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Air passengers' shopping motivation and information seeking behaviour

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A B S T R A C T

This study investigates the motivations of shoppers at Taiwan's Taoyuan International Airport. From a sample of over 500 individuals, we find that motivations are similar to in-store shoppers elsewhere, with travel and airport motivations being a special factor depending on the airport shopping environment and local shopping cultures. While decision convenience is the main factor concerning air passengers' information seeking in a terminal, other factors such as free time before boarding, involvement, and group travelling exercise differential effects on the information seeking behaviour of air passenger groups. This result suggests the heterogeneous information seeking behaviour patterns and implies the importance of using various strategies in providing airport retail information.

1. Background

Retail concession businesses is often an important element in the overall financial portfolio of an airport business; including 23% of revenue for Sydney Airport in 2007, 22% for London Heathrow Airport in 2006, to the 26% for Amsterdam Airport Schiphol in 2007. In this context, passengers' shopping expenditure patterns can be investigated using historical sales data and purchase surveys, but little is known about the heterogeneous shopping preferences of passengers or how they seek airport shopping information before arriving at the airport and when waiting for departure in terminals.

Airport management is aware that passengers are a 'captured audience', but to maximize the benefits of this, they need to know: What type of information passengers seek to assist their purchase decisions before and after arriving at the airport? How their spending can be stimulated through information at specific places, targeted to a certain passenger type? To what extent are air passengers' purchasing behaviours rational, and do these behaviours differ from that of consumers in shopping malls? Are the physical information channels available in airports effective in assisting passengers' information searches and purchase decisions?

2. Concepts underlying shoppers' motivations

According to Geuens et al. (2004), there are four types of air passengers' purchase intentions or motivations. Functional motivations pertain to tangible aspects, such as product assortment, quality, and price. Social motivations reflect the need to communicate with others that share the same interests, affiliate with peer groups, and interact with salespeople. Experiential or hedonic motivations refer to the need for sensory stimulation and enjoyable experiences. Travel-related motivations include the waiting time, the desire to spend any remaining foreign currency, purchasing souvenirs and presents, unique duty- and tax-free wrapping, special designs, useful travel sets, additional promotional gadgets, and small presents. Unlike many shopping situations, airport terminals are closed environment with potential consumers captive when waiting (Wu, 2010), but also under particular psychological influences, such as time pressures, excitement and anxiety that differing by passenger.

Highly involved customers tend to allocate more time and effort to their product information searches (Seiders et al., 2005), and are well informed when making purchase decisions on high-value products, such as cars and computers. Travellers, however, may not have enough time to explore an airport even though they may require detailed and accurate shopping information when deciding on purchase. Conversely, a lengthier wait before boarding may increase the likelihood of travellers wandering through the airport or seeking information with either the intention of shopping or out of boredom. Psychological factors during the dwell time, such as boredom, stress, anxiety, excitement over the flight, and annoyance influence passengers' perception of waiting time and airport service quality (Berry et al., 2002); that is why airports provide shops in their terminals. The physical 'participation' of air passengers differs from that of conventional retail customers, and can explain some of the high incidence of impulse shopping they engage in; an estimated 70% of sales (Crawford and Melewar, 2006).

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Seiders et al. (2005) stated that regarding the market characteristic dimension, a convenient offering saves customers' time and effort, enabling customers to achieve their intentions, which increases their satisfaction. Berry et al. (2002) developed a model for service convenience; this was the first time that the 'convenience' factor was independently examined for purchasing services. Under the overarching consumer resource allocation theory referenced by Seiders et al. (2005), the convenience factor plays a significant role in the perceived time and effort that a consumer must invest in the 'involvement' of a purchase.

This study adopts Berry's (2002) service convenience model to explore airport retailing. Specifically, we focus on two types of convenience: decision and access convenience. The former is defined as a purchase decision that depends on which shop to use and brands or services to purchase, and is related to customer involvement (e.g. how much information they have acquired) and the information provided by shops/airports (e.g. comparisons with high street prices (Crawford and Melewar, 2006)). Access convenience is primarily related to the service environment (e.g., terminal/shop layout and atmosphere), consumer information (e.g., shop location) and service system design (e.g., airport/terminal layout and walking distance).

3. Survey design and data

A professional market research firm conducted a week long survey in June 2011 of all air passengers who had used Taiwan Taoyuan International Airport within the previous three months. There were 553 valid survey samples; 52.6% were male, 64.9% were aged 30–49, and 19.3% were over 50 years old. The profile is consistent a recent passenger survey conducted at the airport (Tourism Bureau of Taiwan, 2011).

The survey instrumented three sections. Section 1 collected respondents' social demographics, including their age, income, travel frequency, recent airport purchases, and frequent flyer program (FFP) membership; Section 2 information regarding the passenger's last trip using Taoyuan Airport, including trip purpose, travel company size, goods purchased, purchase amounts, waiting time before boarding, flight time, pre-trip information searches, on-site information seeking, decision convenience, and repurchase intentions, and Section 3, non-airport specific information on shopping involvement, importance of shopping attributes, most recent purchase, and purchase decision attitude. The questions in Section 3 were not airport specific, while those in Section 2 focused specifically on passengers' last experience of using Taoyuan Airport.

Passengers' information seeking efforts regarding each information source, for both pre-trip and on-site information, was measured using a self-report five-point Likert scale, ranging from one (the lowest) to five (the highest). A passenger's overall information seeking effort was then measured using the unweighted sum of all information sources for pre-trip and on-site searches.

4. Results

We use principal component analysis to determine the latent constructs of 19 shopping motivation items. A minimum factor loading of 0.5 and a maximum loading of 0.3 on another factors are set as cut-off values for ascribing items to factors. The results provided three latent constructs of functional, experiential, and rational for 14 items (Table 1).[1] The functional factor comprises nine items pertaining to the tangible aspects of a typical airport shopping environment, the experiential factor three items related to the need for sensory stimulation and new or enjoyable experiences, and the rational factor indicators that shopping motivation was pre-planned and based on cost considerations; motivations similar to those of typical shoppers (Boedeker, 1995).

Table 1
Dimensions of airport shopping motivation.

Items	Factors/dimensions		
	Functional	Experiential	Rational
Convenience	0.611		
Offering of local goods/specialties	0.621		
Attractive prices	0.635		
Service in shops	0.736		
Wide product range	0.735		
Speed of checkout service	0.775		
Product quality	0.782		
Ability to pay with various currencies	0.711		
Multilingual communication in shops	0.758		
Impulse		0.772	
Influenced by surrounding atmosphere		0.784	
Boredom		0.775	
Pre-planned			0.803
Based on cost considerations			0.795
Cronbach's α	0.88	0.69	0.58

For clustering, we adopted a two-step procedure, where Bayesian information criterion values were used to determine the number of clusters, and the *k*-means to cluster the participants. Four clusters were established; apathetic shoppers, traditional shoppers, mood shoppers, and shopping lovers. As seen in Table 2, apathetic shoppers, as shown by negative scores for the three motivations, are largely disinterested in airport shops, which contrast with shopping lovers. Traditional shoppers are interested only in pre-planned and self-controlled shopping within a budget, whereas mood shoppers are influenced easily by the airport atmosphere. Among the sample, 23% can be classified as apathetic, 26% as traditional, 30% as mood, and the remainder as shopping lovers.

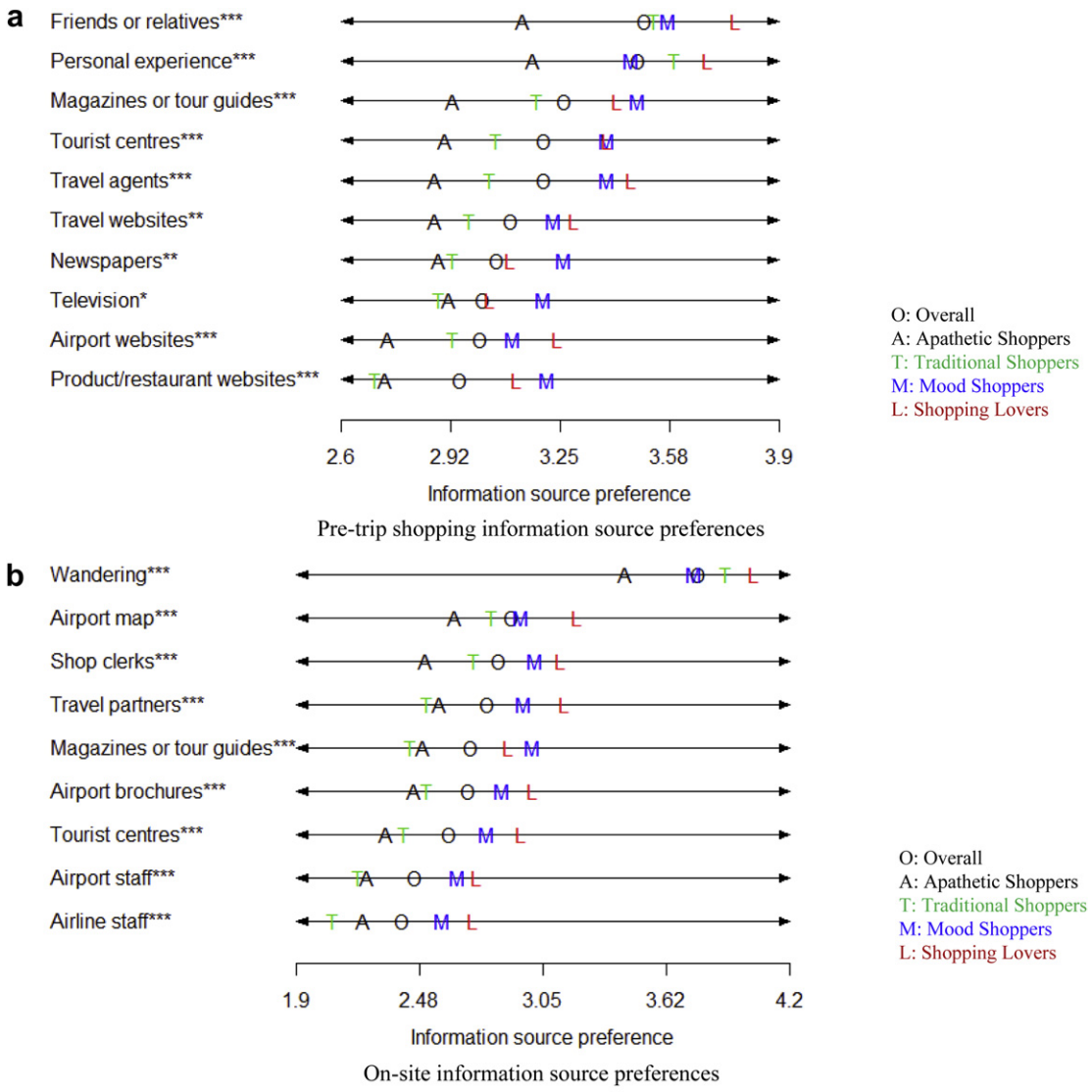
Adapting Fodness and Murray (1999) ideas in the air travel context, we consider ten information sources that travellers may use to search for airport retail information prior to travel and nine they may employ after arriving at the airport. Passengers' information seeking efforts for each source are measured using a self-report five-point Likert scale, and compared using the analysis of variance (ANOVA). Pairwise post hoc comparisons are also used to examine the results.

As shown in Fig. 1(a), apathetic shoppers exhibit the lowest pre-trip shopping information seeking efforts for most information sources, with traditional and mood shoppers, and shopping lovers exhibiting similar pre-trip shopping information seeking efforts, especially regarding information from friends or relatives, and personal experience. The pairwise post hoc comparisons of the two information sources suggest no significant differences among the traditional and mood shoppers, and shopping lovers; apathetic shoppers, however, differ significantly from the types. This result supports the idea that rational shoppers seek more pre-trip information.

Table 2
Clusters of airport shopper types.

Dimensions	Clusters			
	Apathetic shoppers	Traditional shoppers	Mood shoppers	Shopping lovers
Functional	−0.716	0.114	−0.355	1.163
Experiential	−0.326	−1.057	0.771	0.575
Rational	−1.237	0.532	0.044	0.611

[1] A KMO value of 0.874 and significance of Bartlett tests validated this. Cronbach's α indicates satisfactory reliability, and although the value for the rational dimension only just acceptable this may be due to only two items being in the construct.



Note: * denotes the ANOVA test result among four shopper types. The characters shown on the scale (i.e., "O", "A", "T", "M", and "L") refer to the average preference for the **O**verall sample, **A**pathetic shoppers, **T**raditional shoppers, **M**ood shoppers, and **S**hopping lovers respectively. Significance: ***<0.001; **<0.01; *<0.05.

Fig. 1. Information source preferences among shopper types.

For on-site information seeking, the notion that apathetic shoppers are more disinterested in seeking shopping information compared to the other three shopper types is also accurate for 'wandering behaviour'; Fig. 1(b). The pairwise post hoc comparisons show that they exhibit significantly less wandering behaviour than other shopper types, with no significant differences existed amongst the latter's wandering behaviour. Mood shoppers and shopping lovers reveal significantly greater information seeking efforts for most on-site sources compared to apathetic and traditional shoppers. Traditional shoppers do not differ significantly from apathetic shoppers for on-site information seeking efforts, other than in their 'wandering behaviour'.

Generally, shopping lovers put in the greatest information seeking effort, both before and after arriving at the airport, regardless of whether the information source is personal/impersonal or commercial/non-commercial. Mood shoppers and traditional shoppers also exhibit a certain amount of information seeking effort, although the former typically expend more using all source types while traditional shoppers tend to make more use of personal and non-commercial information sources, such as friends or relatives, personal experiences when pre-trip and wandering for on-site information seeking.

We turn to the factors influencing pre-trip and on-site information seeking efforts. The information seeking effort exhibited by a passenger is the unweighted sum of the associated information sources; i.e. the sum of ten pre-trip and nine on-site information sources (Fig. 1). The search effort for each information source as measured using a five-point Likert scale with the maximum and minimum pre-trip/on-site seeking efforts of a participant being 50/45 and 10/9. The two information seeking efforts are regressed against, free time before boarding, decision convenience, involvement, group travel, flight time, and FFP participation, as well as age, gender, income, flight experience, and trip purpose (Table 3).[2]

[2] All models passed the tests of normality (interquartile range analysis and the Shapiro–Wilk *W* test), homoscedasticity (White's test and Breusch–Pagan test), and multicollinearity.

Table 3
Results for the amount of information seeking effort.

Variables	Pre-trip search					On-site search				
	Whole	Cluster				Whole	Cluster			
		Apathetic	Traditional	Mood	Shopping lovers		Apathetic	Traditional	Mood	Shopping lovers
Wait time before boarding	0.171	−0.390	1.180	−2.403**	2.411	0.826	0.373	−0.476	0.622	2.719*
Decision convenience	2.236***	1.260**	0.878*	2.281***	3.108***	1.638***	0.993	0.077	1.099**	2.694***
Involvement	−1.411***	−1.664**	−1.957***	−1.358**	−1.122	−1.514***	−1.852**	−2.211***	−0.687	−1.879***
Travelling with company (Yes)	1.119	1.154	1.556	1.039	−1.177	1.356*	1.925	2.031*	−0.460	1.433
Flight time	0.113	−0.270	0.151	0.372	0.455	0.054	0.311	−0.037	0.409	−0.523
FFP participation (Yes)	0.989*	1.499	1.004	0.115	2.205	1.477**	2.145	0.213	0.857	2.483*
Age	0.073***	−0.008	0.036	0.152***	0.021	−0.007	−0.069	−0.120**	0.077*	−0.009
Gender (Male)	1.266**	0.274	1.730*	1.897**	1.164	1.144**	0.097	2.233**	1.731*	2.108*
Income	−0.000**	−0.000	−0.000	−0.000**	−0.000	0.000	0.000	0.000*	−0.000*	0.000
Flight experience	0.231	−0.193	−0.215	0.225	0.425	0.252	−0.078	−0.440	0.436	0.304
Business or work trips	−0.355	−2.517	−1.964	3.892**	−3.696	2.381**	−1.496	1.279	6.466***	−1.582
Sightseeing trips	0.056	−2.609	0.818	2.725	−2.886	1.706	−1.579	1.640	5.212**	−3.743
Constant	31.450***	37.753***	32.463***	29.342***	32.540***	23.713***	26.378***	28.480***	18.913***	28.692***
N	553	125	146	168	114	553	125	146	168	114
R^2	0.211	0.104	0.211	0.354	0.348	0.173	0.154	0.232	0.183	0.403

Note: ***<0.001, **<0.01, *<0.05.

We find that participants conducted less information seeking at the airport when they believe that obtaining retail information is more important, which is somewhat counterintuitive, and that waiting time before boarding is negatively associated with pre-trip information seeking, but positively correlated with on-site information seeking if travellers intend to shop. This suggests that when deciding to arrive at an airport early and enjoy a lengthier waiting time in the terminal, that shopping lovers spend more effort seeking shopping information both before and after arrival, that apathetic and mood shoppers seek more information in the terminal, but not before travelling, and that traditional shoppers seek more pre-trip information, but spend less effort seeking shopping information by wandering through the terminal, evidenced by the high weighting of the 'wandering' factor.

The positive coefficients for decision convenience for both pre-trip and on-site information seeking behaviour support the idea that superior decision convenience stimulates pre-trip and on-site information seeking efforts. That is, the more conveniently passengers can access airport shopping-related information before travelling, the more information seeking effort they put in. For on-site information seeking effort, greater convenience in an airport assists passengers in making purchase decisions; thus, passengers seek more information in a terminal. Specifically, mood shoppers and shopping lovers have the most significantly positive relationship between decision convenience and information seeking behaviour.

Regarding additional factors, group travelling generally has a positive effect on airport shopping, especially travelling with children. The relationship between flight time and information seeking is mixed and generally not statistically significant, while FFP participants tend to seek more information compared to non-participants. Male passengers tended to exhibit more information seeking effort compared to females. The overall influence of flight experience on information seeking is not significant. Finally, those travelling for business tend to do more on-site and less pre-trip information seeking.

5. Conclusions

Functional, experiential, and rational factors have been found to drive airport shopping behaviour, although in different ways across apathetic, traditional, and mood shoppers, and shopping lovers; findings similar to those of Geuens et al. (2004). Given various motivations, the four shopper types demonstrate different retail information seeking behaviour. As may be expected, traditional shoppers, mood shoppers, and shopping lovers exhibited more information seeking effort compared to apathetic shoppers; and this is particularly evident in passengers' pre-trip shopping information seeking and when wandering through terminals. The three non-apathetic shopper types, however, have different on-site information seeking behaviour, with shopping lovers and mood shoppers using on-site information sources but traditional shoppers becoming apathetic at the airport.

Regarding factors influencing shoppers' behaviour, decision convenience had the strongest relationship with air passengers' behaviour, both pre-trip and on-site. Thus, although passengers typically face pressure to be at the boarding gate by a certain time, in a large enclosed and unfamiliar space, where they can become lost easily, an environment that enables convenient shopping decisions can prompt passengers to use all retail information sources. Conversely, shopping involvement and waiting time before boarding are not significant, perhaps because the questions posed were not specific to the airport studied.

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