Original Article

Airport facilities management alliances: Problems of competition and complexity

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ABSTRACT Airport facilities management (AFM) is being delivered through collaboration with airports, through forming networks and strategic alliances. Facilities management (FM) is a function that is adapting because of a changing external environment; strategic alliances is one method used by FM to deliver this change in strategy. This article explores and examines the structure and characteristics of AFM alliances including the problems faced by competition and managerial complexity. This article explores the AFM function, its importance to airports and its strategic and competitive direction. The article concludes that although there are inherent problems in AFM arrangements, these can be effectively managed through well-written contractual documentation.

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AN INTRODUCTION TO FACILITIES MANAGEMENT: THE CASE OF THE AIRPORT

FM can be defined broadly as a function that consists of numerous managerial activities. More recently, FM is considered to be an integrated approach to operating, maintaining, improving and adapting the buildings and infrastructure of an organisation, to ensure that the built environment supports the primary objectives of the host organisation (Nutt, 2004). In

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airports, the management activities could be grouped into five main areas: information management, building and property management, civil services, procurement and logistics management, and legal services. FM functions focus on planning and act as a coordinating unit within the firm, aiming to ensure that the function acts as the driving force behind successful operations (van Wagenberg, 1997). The ability of the FM function to translate organisational and individual needs into a balanced and flexible supply of supporting service within an environment that supports these needs is considered one of the successful functions of FM (Klee, 1997).

Increasingly, the primary objectives of organisations are required, or strongly urged, to include environmental commitments. In order for FM to continue to set an environment where the client organisation can deliver its core and supporting business functions, it is likely that FM will need to adapt its processes to include energy management and sustainably orientated processes. This will involve change at the strategic level and would involve the combination of many resources and personnel to design, and redesign the facilities to suit the end user and the system in which the building is used (Edum-Fotwe, 2001; Nutt, 2004). Alternatively, it can be viewed that because there is significant evidence to suggest that the risk of climate change is significant, it should be addressed by all FM managers (Warren, 2010); climate change could legitimately be viewed as a business continuity issue, with natural disasters posing as a risk to the continuation of service provision to a building. Facilities managers have a key role to play in the development of an organisation's Building Continuity Management plan (Warren, 2010). Longer term security of energy supply is an increasingly important issue (Warren, 2010). This is another issue that will require the involvement, if not the total management by, from FM with their knowledge and management of the building systems. The European focus on CO₂ emission reductions and resultant government reduction targets for the built environment are aiming at reducing energy use by encouraging the more efficient use and adaptation of building systems and technology (Williams, 2008). Again FM can have a significant impact on the introduction of sustainable building operations. Strategic alliances have been found to be effective where technological change is the aim (Rothaermel, 2000), adding strength to the notion of using strategic alliances to develop sustainable FM.

The methods to deliver the developing FM function can be described under separate business models: integrated business unit, empowered business unit ('selling' its services to the company), an internal profit-centre or an independent FM service provider (third-party provider). These business models, respectively, can be seen as a life cycle process. The higher the strategic importance of the FM function to the company, the more likely the FM function will be performed by either an internal profit-centre or by an independent provider (Gaya Walters, 1997; Ytsma, 1997). When the FM function is performed by a profit-centre, the FM organisation will try to sell its services outside the company. The most important aspects of the profit-centre are the commercialisation and the performance responsibility of the FM function.

When the acquisition of FM services takes place from an independent provider, a higher degree of control is required; this results in a shift from functional FM towards relationship management and the management of cooperative agreements (Gaya Walters, 1997).

Airports represent a real challenge in the field of FM because of their diverse nature and broad scope (Pitt, 2001). An airport in this case can be described as an operational system, comprising infrastructure, facilities, equipment, systems and personnel, which collectively provide a service to a customer (Vreedenburgh, 1999). The airport acts as a processing facility for passengers, baggage and freight and a service facility to aircraft and airlines (Vreedenburgh, 1999). Similar to FM in general, Airport facilities management (AFM) is hard to define because of its diversity. In general, AFM can be classified into two functions: aeronautical services and non-aeronautical services (Brown and Pitt, 2001). The aeronautical services can be very diverse and range from runways to air-traffic management and ground services. Non-aeronautical services are even more diverse and FM requires great skill and knowledge to deliver this for the airport function (Pitt, 2001). The efficiency of AFM has a significant impact on airport performance, as AFM influences safety, financial performance, user and customer satisfaction (Vreedenburgh, 1999).

Many airports split up their AFM functions into technical, infrastructure, commercial and space management (Frankfurt AFM, 2003; Munich AFM, 2003). Technical management consists of maintaining and developing all technical systems needed to operate an airport. This wide service ranges from vehicle maintenance, security and fire protection down to small technical services. The infrastructure management involves logistics management, including parking, public transport and also the arrangement of cleaning staff, medical services and workplace development. The commercial management function mainly controls relations with third parties (for example, retailers) and contractors, but also performs functions such as business administration and marketing. Airport space management includes building, property and surface management. It provides a framework to support all the other AFM activities.

Munich Airport, Frankfurt Airport and Schiphol Airport are examples in which AFM services are offered in the commercial markets (Schiphol Airport Annual Report, 2002; Frankfurt AFM, 2003; Munich AFM, 2003). These airports therefore operate their AFM function as a profit-centre, in which the AFM department operates as an independent organisation within the airport. This increases the strategic importance of the AFM function (Gaya Walters, 1997). The profit-centre is the most complex and strategic of the four available business models, as the company is engaging in a commercial business function, which is not its core competence. The decision to operate the AFM function as an internal profit-centre automatically turns the AFM function into one of the core activities, broadening the scope of the company (Gaya Walters, 1997). Strategic importance is increased because of the level of management control needed. As the main aim of the profit-centre is to generate revenue, management must ensure that

the same level of quality be delivered to the organisation itself (Ytsma, 1997).

As the AFM function is very important to the strategic success of the airport, more and more airports operate their AFM function as an internal profit-centre or acquire the services from third-party providers. This is done in order to allow for specialisation (Gaya Walters, 1997). This results in airports commercially offering their FM services to other airports, which in turn can result, and has resulted, in strategic alliances and cooperative agreements for AFM. Within these alliances, airports agree to cooperate on their AFM function with other companies or to let another airport perform their AFM function.

THE STRATEGIC IMPORTANCE OF THE AFM FUNCTION

For FM, the network organisation is composed of multiple clients and service providers supporting core business functions (Tuomela and Salonen, 2005). The network alliance should not be affected by location, position or the service functions (Tuomela and Salonen, 2005). Changes in the past decade in AFM have in part been caused by the role of the government, deregulation, and also the increased use of network activities. In order to be a major player, airports need to focus on several strategic issues. The hub-and-spoke system has attracted more interest among airlines in the past decades, and airports are concerned about their position within this system (Pels *et al*, 2003). The hub-and-spoke system was one of the biggest developments in the airline industry during the 1970s and 1980s (Bhadra and Hechtman, 2004; Aaltola, 2005). The hubs refer to major airports with their own connections, whereas the spoke refers to an airport with few connections (Aaltola, 2005). Therefore, airports have to strategically position themselves in the market in order to attract the custom of the major airlines. Adler and Berechman (2001) explain the criteria to determine which airports are likely to become the main gateways within a hub-and-spoke network. One of the criteria is airport capacity. Vreedenburgh (1999) explains that optimising service facilities can enhance capacity. This allows for the assumption that AFM is relevant for the strategic position of airports within hub-and-spoke networks, because of its direct influence on capacity. Alliances between different airports – domestic, international or intercontinental – allow airports to exercise more control over their position within the network.

A second prompt for a change in strategy for AFM is the development of low-cost airlines (Pitt and Brown, 2001). This growth has proven to be beyond most other predictions. This enabling strategy is needed to ensure that the networks and low-fare carriers are able to receive the significantly different levels of services that they require from airports (Pitt and Brown, 2001). The airline market has shown a differentiation between low-cost carriers on the one hand, and network carriers that are part of a major airline alliance on the other. The requirements of network carrier can be characterised by high service and high quality; low-cost carriers on the other hand place more value on the speed of service and the low price. This has resulted in a differentiation of service required and hence the facilities demanded (Pitt, 2001). AFM managers need to meet

the different requirements. The three solutions offered by Pitt and Brown (2001) are a 'two airport' strategy, a 'two terminal' strategy and a 'dedicated terminal pier' strategy.

Within the 'two airport strategy', the airport fully dedicates its AFM function to either one of the carriers, providing the simplest option to the airport. However, with this specialisation, opportunities to serve a larger market are missed. A strategic alliance may offer the opportunity for two airports to work together, while both focusing on a different carrier, as both airports would be involved in serving the two markets. The second strategy, a 'two terminal strategy', involves an airport operating two or more terminals, each dedicated to one type of carrier. This allows for the airport itself to serve both markets but places high demands on the AFM function. AFM has to offer two types of services simultaneously, which increases the complexity of the AFM task. Cooperating with another airport and outsourcing the operations of one terminal to serve one type of carrier might resolve the dilemma. The third strategy, a 'dedicated terminal pier', uses a dedicated pier offering airports the opportunity to serve both carriers. Designing a separate pier to meet the demands for the low-fare carriers allows airports to cope with specific low-fare carrier demands. Engaging in an alliance to operate this dedicated pier offers the opportunity of specialisation. Regardless of which strategy is chosen, AFM needs to define separate strategies for both types of airlines and possible alliances; therefore, cooperation and outsourcing can play a crucial role in the future success of an airport.

Commercial operations and privatisation

Freathy and O'Connell (1999) detected a shift in strategic priorities of airports in favour of a more commercially orientated approach; this resulted in planning for profit in terms of design, layout and allocation of commercial space within an airport. This is supported by Pitt *et al* (2001) who claim that airport passenger buildings become successful with the use of marketing and commercial planning, which is included in the task of AFM. The operation of the AFM function as an internal profit-centre is consistent with this trend towards commercial airport operations. The opportunity to engage in cooperative agreements or alliances on the professionalisation of several functions such as FM within an airport is in line with a more commercial approach.

Privatisation is another strategic issue. According to Kesharwani (2000), several airport ownership possibilities exist: government-owned, private sector participation and completely privatised airports. The latter two options involve a second party operating the airport, which can be achieved through an AFM contract or lease. This involvement can be shaped by giving the second party a minority stake, a majority ownership or by cooperating through an alliance. The biggest advantage of these constructions is the professionalisation and commercialisation of the AFM function. According to Advani (1999), private and second-party ownership or operation will ultimately result in airports with higher levels of customer satisfaction. Pitt and Brown (2001) explain that airport alliances are the future, as public ownership is an issue of the past.

COMPETITIVE IMPORTANCE OF THE AFM FUNCTION

It is suggested that airports compete in six different ways (Cranfield University, 2002). The forms of competition determine the competitive environment of the airport industry. In order for airports to successfully operate their facilities and know how to behave within alliances or cooperative agreements, the issue of airport competition needs to be explored in the light of AFM.

Airline services

Airports compete to attract new airline services on passengers and freight (Cranfield University, 2002). As airports sell services to airlines, which in turn sell services to passengers, the relevance of competition between airports is in attracting airlines. The driving force behind the competition in attracting traffic is also based on this attraction of airlines. Offering high-quality facilities at an appealing cost affects the decision by airline management to operate and offer services at specific airports; strategic alliances with FM will positively affect their ability to improve their service offerings. In long-haul services (for example, transatlantic), airlines are less dependent on the location of the airport and more dependent on the facilities the airport offers. Brown and Pitt (2001) also provide evidence that airports compete with one another on the facilities they offer to passengers and airlines. This forces airports to improve facilities in order to maximise revenues and turn the AFM function into a competitive advantage.

Overlapping catchment area

Airports with overlapping hinterlands compete for passengers (Cranfield University, 2002). This competition is mainly applicable to the short-haul (for example, domestic, intra-continental) market. The core of competition is in terms of price, given a sufficient number of competitors in the catchment area, which increases the pressure on AFM to increase efficiency and operate at competitive prices. Alliances offer the opportunity to achieve economies of scale and synergies, which can have a substantial positive effect on prices.

Hub-and-spoke system

Airports compete for a role as a hub airport and for transfer-traffic (Cranfield University, 2002). This competition consists mainly of transferring traffic from intra-continental flights to inter-continental flights. When an airport cannot meet capacity demands by airlines, the airlines themselves often set up a secondary hub at a competing airport. International airline alliances shift this competition outside the catchment area, as both partners' home-airport might perform the function of hub. As mentioned above, airports themselves might have to cooperate in order to ensure their position within the hub-and-spoke system.

Residential and urban areas

Airports compete with other airports within the same urban area (Cranfield University, 2002). This competition is based on the closeness to the commercial and residential centre of the city. The

location of an airport is a benefit to the local area and is considered important for local development (Percoco, 2010); in contrast, the facilities of the local area can make one airport more attractive for airline industries than another. An efficient strategy to deal with this competition is the common ownership of different airports or airport alliances within the urban area. Governments can influence this competition as well, by closing down an airport when a new airport is taken into operation within the same urban area.

Passenger services

There is also competition in relation to the provision of services at airports (Cranfield University, 2002). In addition to services offered to airlines as described above, airports offer services directly to passengers as well. This eliminates the airlines as competition-intermediaries and offers opportunities to attract more passengers by improving AFM. Alliances can be a useful means to achieve high-quality service offerings.

Terminal/pier specialisation

Competition might also exist between airport terminals (Pitt and Brown, 2001; Cranfield University, 2002). When different companies operate terminal facilities, this competition might be fierce. A resolution might be for terminals to use a different strategy to serve either low-fare carriers or network carriers, as described before, which can be provided for by AFM (Pitt and Brown, 2001). Alliances and cooperative agreements can support these different strategies.

AFM ALLIANCE PROBLEMS

In addition to the several strategic and competitive reasons that exist to engage in cooperative agreements or alliances with AFM, the possible problems within these alliances need to be explored. Park and Ungson (2001) extracted two main causes for most problems from their research, which are inter-firm rivalry and managerial complexity. Problems within AFM alliances are therefore explored in the light of these two issues.

Inter-firm rivalry and airport competition

The primary emphasis of inter-firm rivalry between partners of an alliance is on pursuing self-interests over long-term collective goals. Inter-firm rivalry is strongest in an alliance in which the partners have overlapping geographic markets, a similar core business and similar functional skills (Park and Ungson, 2001). AFM alliances in which inter-firm rivalry plays a role can be explained by the influence of the different forms of competition described above. These forms of competition play two roles in alliances; on the one hand, airports might need to cooperate because of the competitive forces, alternatively the competition might increase inter-firm rivalry within an alliance. One can assume that if one of the six forms of competition is present, inter-firm rivalry will influence the AFM alliance (Cranfield University, 2002). The conclusion can be formed that airports within the same catchment area

are more likely to compete with one another. Consequently, AFM alliances between airports within the same catchment area are more likely to encounter problems because of the potential hazard of inter-firm rivalry. However, this does not mean that inter-firm rivalry cannot cause problems within AFM alliances when the partners are from a different catchment area. The hub-and-spoke system influences competition between airports in such a way that competition exists over larger geographic areas. As partners within an airport alliance compete to attract the same airline services, with an AFM function performed as profit-centres, their core business overlaps (Gaya Walters, 1997). Similar core business and functional skills, as seen in intra-industry alliances, increases inter-firm rivalry (Lorange and Roos, 1992; Park and Ungson, 2001).

Managerial complexity in AFM alliances

The position within the hub-and-spoke system, facilitation of both network and low-fare carriers, the environment, commercialisation and privatisation are all strategic issues that can be influenced by FM. Therefore, all these strategic issues need to be coordinated and integrated between the partners within an AFM alliance. This process of aligning strategic goals results in a high level of managerial complexity (Park and Ungson, 2001). AFM alliances are established to allow for specialisation; this specialisation creates more coordination problems, which in turn increases managerial complexity (Park and Ungson, 2001). Achieving cultural fit within an AFM alliance requires coordination and integration of both national and organisational culture. Organisational culture refers to both the culture of the AFM organisation, as well as the organisational culture of the airport itself.

Splitting managerial complexity up into task complexity and organisational complexity, according to Killing (1988), is useful in analysing the AFM alliance complexity. The task complexity of the AFM function itself first results from the condition that airports are a 24-hour facility and second from the large number of public spaces and facilities that are needed within the same building (Pitt and Brown, 2001). The number of functions that AFM performs is broad and diverse, which complicates the task of the alliance even more. Other factors that influence the task complexity of the AFM alliance are the uncertainties in the environment surrounding the alliance; for example, demand, competition and governments. The final factors that influence task complexity are resources and skills available within the AFM alliance. In general, the higher the task complexity, the more an airport alliance can contribute to the reduction of this complexity. But at the same time, the chance of potential problems within the airport alliance increases. The less AFM skills and resources available to both partners, the more the task complexity of the alliance increases. Organisational complexity of AFM alliances directly depends on the number of partners, their roles within the alliance and the level of trust and indirectly on the task complexity described earlier.

CONCLUSION

This article has described the AFM function, its strategic importance and the influence of alliances. Cooperation and alliances might take place between airports, or between an airport and an independent AFM service provider and other commercial partners. The six competitive forces provide incentives for airports to cooperate on AFM, but at the same time the forces represent a threat of inter-firm rivalry within an alliance. The problems within AFM alliances can be explained by inter-firm rivalry, based on overlapping airport catchment areas. Problems that can be explained by managerial complexity relate to achieving strategic, cultural and structural fit on the AFM alliances and task complexity of AFM.

It is suggested that the role of inter-firm rivalry and managerial complexity are possible causes for problems within the alliances. FM could be described as a management activity of supporting services, which is broad and encompasses many functions. Several business models exist to perform the FM function, of which the profit-centre and outside acquisitions are the most strategic. The AFM function includes a service and processing facilities, based on the providing of both aeronautical and non-aeronautical commercial services. A practical division of AFM is technical, infrastructure, commercial and space management. These functions are mostly performed within a profit-centre or acquired from third parties, increasing the strategic importance of the AFM function and causing airports to form AFM alliances. The external environment is changing, putting pressure on FM to adapt its competitive strategy; forming alliances is one way in which FM can acquire the resources to execute this strategic change. The previous three decades have seen the development of many performance-enhancing theories for business organisations; however, these theories have not been extensively researched in the FM industry to understand the link between FM and business performance (Tay, 2006). Strategic alliances is one method that FM can use to develop business performance.

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Online Resources

Frankfurt AFM www.fraport.com/online/bereiche/en/jsp/ifm_airportfacilities.jsp;jsessionid=
Munich AFM www.munich-airport.de/DE/Areas/Business/Facilities/index.html.