THE RELATIONSHIPS BETWEEN ENTREPRENEURIAL ORIENTATION, ORGANISATION STRUCTURE AND OWNERSHIP IN THE EUROPEAN AIRPORT INDUSTRY

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ABSTRACT

Air transport in Europe is experiencing unprecedented levels of demand. Industry forecasts suggest a doubling of demand by 2020. Airport managers are under increasing pressure to provide innovative infrastructural solutions in order to meet this demand. Proactively supplying capacity to air transport users can involve a degree of risk-taking. Organic organisation structures, as opposed to mechanistic structures, are considered to be sufficiently flexible and dynamic in nature to facilitate such entrepreneurial activities. Moreover, the private sector has long been associated with more entrepreneurial endeavors than the public sector. This paper sets out to establish if European airports have the appropriate organisational characteristics to meet the challenges being posed by the air transport environment. Data was collected from 98 European airports which measured entrepreneurial orientation (composed of three components, viz. innovation, proactiveness and risk-taking), organic organisation structure, and ownership type (public, private and mixed). Results indicate that the sample airports exhibit moderate levels of both entrepreneurial orientation and organic structures. Not unsurprisingly, the three components of entrepreneurial orientation were found to be positively and significantly related to organic organisation structures with risk-taking displaying a higher correlation than its two counterparts. By contrast, risk-taking was not significantly linked to private and mixed ownership types whilst both proactiveness and innovation were. Implications for managerial practice are considered along with a future research agenda.

1. INTRODUCTION

Despite the ongoing threats posed by terrorism and environmental sustainability, air transport in Europe is experiencing unprecedented demand levels. Moreover, this growth is forecast to result in a doubling of passenger numbers by 2020 (ICAO, 2005). Providing the infrastructure required to cope with this growth is placing considerable pressure on all players in the aviation sector, including managers of European airports. Faced with such a complex external environment, airport managers can identify with the view that “managers may well have a more difficult time making decisions today than ever before” (Janney & Dess, 2004: 60). In the context of an industry experiencing rapid change resulting from government policies of privatisation and commercialisation (Oum et al, 2006), airport managers must ensure that sufficient capacity is available to meet the needs of the customer (Barrett, 2004). Obtaining the necessary approvals,
however, in an industry characterised by capital intensity and environmental concerns is becoming increasingly difficult. A strong entrepreneurial orientation is just one of the features which may be essential in meeting these challenges. Such a scenario calls for a study into the organisational attributes of European airports, specifically the inter-relationships between entrepreneurial orientation, organisation structure and ownership type (Figure 2.1).

2. THEORETICAL BACKGROUND AND RESEARCH HYPOTHESES

2.1 Entrepreneurial Orientation – Organisation Structure Relationship

Entrepreneurial orientation is a firm-level, multidimensional, process construct that is closely linked to the strategic decision-making process (Richard et al, 2004), is distinguishable from “entrepreneurship” (business entry) and concerns the “methods, practices and decision-making styles managers use” (Lumpkin and Dess, 1995: 136). Between three and five of the dimensions of autonomy, innovativeness, competitive aggressiveness, risk-taking, and proactiveness have subsequently been used by researchers to measure the term ‘entrepreneurial orientation’, (including Covin and Slevin, 1989; Naman and Slevin, 1993; Richard et al, 2004; Slater et al, 2006). Autonomy relates to the actions of individuals or teams in establishing new business concepts or visions (Lyon et al, 2000); innovativeness reflects a firm’s willingness to promote new ideas, novelty and creative solutions (Richard et al, 2004); competitive aggressiveness is concerned with the intensity of the combative posture adopted by firms reacting to competitive trends and market demands (Lyon et al, 2000); risk-taking concerns a firm’s propensity to take business-related chances with regard to strategic actions when faced with uncertainty (Richard et al, 2004), and proactiveness refers to a firm’s initiative in seizing opportunities in the marketplace (Lumpkin and Dess, 2001). As these dimensions vary independently, firms may exhibit relatively high levels of some and at the same time relatively low levels of others (Richard et al, 2004). The three most commonly cited dimensions of entrepreneurial orientation - proactiveness, risk-taking and innovativeness - are used in this study.

Mintzberg defined the structure of an organisation as “the sum total of the ways in which it divides its labor into distinct tasks and then achieves coordination among them” (Mintzberg, 1979: 2). Others have discussed its enduring and persistent qualities by describing its dominant feature as “patterned regularity” (Ranson et al, 1980: 1). Formal structure is concerned with the documented, official relationships among firm members and informal structure describes the unofficial ones (Mintzberg, 1979). Sixty years ago, Weber proclaimed that the bureaucratic organisation structure, characterised by rigid division of activities, clearly defined roles and hierarchically organised authority, was technically superiority to all other forms (Weber, 1947). Central to Weber’s rationalisation of bureaucracy was the application and acceptance of impersonal rules (Child, 1972). In 1961, Burns and Stalker introduced the notion of two different types of structure, i.e. the mechanistic structure which is similar in features to Weber’s bureaucracy and the organic structure which consists of more fluid and flexible working arrangements. Firms with mechanistic structures pursue centralised decision-making arrangements, strict enforcement of adherence to rules and procedures, rigid control over information content and flows, and carefully designed reporting relationships (Slevin and Covin, 1997). Organic structures, on the other hand, reflect an organisation’s emphasis on delegation, participation, creativity, openness and adaptability (Brouthers et al, 2000). Entrepreneurial strategic posture and organic structure have previously been positively related to firm performance (Coin and Slevin, 1989). Hence,
Hypothesis 1: There is a positive relationship between entrepreneurial orientation and organic organisation structures.

2.2 Entrepreneurial Orientation - Ownership Relationship

The internal environment that is conducive to entrepreneurial orientation is more common and more easily achieved in the private sector. The ongoing restructuring of European airport ownership has its roots in attaining “easier access to private sector financing and investment, and improved operational efficiency” (Oum et al, 2006: 109). Hence,

Hypothesis 2: There is a positive relationship between entrepreneurial orientation and private ownership.

2.3 Organisation Structure - Ownership Relationship

Decentralised structures are preferable for analysing new products and processes and for implementing such entrepreneurial endeavours, as “concentrated power often prevents imaginative solutions of problems” (Thompson, 1969: 25). Organic structures may enhance the use of rational strategic decision-making by providing the flexibility needed to take advantage of a market opportunity or minimise a competitive threat (Russell and Russell, 1992). The pursuit of shareholder value by private firms may be facilitated by the flexibility afforded by organic structures. Hence,

Hypothesis 3: There is a positive relationship between organic organisation structures and private ownership.

Figure 2.1 Research Model
3. METHODOLOGY

3.1 Industry

Airports play a pivotal role in the European tourism industry and are “an essential part of the air transport system” (Graham, 2001: 1). Traditionally, airports were considered public utilities providing a modal interface between surface and air (Doganis, 1985; Ashford et al, 1995) but more recently, they are being viewed as economic growth engines in their own right (York Aviation, 2004). The unprecedented growth in air travel experienced over the past thirty years commenced with the deregulation of the US domestic market in 1978 (Doganis, 1985) and spread into Europe in the late 1980s and throughout the 1990s via three European Union deregulation packages (1987, 1990 and 1993). With over 450 members and annual traffic volumes of over 1.2 billion passengers (30% of the global market), 16 million tonnes of cargo (20% of global market) and almost 20 million aircraft movements (27% of global market), the European airport industry makes a significant contribution to economic development, particularly in the areas of trade and tourism (ACI-Europe, 2005; Button, Haynes and Stough, 1998). Moreover, passenger numbers are forecast to double by 2020 (ICAO, 2005).

The economic impact of airports in terms of employment and income generation may be considered under four headings: (i) direct; employment and income that is entirely or largely related to the operation of an airport; (ii) indirect; employment and income generated in the economy of the study area amongst the suppliers of good and services; (iii) employment and income generated in the economy of the study area by the spending of incomes by the direct and indirect employees, and (iv) catalytic; employment and income generated in the economy of the study area by the wider role of the airport in stimulating economic activities, such as inward investment and inbound tourism (York, 2004).

Academic research in the aviation sector has strongly favoured airlines but research on airports is beginning to feature more prominently, particularly in the areas of airport corporatisation (Oum et al, 2006), airport commercialisation (Freathy, 2004) and airport privatization (Carney and Mew, 2003; Starkie, 2005). As low fare airlines continue to increase their share of the European air transport market (Franke, 2004), their impact on airports is also receiving attention from the academic community (Francis et al, 2003; Barrett, 2004; Gillen and Lall, 2004). The characteristics of the European airport industry, e. g. unprecedented traffic growth, significant infrastructural capacity issues and complex strategic decisions, lend themselves to a rigorous testing of the hypotheses in this study.

3.2 Measures

Entrepreneurial orientation is an aggregate measure based on the three dimensions of innovation, risk-taking and proactiveness and was measured with the nine-item, seven-point scale used by Covin and Slevin (1989) and Richard and colleagues (2004). This construct has also been operationalised as entrepreneurial style (Brouthers et al, 2000) and strategic orientation (Tan and Litschert, 1994). Statements associated with low levels of entrepreneurial orientation were positioned on the left hand side of the page (for example, “…the top managers in my airport have…a strong tendency for low-risk projects (with normal and certain rates of return)” and statements associated with high levels of entrepreneurial orientation were positioned on the right hand side (for example, “…the top managers in my airport have…a strong tendency for high-risk projects (with chances of very high rates of return)”. A high score means a high level of entrepreneurial orientation. The Cronbach alpha result was 0.87 (with one item deleted).
The measure for organisation structure was based on the mechanistic / organic continuum of Burns and Stalker (1961) and was previously successfully used by Covin and Slevin (1989), Slevin and Covin (1997), and Brouthers and colleagues (2000b). It consisted of a seven-item, seven-point scale with statements representing mechanistic structures on the left hand side (for example, “…my organisation favours…a strong emphasis on always getting staff to follow the formally laid down procedures”) and statements representing organic structures on the right (for example, “…my organisation favours…a strong emphasis on getting things done even if it means disregarding formal procedures”). Hence, the higher the score, the more organic the structure (Cronbach alpha = 0.80).

Ownership (Atuahene-Gima and Li, 2004) was measured both as a categorical variable (i.e. public, private and mixed) and a continuous variable by asking what percentage of the airport was privately and publicly owned where 0 = 100% private and 1 = 100% public. Hence, the higher the score, the more publicly-owned the airport is.

3.3 Survey

Good research is ‘exemplified by precise definition, objective data collection, systematic procedures, and replicable findings’ (Daft, 1983: 539). Given the declining response rates to surveys, particularly from senior executives (Baruch, 1999), and the need to target senior executives for this study due to the focus on strategic decision-making, considerable emphasis was placed in the research design on two areas that appear to improve response rates from senior executives to mailed surveys, i.e. topic salience and sponsorship (Dillman 2000; Cycyota and Harrison 2002, 2004, 2006). Topic salience is a joint characteristic of survey content and the current or continuing interest of the target population. That is, survey recipients are more likely to respond to surveys on subjects that are timely (in terms of current events or trends), interest them personally or relate directly to their responsibilities. Sponsorship (and therefore access) by a member of the executive's or firm's social network may also increase the likelihood of response from senior executives (Cycyota and Harrison, 2006). Examples of these social networks include: contact through industry, trade, or professional groups; university contact with visiting professors and alumnæ (Thomas, 1993); and personal and professional contacts (Hirsch, 1995). When management researchers affiliate themselves with such a third party organisation, they gain some of the reputation, legitimacy, and confidence inherent in the social tie that the executive respondent already had with the sponsor (Granovetter, 1985; Kilduff & Krackhardt, 1994).

In this instance, topic salience was incorporated into the questionnaire by using passenger traffic forecasts, an essential subject for most airport managers. In the case of sponsorship, ACI-Europe (Airports Council International), the Brussels-based body which represents 400 airports in 45 European countries, kindly agreed to support the research by e-mailing the survey to the senior managers of its member-airports. E-mail was selected over post in order to increase speed of collection and reduce costs; it was considered an appropriate mode as the European airport industry is strongly technologically-oriented and hence, airport managers would be very familiar with it as a form of communication. The number of completed questionnaires returned in this sample represented 98 individual airports from 29 European countries, a response rate of 24% on the basis of the target population.
4. RESULTS

In terms of size, the mean for responding airports was 5.1 million passengers (standard deviation of 8.3). Geographically, 64% of the 45 European countries were represented in the responses.

Table 4.1: Means, Standard Deviations and Correlations among Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>S.D.</th>
<th>n</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurial Orientation</td>
<td>3.78</td>
<td>1.01</td>
<td>95</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organisation Structure</td>
<td>3.68</td>
<td>0.97</td>
<td>96</td>
<td>0.535**</td>
<td></td>
</tr>
<tr>
<td>Ownership</td>
<td>0.86</td>
<td>0.29</td>
<td>98</td>
<td>-0.337**</td>
<td>-0.328**</td>
</tr>
</tbody>
</table>

**p < 0.01 level (2-tailed)

As indicated in Table 4.1, entrepreneurial orientation showed a highly significant relationship with organisation structure \((r = 0.535, p < 0.01)\), thus providing strong support for Hypothesis 1. This linking of innovation, risk-taking and proactiveness with decentralised, participative decision-making indicates that organisations which are more organic in structure are more innovative in outlook (Miller and Friesen, 1982). The mean value of 3.78 on a seven-point scale suggests that the sample airports exhibit only moderate levels of entrepreneurial orientation. All three components of entrepreneurial orientation, i.e. innovation, risk-taking and proactiveness were strongly linked to organic organisation structure.

A statistically significant difference was found in the entrepreneurial orientation scores for the three groups (public, private and mixed) that the variable of ownership was divided into \([F(2,92) = 4.96, p < 0.01]\), with private airports more entrepreneurial in their approach than public or mixed airports (Barrett, 2000; Oum et al, 2006). This outcome was repeated \((r = -0.337, p < 0.01)\) when ownership was converted into a continuous variable using the private / public percentage share data where a higher score means more of the organisation is publicly-owned, i.e. 0 = 100% private ownership and 1 = 100% public ownership. Hence, hypothesis 2 was strongly supported.

As in the case of entrepreneurial orientation, the mean value of 3.68 for organisation structure on a seven-point scale indicates that the sample airports had moderately organic structures. An examination of the three components of entrepreneurial orientation revealed that both innovation and proactiveness were significantly linked to private ownership but risk-taking was not, perhaps reflecting an aversion on the part of private airports to financial risk given the scale of capital investments common in airport infrastructural development.

Airport ownership was also found to be highly significantly negatively related to organisation structure \((r = -0.328, p < 0.01)\) indicating that state ownership is strongly associated with mechanistic structures and private ownership with organic structures (Burns and Stalker, 1961). This result strongly supports hypothesis 3.

Although there is an increasing trend throughout Europe towards privatising airports, this study suggests that entrepreneurial orientations and organic organisation structures remain at relatively modest levels in the industry. In so far as these two organisational characteristics are considered important in addressing the challenges that face this sector, airport managers may need to place more emphasis on incorporating them into their business models.
Future research could fruitfully analyse the impact of these variables on performance. Moreover, given the dynamic and rapidly changing nature of European aviation, a longitudinal research time horizon may yield useful results in this area. Finally, a qualitative approach to investigating these constructs might generate richer insights into the key relationships examined here.

REFERENCES


