. Regular communication would also ensure that end users have “a realistic view” of the benefits and limitations of the system.

How equitable users find the system, in terms of the effort required to use it relative to the benefits they gain from using it, appears to be even more important than the actual and expected performance of the system. In other words, users weigh up whether the amount of effort and frustration involved in learning to operate the system is worthwhile given the benefits that it delivers. The researchers suggest that to ensure their information systems deliver benefits “at a cost seen by the end user as worth obtaining in return”, airlines should reduce the amount of input required to use them. For instance they could provide “useful training to new or ‘techno-phobic’ employees” to reduce the time and effort involved in learning.

Surprisingly, the amount of involvement users have in the design and implementation of an information system does not seem to be related to their satisfaction with it. To remedy this situation, the researchers suggest that airline operations require specifically developed and complex information systems with “seamless integration” of internal and external systems “between front-line service operations and back office administration”.

Frontline staff members are generally well aware that their involvement in system design and implementation “could have little impact and control on the final outcome”, according to the researchers. They speculate that operational staff may be happier if they are kept well informed about what to expect from the information system than if they are included “in the complex technical system development process” when they are aware that “they only have a limited role to play”.

The researchers conclude that a technically sound airline information system “is a necessary, but perhaps not a sufficient component, to exploit the full advantage of technology”. Airlines’ increasing use of information calls for “higher levels of communication and cognitive skills from employees”, which the researchers suggest may cause them to “experience more job-related stress”.

Airlines would realise more benefits from their information systems if they first ensured that “employees are both willing and able to use the technology”. Better training and reducing the gap between users’ expectations of the system and its actual capability would also improve both the efficiency and quality of service delivery.

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