Managing airports: a test of the New Public Management

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Abstract

New Public Management advocates privatization, competition, and managerial incentives as means to achieve the goal of improving the quality of public services. This study draws from literature on market orientation to measure the customer responsiveness of managers of both government and privately owned organizations. Using data from 201 airports, this study examines how managerial market orientation is affected by ownership status, expected privatization, competition, performance-related pay, managerial contracts for nonaeronautical activities, and a number of control variables. We find that market orientation is significantly higher for privately owned airports than for government-owned airports, and that expected privatization and competition increase market orientation. Performance-related pay and management contracts are more frequently found in privately owned than publicly owned airports. We conclude with suggestions for ways to enhance this study, if it were replicated, and consider how this approach could be applied to other public services or industries under mixed ownership. © 2001 Elsevier Science Inc. All rights reserved.

1. Introduction

New Public Management has been presented in terms of the following five components:

1. providing high-quality services that citizens value;
2. advocating increased managerial autonomy, particularly by reducing central agency controls;
3. demanding, measuring, and rewarding both organizational and individual performance;

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4. providing the human and technological resources that managers need to meet their performance targets; and,

5. maintaining a receptiveness to competition and open-mindedness about which public purposes should be performed by public servants, as opposed to private sector or nongovernmental organizations (Borins, 1995).

The Organization for Economic Co-operation and Development's Public Management Committee presented a similar formulation (OECD, 1995).

In this formulation, the provision of high-quality service can be considered an objective of government, and the other components the means of achieving it. New Public Management can also be interpreted as an agreement between the public and their elected representatives on one hand and public service on the other. The public and politicians want high-quality public services and better performance by public sector organizations. To get it, they are willing to give public servants more managerial autonomy, as well as the human and technological resources (i.e., training and information technology) to meet their goals. In addition, the public and politicians are willing to reward strong performance, for example through performance pay. The last component is a way of enforcing the agreement. If public servants do not improve performance, politicians and the public are willing to introduce competition within the public sector, or move activities to the private sector or NGOs. The choice between public or private provision is to be based on a benefit-cost analysis, taking into account such factors as the monitoring costs associated with contracting out (Ferris & Graddy, 1998; Vining & Weimer, 1999) or the possibility of corruption (Darrough, 1999).

The management of airports provides an opportunity to test the impact of the New Public Management paradigm in a number of ways. First, airports have two major types of users–passengers and airlines–and it is possible to determine whether a given airport is providing high-quality service to either group. Second, while airports have long been under government ownership, in recent years there have been a number of major airport privatizations, initially in the United Kingdom (including London's Heathrow and Gatwick Airports), Austria, and Denmark. Third, regardless of the ownership status of airports, many face a competitive environment. Some compete for transfer traffic (for example, hub airports in San Francisco and Vancouver competing for trans-Pacific traffic) and others compete for passengers within a catchment area (for example, Boston's Logan Airport and nearby Providence Airport). Fourth, the owners of airports, whether in the public or private sector, may accord airport managers more autonomy to meet performance targets and give them performance-related pay if they have been successful.

While the United States has much less public ownership than most other countries, airports have been an exception. Recently, airport privatization has become a topic of policy debate there. The city of Indianapolis, while unable to privatize its airport, contracted out its management to the British Airports Authority (BAA) in 1995. BAA has generated significant cost savings and demonstrated retailing expertise. In response to this domestic, as well as overseas, experience, Congress in 1997 directed the Federal Aviation Administration to implement a pilot privatization program for up to five airports. The first airport to participate was Stewart International Airport in New York, which signed a 99-year lease on September

24, 1999. The following month, Mayor Giuliani of New York announced his intention to accept proposals for the privatization of Kennedy and LaGuardia airports.

This article uses the concept of market orientation as a way of operationalizing the first component of the New Public Management paradigm, the provision of high-quality service. It uses a regression analysis of market orientation in an international sample of over 200 airports to determine whether other components of the New Public Management paradigm–competition, privatization, and performance-related pay–have led to improvements in service quality. We begin by presenting the concept and measurement of market orientation, then outline the regression model used to explain market orientation, and conclude with a discussion of implications and suggestions for further research.

2. Market orientation as an indicator of service quality

The premise of much marketing literature is the idea that customers are problem solvers and the function of marketing is to help them solve their problems (Anderson, 1957). Marketing is not pushing or selling a product, but rather serving and satisfying needs of customers (Kotler & Levy, 1969). This approach has its roots in opposition to producerism and paternalistic attitudes to consumer choice (Beltramini, 1981). In the last decade, marketing scholars have developed the concept of market orientation as a way of measuring how responsive organizations are to their customers. Kohli and Jarowski (1990) define a market-oriented organization as one that collects information on customer preferences, disseminates this information internally, and responds to this information through action. Narver and Slater (1990) and Kohli et al. (1993) found evidence of a positive relationship between market orientation and business performance. Subsequent studies have confirmed this relationship in different industries and geographical settings.

Similarly, New Public Management advocates that users of public services should be treated as customers rather than merely passive recipients and that the function of service providers is to serve and satisfy users' needs. This view has its origins in a perceived need to "redress the imbalance of power that exists between those who provide goods and services and those for whom they are provided" (Potter, 1988: 150). It is based on the reasoning that a power advantage rests with public sector monopoly service providers while users may only exercise their preferences through indirect and imperfect means of choice such as voting or relocating. The motivation for government organizations to enhance customer responsiveness, and ultimately the quality of service provided, is consequently a moral one–just as traditional public sector values such as probity have been considered moral objectives (Kaul, 1997).

While there has been a good deal of conceptual and normative discussion of public sector service quality, little has been done to develop consistent measures of customer responsiveness for public services (Hood, Peters, & Wollmann, 1990). This article attempts to fill that gap by applying the concept of market orientation to airport managers. While airports have many stakeholders (airlines, passengers, local residents, general aviation, air cargo, concessionaires), the two most influential groups are airlines and passengers. Also, these were the only two groups that were mentioned in every questionnaire we received. Separate measures

of market orientation are used for passengers and airlines because the two types of customers have different relationships to airports: unlike airlines, passengers often do not pay airports directly. Some examples of market-oriented activities by airport managers would include doing surveys on passenger retail preferences at terminals, frequently contacting airline representatives, providing a passenger complaints phone line, and altering terminal facilities to attract airlines.

3. Research methodology

The data for the study was collected by means of a survey of airport managers. Airports Council International (ACI), the industry's largest trade body, provided a mailing list of 480 airport organizations worldwide. The organizations were sent a questionnaire that included 50 items measuring market orientation, the ownership status of the airport, the competitiveness of the airport's environment, and the linkage of managerial compensation to the achievement of performance targets. Managers were asked to respond on a five point Likert scale (agree strongly, agree, neutral, disagree, disagree strongly) to statements like "at my airport, we conduct formal surveys of our passengers." Because airport managers receive numerous questionnaires, this questionnaire was designed to maximize response, for example by requiring only 5 min for an airport manager to complete. It was pretested on ten airport managers. Ultimately, a sample of 201 useable airports—a response rate of 42%–was obtained. This is double the response rate for surveys conducted by ACI of its own members, and comparable to the response rate for mail surveys of market orientation in other industries. The sample includes airports in the economically advanced countries of the OECD as well as in developing countries. Tests for nonresponse bias did not reveal any significant differences between the sample and the sampling frame, with the exception of a low response rate (17.8%) from airports in African countries. A list of airports in the sample and the complete questionnaire is available from the authors at the website www.scar.utoronto.ca/~borins/recent.html.

3.1. Dependent variables

The two dependent variables, passenger market orientation and airline market orientation, were constructed from responses to nine statements regarding each. Responses to these statements for each dependent variable were correlated with one another. Both sets of nine items produced Cronbach's alpha coefficients of approximately 0.75, indicating substantial convergence. Each dependent variable was created by averaging the scores for its nine component statements. The passenger market orientation variable was based on responses to statements about whether an airport conducts formal surveys of passengers, for example, regarding desired facilities, whether an airport provides a well-publicized means to complain about problems, whether passenger preferences expressed to airport workers are passed on to senior management, whether passenger preferences and complaints made to senior management are communicated throughout the organization, whether airline representatives have immediate access to airport management, whether staffing levels are based on infor-

mation about passenger flows, whether passenger preferences and complaints receive a quick response, and whether airport managers approach potential retail tenants preferred by passengers.

Among the 201 airports in the study, the level of market orientation, measured on a five point Likert scale, ranged from a low of 2.2 to a high of 5.0. The distribution of both passenger market orientation and airline market orientation was normal; in both cases, the mean and median ranged between 3.7 and 3.9. To put this in perspective, consider the following example. Germany's Frankfurt Airport (FRA), widely regarded as one of the most market oriented in the industry (Upton, 1999), scored 4.7 in airline market orientation; while Sweden's Gothenburg Airport (GOT) scored 3.2 on this measure. This difference may be due to several factors: FRA's fierce competition with airports in London and Paris for transfer traffic, GOT's relative lack of managerial autonomy as a unit of Sweden's federal airport authority, FRA's expectation of privatization, or GOT's relative lack of scale to invest in market-oriented activities. The multivariate regressions were designed to assess the significance of these factors in explaining such differences in market orientation scores.

The reader might ask whether market orientation on the part of airport managers actually translates into what airport users would identify has high-quality service. It was possible to perform one partial test of this relationship. In 1996, the International Air Transport Association (IATA) conducted a survey of 80,000 passengers regarding various aspects of passenger convenience at 54 airports worldwide. The results of the survey are purchased by airports and not distributed publicly, except in aggregated form. IATA did indicate to us the airports that were above the mean of their sample for overall passenger convenience. Fourteen airports scoring above the mean on the IATA study were included in this study, and we found that 11 of the 14 (79%) scored higher than the mean for passenger market orientation on this study. Although this is a limited test, it does support the validity of managerial market orientation measures as proxies for the quality of service to users.

3.2. Independent variables

3.2.1. Private Ownership (PO)

Public choice theory and property rights theory both shed light on the relationship between private ownership status and managerial behavior. Public choice theory suggests that public sector managers are motivated largely by their self-interest (Downs, 1967). Following Downs, Niskanen (1971) argued that bureaucrats tend to ignore citizen and user preferences. In his model, bureaucrats aim to maximize their agency budget–not necessarily as a goal in itself, but in order to obtain other goods such as salary, status, power, and discretion–and politicians, in turn, aim to maximize the vote cast for them in the next election.[1]

While public choice literature describes the incentives facing politicians and bureaucrats entrusted with the task of managing public enterprises, property rights literature compares these incentives with those faced by owners in the private sector. Property rights theory is based on the premise that it is more costly to transfer ownership rights of a public, citizen-owned organization than a private, investor-owned organization (Alchian & Demsetz, 1973). The citizen who is a part owner of a share in a public utility can transfer ownership rights only by relocating. On the other hand, a shareholder in a private enterprise need only

sell to the highest bidder. This creates a greater incentive for owners of private enterprises than for owners of government entities to monitor organizational performance and managers' behavior. For example, Cragg and Dyck (1999) studied a sample of state-owned, privatized, and publicly-traded firms in the UK between 1970 and 1994. They found that privatized firms with at least four years in the private sector, like publicly traded firms, exhibited a significant negative relationship between improved financial performance and the probability of managerial resignation, while state-owned firms and privatized firms in their first four years showed no such relationship.

Property rights theory hypothesizes that private enterprises perform better than government entities, and this hypothesis has been tested on a number of dimensions of performance. Literature reviews by Borcherding (1983) and Vickers and Yarrow (1988) cite a number of studies showing that local public services are provided by private contractors at lower cost than by public agencies. Borcherding also concluded that unsubsidized publicly-owned firms subject to competitive pressures performed comparably to their private sector competitors. Studies comparing profitability have found that, after controlling for their regulatory-competitive environments, government owned and mixed enterprises perform substantially worse than private corporations (Boardman & Vining, 1989; Vining & Boardman, 1992). Case studies have shown that government takeovers of private corporations have reduced their stock prices (Boardman, Friedman, & Eckel, 1986; Boardman & Vining 1991). Finally, a recent study comparing government and privately funded attempts to discover the Northwest Passage found the private expeditions performed better in terms of cost and safety (Karpoff, 2001).

Market orientation can be considered another dimension on which to compare the performance of publicly and privately owned agencies. The previous section has shown that market-oriented managerial behavior has been found to have a positive association with business performance (Kohli et al., 1993). Furthermore, it is reasonable to assume that this relationship is *known* to managers in the airport industry–a prerequisite for it to affect their behavior. Airport managers are aware that being responsive to the needs of airlines and passengers will increase their ability to attract and retain them as customers. Following the agency theory literature, we hypothesize that private airports have a higher market orientation than government owned airports.

Despite this theoretical expectation, we were hard-pressed to find any empirical studies that actually compared the extent of customer responsiveness between publicly and privately owned organizations to determine the impact of ownership status, controlling for the factors listed below.[2]

3.2.2. Expected privatization (EXPPO)

Eckel, Eckel, and Singal (1997) argue that the mere expectation of privatization leads to many of the same results as an actual change of ownership status. In the case of airports, the following two lines of reasoning might apply. First, the expectation of pending ownership change associated with privatization provides an incentive for airport managers to engage in activities intended to please new investors and enable them to keep their jobs or be rewarded. This is related to an argument put forth in the context of Eastern European reform programs, namely that delaying divestiture after privatization has been announced as government policy

tends to increase the incentive for managers to restructure enterprises, as they believe they have a greater chance to reveal their abilities to the new owners (Aghion et al. 1994). Second, a government that is preparing to sell a public enterprise has an incentive to encourage managers to engage in activities that increase the sale price of the enterprise (Alchian & Demsetz, 1973). The implication is that the hypothesized gains associated with privatization would be realized by organizations expecting privatization as well as those who had completed the divestiture process. In this study, airports were classified as expecting privatization if their managers indicated that privatization was likely within three years, and if a review of the industry literature and consultation with industry experts concurred with the managers' expectations.

3.2.3. Competition (TRCOMP, CATCOMP)

Strong competition provides customers with multiple choices and creates an incentive for organizations to monitor customer behavior and preferences (Kohli & Jarowski, 1990). It is almost axiomatic in the management literature that competitive forces stimulate managerial action (Porter, 1980; Vickers & Yarrow, 1988). Similarly, Borcherding concluded that managers of public agencies in competitive environments keep their unit costs comparable to those of their private sector rivals. We therefore hypothesize that competition will stimulate managers of public airports to be market oriented. If, as public choice theory hypothesizes, bureaucrats aim to maximize their budget, an airport will ultimately suffer a reduction in its budget if it loses its passengers to other airports. The two types of competition among airports, transfer traffic competition (TRCOMP) and catchment area competition (CATCOMP), are both included as independent variables. The former was measured by asking managers if they compete fiercely with other airports for transfer traffic. The latter was measured by asking managers whether they compete fiercely with a neighboring airport for passengers and whether passengers would switch to alternative modes if service levels dropped at the airport. This question takes as given the factors contributing to the competitive environment, whether public policy, spatial monopolies, or established market positions, and focuses on the intensity of competition in that environment.

3.2.4. Market turbulence (TURB)

Market turbulence is defined as changes in the composition of the customer base and their preferences. Kohli and Jarowski (1990) argue that high market turbulence influences the "desirability" of market orientation. This line of reasoning is based on the organizational theory of the firm, which suggests that environmental dynamism stimulates managerial action (March & Simon, 1958). Thus, we hypothesize that market turbulence should be positively related to market orientation. Market turbulence was measured by asking managers whether it was easy for them to predict traffic volume with 95% accuracy and whether air traffic volume fluctuates widely, that is, annual volume increases or decreases of as much as 15%.

3.2.5. Organizational size (SIZE)

The impact of organization size on market orientation has been the subject of some controversy. A larger organization is likely to have greater resources to invest in market-

oriented activities such as collecting information on customer preferences (Liu, 1995); however, larger organizations are also more likely to be complex, making it more difficult to disseminate and respond to this information (Narver & Slater, 1990). We measure organizational size by means of the annual number of passengers (including transfers).

3.2.6. Performance-related pay (PRP)

Property rights literature argues that the shared interest between shareholders and managers is based on aligned incentives for reward. This is realized in various forms of gainsharing, for example by making managerial compensation at least partially dependent on profitability, appropriately measured, or by giving managers stock options. New Public Management advocates performance-related pay for public servants as well. Thus, we hypothesize that market orientation will be positively related to performance-related pay. The extent of performance-related pay was determined by asking airport managers whether compensation of senior and middle management was linked to operational performance targets. Operational targets would include, but not be limited to, financial targets. We chose the broader term to be more inclusive of public sector organizations. We were assuming that, whether financial or operational targets were used, they would ultimately lead managers to be more market oriented.

3.2.7. Management contracts (CON)

Increasingly, nonaeronautical activities at airports are autonomously managed by separate companies under management contracts, often as an alternative to privatization by means of divestiture (Truitt & Esler, 1996). Management contracts may be viewed as a form of managerial autonomy from central agency control. Alternatively, they may be viewed as a form of competition. This idea dates back to the Victorian social reformer Edwin Chadwick, who drew on the experience of French public works concessions to show that monopoly franchises subject to tender after a fixed period generate competition among service providers (Crain & Ekelund, 1976). Either interpretation leads us to hypothesize that the use of management contracts would increase market orientation. We asked managers whether, at their airport, nonaeronautical activities were conducted on the basis of management contracts with separate companies.

3.2.8. Managerial bias (MKTBIAS, SRBIAS)

Since market orientation is a perceptual measure based on survey data, it is necessary to test for bias arising from the characteristics of the respondent. Previous research on market orientation has tested for biased response from managers working in the marketing function who inflate market orientation scores (Kohli, Jarowski, & Kumar, 1993). In addition to testing for marketing job-related bias (MKTBIAS), this study also includes a test for a similar bias on the part of senior management (SRBIAS).

Model specification. A standard OLS model was used to explore the relationship between market orientation and the various independent variables. The measurement of all variables in this study is based on scaled questionnaire items (with the exception of airport size, which was assessed on the basis of publicly available data, and expected privatization, where managers' views were checked against expert opinion). In strict terms, therefore, most

Table 1
Pearson's correlation coefficients for independent variables

	PO	EXPPO	TR COMP	CAT COMP	TURB	SIZE	PRP	CON	MKT BIAS	SR BIAS
PO	1	−.136	.088	−.032	.041	.132	.246[a]	−.078	−.030	−.018
EXPPO		1	.019	−.139	−.082	.026	.046	−.094	−.108	−.033
TRCOMP			1	.113	.087	.301[a]	.075	.115	.022	.071
CATCOMP				1	.096	−.187[a]	.007	.142	.100	−.033
TURB					1	−.070	−.033	.186[a]	−.029	.155
SIZE						1	−.097	.094	−.075	.085
PRP							1	.107	−.096	−.018
CON								1	.105	.077
MKTBIAS									1	−.083
SRBIAS										1

[a] Significant at the .01 level.

variables are ordinal. As in most studies based on survey data, however, variables formulated using the Likert scales are treated as interval variables for the purpose of hypothesis testing. This approach is also used in virtually every study of market orientation, most of which use linear regressions to the test the relationship between market orientation and other factors (Jarowski & Kohli, 1993). All the independent variables are dichotomous. The attitudinal variables dichotomize between strongly agreeing or agreeing with a statement and being neutral, disagreeing, or strongly disagreeing. The airport size variable dichotomizes between airports with greater or fewer than 2.5 million passengers per year.

To check for multicollinearity among the independent variables, a matrix of Pearson's correlation coefficients is presented in Table 1.

The correlation coefficients are generally quite small, indicating that the regression equations do not suffer from strong multicollinearity, leading to unstable coefficient estimates. Four correlation coefficients were significant at 0.01. The correlation coefficient of 0.236 between performance-related pay (PRP) and private ownership (PO) is consistent with property rights literature, which hypothesizes that private owners use compensation to align managerial incentives. By contrast, the coefficient between performance-related pay and expected privatization is not significant (0.046). Airport size (SIZE) has a correlation coefficient of 0.301 with competition for transfer traffic (TRCOMP) and a correlation coefficient of -0.187 with catchment area competition. Transfer traffic would flow through larger airports, which would then compete with one another. If there were several airports in a catchment area competing for traffic, we would expect them to be smaller. The correlation coefficient of 0.186 between market turbulence (TURB) and management contracts (CON) suggests that airport owners would be more inclined to deal with the risk due to traffic volatility by contracting out the management of nonaeronautical activities.

4. Results

Table 2 presents the regression results for both dependent variables. The results for both dependent variables are quite similar, which is not surprising, because their correlation

Table 2
Regression results for market orientation

Dependent variables:	Passenger market orientation			Airline market orientation		
Independent variables:	Coeff.	t	Sig.	Coeff.	t	Sig.
Constant	3.455	42.5	0.000	3.474	40.4	0.000
PO	.352	2.643	0.009	.287	2.044	0.042
EXPPO	.249	3.006	0.003	.216	2.470	0.014
TRCOMP	.234	3.200	0.002	.231	2.997	0.003
CATCOMP	.334	4.527	0.000	.306	3.924	0.000
TURB	−.163	−1.781	.076	−.157	−1.621	.107
SIZE	.204	2.955	.004	.132	1.801	.073
PRP	.157	2.270	.024	0.093	1.271	.205
CON	.246	1.920	.056	.278	2.056	.041
MKTBIAS	.001	.020	.984	.015	.224	.823
SRBIAS	.003	.424	.672	.005	.078	.938

Adjusted R-square: .303 for passenger market orientation; .229 for airline market orientation.

coefficient is 0.793. The constant terms, 3.5 for both dependent variables, are highly significant, and somewhat less than the mean of 3.87 for passenger market orientation and 3.81 for airline market orientation. The independent variables explain variations from these means. As predicted by property rights theory, both private ownership (PO) and expected privatization (EXPPO) are positive and significant for both dependent variables. Airports were classified as publicly owned, privatized, or expecting privatization; thus, both of the latter two types are more market oriented than publicly owned airports. Because expectations always involve some uncertainty, we would expect the coefficients on private ownership are larger than on expected privatization, which is the case for both regressions. The differences, however, are not statistically significant.

Both competition measures, competition for transfer passengers (TRCOMP) and catchment area competition (CATCOMP), are positive and significant for both dependent variables, again as the theory would predict. Market turbulence (TURB), which we had expected to be positive, is negative but not significant for either dependent variable. Airport size (SIZE) is positive and significant for passenger market orientation but not significant for airline market orientation. Performance-related pay (PRP) is positive and significant for passenger market orientation and positive but not significant for airline market orientation. Because performance-related pay is correlated with private ownership, it may be that private ownership is capturing some of the effect of performance-related pay. On the other hand, private owners may be more likely than public owners to establish performance-related pay schemes. The coefficients on management contracts (CON) are positive and, for both cases, close to the margin of significance at 0.05. Finally, both bias measures–bias on the part of marketers (MKTBIAS) or on the part of senior managers (SRBIAS)–are close to zero and not significant, indicating no evidence that the answers provided by either of these two groups of managers are biased.

To compare publicly owned and privately owned airports more deeply, these regressions were repeated, using all 187 publicly owned airports, including those expecting privatization, as the sample, and then the 147 publicly owned airports not expecting privatization as the

sample, for both passenger and airline market orientation. The coefficients on both compe-
tition variables changed little and remained significant. The coefficients on both measures of
bias changed little and remained insignificant. Market turbulence was negative, but did not
reach the margin of significance in any case. Organization size was positive and significant
at 0.05 in every case except airline passenger orientation for the full sample of 201 airports,
where it was significant at 0.07. This would strengthen the conclusion that large airports,
whatever their ownership, are more market oriented than small airports. Performance-related
pay was significant at 0.05 for passenger market orientation for the full sample and the
sample of publicly owned airports that included those expecting privatization, but not
significant at 0.10 for publicly owned airports not expecting privatization. For airline
market orientation, performance-related pay was not significant for any of the three
samples, and had the lowest t-ratio, 0.7, for the sample of publicly owned airports not
expecting privatization. The results for management contracts were similar to those for
performance-related pay. For passenger market orientation, management contracts was
significant at 0.056 for the full sample, but its significance declined to 0.09 for the
smaller samples. For airline market orientation, management contracts was significant at
0.04 for the full sample, but its significance declined to 0.09 for the sample of publicly
owned airports including those expecting privatization and 0.11 for the sample of
publicly owned airports not expecting privatization. These results indicate that privately
owned airports and airports expecting privatization are more likely to use managerial
incentives than publicly owned airports.

   These results are consistent with New Public Management in that for this global sample
of over 200 airports, privatization and competition among airports led to higher market
orientation. Put differently, these results are also consistent with the hypothesis that con-
testability of product markets (i.e., competition among airports) and capital markets (through
privatization) will lead to increased attention to competitive strategy, of which market
orientation is a component. The use of performance-related pay and management contracts
appears to be linked to privatization. Performance-related pay is one of the more controversial
aspects of New Public Management (OECD 1996), and it has not yet permeated publicly owned
airports. The regression equations would predict that, for example, a large privatized airport with
transfer traffic but no catchment area competition, no market turbulence, a management contract
for nonaeronautical activities, and performance-related pay would have a passenger market
orientation score of 4.65 (3.455 + 0.352 + 0.234 + 0.204 + 0.246 + 0.157) and an airline
market orientation score of 4.5 (3.474 + 0.287 + 0.231 + 0.132 + 0.278 + 0.093). The same
airport, if publicly owned, and without a management contract or performance-related pay, would
be predicted to have a passenger market orientation score of 3.9 (3.455 + 0.234 + 0.204) and an
airline market orientation score of 3.8 (3.474 + 0.231 + 0.132).

5. Conclusion

   This article has introduced the idea of measuring market orientation for public
services and using it as an indicator of service quality. Passenger and airline market

orientation was measured for an international sample of airports and it was found that market orientation was positively affected by privatization and competition (contestability of capital and product markets), which are two key components of New Public Management. This study has implications for the management of both airports and other industries.

As the demand for air travel has grown and can be expected to continue growing, we can expect increasing competition among airports, particularly the larger ones. For example, we will see increased competition for transfer traffic among San Francisco and Vancouver; Hong Kong, Singapore, and Kuala Lumpur; and London, Frankfurt, Paris, and Zurich. Many of these airports have had, or are undergoing, major improvements. These airports are all in different countries, so public policy can be expected to accentuate, rather than diminish, competition. As discussed above, many airports are expecting to be privatized and, if these expectations are realized, competition will also increase. While this study shows that performance-related pay is more closely linked to privatized than publicly owned airports, if there are a substantial number of privatizations, publicly owned airports may be forced to adopt performance-related pay to retain skilled managers.

These trends imply that a replication of this study in a few years would have some very interesting findings. For example, expected privatization, identified in 40 airports, is a transitional state. Ultimately, the airport will either be privatized or the plans to privatize will have been dropped, or will at least have become less credible. Were we to repeat the questionnaire in a few years we would pay close attention to those airports that in the original study expected to be privatized. If they were in fact privatized, they could be compared to those that were privately owned in the original sample. If privatization plans were dropped, they could be compared to those that are publicly owned, to see if their managers' market orientation dropped back to that of the publicly owned airports. It would also be interesting to see whether competition in the market for airport managers leads more publicly owned airports to adopt performance-related pay. The performance-related pay measure that we used in this study, namely whether compensation was linked to operational performance targets, was too general and did not differentiate between financial and other targets. Were we to repeat the questionnaire, we would ask about performance-related pay in more detail, differentiating between pay based on financial targets (for example, profit) and pay based on operational targets (for example, passenger volume). This study used market orientation as an indicator of service quality, and the limited comparative information we found about service quality indicated it was an appropriate indicator. More information about the relationship between market orientation and service quality would be useful. The study could also be repeated using more direct measures about service quality or other aspects of organizational performance.

This study focused on the airport industry, one in which customer preferences are relatively easy to assess. This approach could be applied to other industries in the public sector or under mixed ownership to assess market orientation and whether it is influenced by the factors we cite as characteristics of New Public Management. Some mixed industries, such as airlines, telecommunications, electricity retailing, postsecondary education, and petroleum, have a customer base that is able to articulate its preferences clearly, as well as competition in product markets and competition in capital markets. There are a number of

services provided by publicly owned organizations, however, for which it might be argued that customers are less able to communicate their preferences without appropriate guidance. Health care is one frequently cited example. Following the logic of Anderson (1957) that the role of marketing is to help customers solve their problems, public organizations operating in industries such as health care have the additional burden of extensive customer education in advance of collecting information on their preferences.[3] Cross-industry comparisons of market orientation could be used to determine whether particular industry characteristics, in addition to components of New Public Management, influence the extent of market orientation.

Notes

1. Niskanen's hypothesis has stimulated substantial controversy over the years. His critics argue that while each agency may be a monopoly service provider, agencies themselves complete with one another for funds from the government's treasury (Borcherding, 1983). Some agencies may be attempting to maximize prestige by keeping their operation small and the quality of their product high (Thompson, 1981).
2. One notable exception is a study of hospitals in the midwestern United States by Naidu and Narayana (1991). They find that hospitals under government ownership are less responsive than hospitals under private sector ownership. However, their study does not control for factors such as competition; therefore, it might be argued that privately owned hospitals are more responsive to customers because they compete with neighboring hospitals for patients and not because of their ownership status.
3. Similarly, Boardman and Vining (2000) argue that nonprofit organizations can enhance their performance by using service-customer matrices as a key component of a strategic analysis.

Acknowledgments

Appendix A. Airports included in this study, listed by IATA

Note: Airports under private ownership are marked with two asterisks [**]. Airports expecting privatization (based on the input of survey respondents) are marked with one asterisk [*]. Airports which are operated under management contract (or long-term lease) are marked with a cross [+]. This classification refers to April 1997 when the survey was first conducted.

1	ABE	Lehigh Valley Airport
2	ABZ**	Aberdeen Airport
3	ACY+	Atlantic City Airport
4	ADL*	Adelaide Airport
5	AES	Alesund Airport
6	AKL*	Auckland Airport
7	ALB*+	Albany County Airport
8	ANG	Angouleme-Champniers Airport
9	APW	Faleolo Airport
10	ARN	Stockholm-Arlanda Airport
11	ASM*	Asmarra Airport
12	ASP*	Alice Springs Airport
13	AUA	Aruba Airport
14	AUS	Austin Municipal Airport
15	AVN	Avignon-Caumont Airport
16	BAH	Bahrain Airport
17	BDA	Bermuda Airport
18	BDL	Bradley Airport
19	BET	Bethel Airport
20	BEY*	Beirut Airport
21	BFS**	Belfast Intl. Airport
22	BGR	Bangor Airport
23	BHD**	Belfast City Airport
24	BHX**	Birmingham Airport
25	BJL	Banjul Airport
26	BKK*	Bangkok Airport
27	BLL	Billund Airport
28	BOD+	Bordeaux Airport
29	BOI	Boise Airport
30	BON*	Bonaire Flamingo Airport
31	BRN	Bern-Belp Airport
32	BRS*	Bristol Airport
33	BUD+	Budapest Ferihegy Airport
34	BWI	Balt./Washington Intl. Airport
35	CAI	Cairo Airport
36	CDG	Charles de Gaulle Airport
37	CFE	Clermont Ferrand Airport
38	CGK*	Jakarta Airport
39	CGN	Cologne/Bonn Airport
40	CHC*	Christchurch Airport
41	CLT	Charlotte/Douglas Airport
42	CMB*	Bandaranaike Airport
43	CMH	Port Columbus Airport
44	COS	Colorado Springs Airport
45	CPH**	Copenhagen Airport
46	CUR	Curacao Hato Airport
47	CVG	Cincinnati Airport
48	CWL**	Cardiff Wales Airport
49	DAB	Daytona Beach Airport
50	DAL	Dallas Love Field Airport
51	DEL*	New Delhi Gandhi Airport
52	DRO	Duranga La Plata Airport
53	DSI	Des Moines Airport
54	DUB*	Dublin Airport
55	DUD	Dunedin Airport
56	DUS*	Dusseldorf Airport
57	DXB	Dubai Airport
58	ELP	El Paso Airport
59	EMA**	East Midlands Airport
60	ENF	Enontekio Airport
61	FAI	Fairbanks Airport
62	FLR*	Florence Airport
63	FRA*	Frankfort Airport
64	FWA	Fort Wayne Airport
65	FYV	Fayetteville Municipal Airport
66	GBE	Gabarone Airport
67	GCI	Guernsey Airport
68	GEN	Oslo Gardermoen Airport
69	GFK	Grand Forks Airport
70	GLA**	Glasgow Airport
71	GOT	Gothenburg-Landvetter Airport
72	GRU	San Paulo Airport
73	GRZ	Graz Airport
74	GSO	Piedmont Triad Airport
75	GUM	Guam Airport
76	EVA	Geneva Airport
77	HAJ	Hannover-Langenhagen Airport
78	HAM*	Hamburg Airport
79	HBA*	Hobart Airport
80	HKG	Hong Kong Airport
81	HNL	Honolulu Airport
82	HRE	Harare Airport
83	HSV	Huntsville Airport
84	HUY	Humberside Airport
85	IND+	Indianapolis Airport
86	INN	Innsbruck Airport
87	IOM	Isle of Man Airport
88	JED	King Abdulaziz Airport
89	JER	Jersey Airport
90	KAG*	Zagreb Airport
91	KAJ	Kajaani Airport
92	KAO	Kuusamo Airport
93	KEF	Keflavik Airport
94	KHH*	Kaohsiung Airport
95	KHI	Karachi Airport

96	KIX**	Kansai Airport, Osaka		149	PNI*	Pohnpei Airport
97	KKN	Kirkenes Airport		150	POS	Piarco Airport
98	KRS	Kristiansand Airport Kjevik		151	PPT*	Tahiti Faa'a Airport
99	KSC*	Kosice Airport		152	PZY	Piestany Airport
100	KWI	Kuwait Airport		153	QEF	Egelsbach Airport
101	LBA	Leeds-Bradford Airport		154	RDU	Raleigh-Durham Airport
102	LBC*	Lubeck Airport		155	REU	Aeropuerto de Reus
103	LGG	Liege-Airport		156	RIC	Richmond Airport
104	LGW**	London Gatwick Airport		157	RIX	Riga Airport
105	LHR**	London Heathrow Airport		158	RKE**	Roskilde Airport
106	LIL+	Aeroport de Lille		159	RTM*	Rotterdam Airport
107	LJU	Ljubljana Brink Airport		160	SAL*	El Salvador Airport
108	LNK	Lincoln Airport		161	SAV	Savannah Airport
109	LNZ	Linz Airport		162	SBA	Santa Barbara Airport
110	LPA	Aeropuerto de Gran Canaria		163	SBD	San Bernandino Airport
111	LPB	La Paz Viru Viru Airport		164	SCL*	Santiago Airport
112	LTN*	Luton Airport, London		165	SDF	Louisville Airport
113	LUN*	Lusaka Airport		166	SEL	Kimpo Airport, Seoul
114	MAD	Madrid Barajas Airport		167	SFO	San Francisco Airport
115	MAH	Menorca Airport		168	SGF	Springfield Branson Airport
116	MAN	Manchester Airport		169	SHJ	Sharjah Airport
117	MCI	Kansas City Airport		170	SHV	Shreveport Airport
118	MCO	Orlando Airport		171	SJU*	Puerto Rico Airport
119	MEL*	Melbourne Airport		172	SLC	Salt Lake City Airport
120	MEX*	Mexico City Airport		173	SLD	Sliac Airport
121	MFM	Macau Airport		174	SMF	Sacramento Airport
122	MIA	Miami Airport		175	SPN	Saipan Airport
123	MLA*	Malta Airport		176	STN**	London Stansted Airport
124	MLE	Male Airport		177	STR	Stuttgart Airport
125	MNL*	Manila Airport		178	SWF*	Stewart Airport
126	MRS+	Marseille Airport		179	SXB+	Strasbourg Airport
127	MRU	SSR Airport		180	SXM*	St. Maarten Airport
128	MSU*	Moshoeshoe Airport		181	SZG	Salzburg Airport
129	MUC	Munich Airport		182	TLV	Ben Gurion Airport
130	MYR	Myrtle Beach Airport		183	TPE	Chiang Kai-Shek Airport
131	NAP*	Naples Capodichino Airport		184	TSV*	Townsville Airport
132	NGO	Nagoya Airport Terminal		185	TYS	Knoxville Airport
133	NRT	New Tokyo Airport, Narita		186	VIE**	Vienna Airport
134	NTL	Newcastle Airport		187	WRO	Wroclaw Airport
135	NUE	Nuremberg Airport		188	YEG	Edmonton Airport
136	NWI	Norwich Airport		189	YHZ	Halifax Airport
137	OMA	Omaha Airport		190	YMX+	Montreal Mirabel Airport
138	ORF	Norfolk Airport		191	YOW	Ottawa Airport
139	OSL	Oslo Fournebu Airport		192	YQB	Quebec City Airport
140	PAH	Barkley Regional Airport		193	YQM	Moncton Airport
141	PBI	Palm Beach Airport		194	YQR	Regina Airport
142	PDX	Portland Airport		195	YUL+	Montreal Dorval Airport
143	PHF	Newport News Airport		196	YUM	Yuma Airport
144	PHX	Phoenix Airport		197	YVR+	Vancouver Airport
145	PIT	Pittsburgh Airport		198	YWG	Winnipeg Airport
146	PMI	Palma de Mallarca Airport		199	YYC+	Calgary Airport
147	PMV	Aeropuerto del Caribe		200	YYG	Charlottetown Airport
148	PNH+	Phnom Penh Airport		201	YYZ+	Toronto Pearson Airport

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