Do dedicated low-cost terminals create competitive advantages for the airports?

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Abstract: *New market pressures, economic changes and regulatory development have forced many airports around the world to revise their strategy and management concepts. In recent years, airports, particularly small and regional airports have been attempting to attract low-cost airlines. Some have developed the concept of dedicated "Low Cost Terminals" to accommodate the requirements of the new clients. Providing tailored products have potentials in generating competitive advantages for airports. Applying the VRIO (Value, Rarity, Imitability and Organization) framework, this paper attempts to analyse the potential of low cost terminals in creating competitive advantages. The analysis concludes that although the potential of low cost terminals in improving the competitive position of airports depends on the market structure within which the airports are operating, these have at least a temporary comparative advantage in providing low cost terminals.*

Key words: *low cost terminal, low cost carrier, airport business, competitive advantage, VRIO framework*

1. Introduction

It is common place in microeconomics literature that the level of market concentration affects firm's pricing behaviour, which in turn affects profitability. More precisely, the ability of consumers to find substitutes and the propensity of a new firm to enter profitable industries and drive prices downward, reduce firm's market share, and decrease its profits.

But clearly, if competition constrains individual firm's profitability, then it is in the interest of the firm to distinguish itself from its competitors. Distinguishing attributes or characteristics of a firm's products is viewed as important instrument for affecting price and sustaining profitability as long as possible. Basically, a firm can alter its product to make it better, faster, newer or simply cheap. Differentiation is often perceived as a necessary condition to reap monopoly profit, due to the fact that it reduces the sensitivity to competitive moves. Firms will have an incentive to produce multiple products or brands even when they are monopolists. They will do so, because it appears that consumers do in reality have quite varied tastes, a single brand will therefore appear to a small section of the market (Beath & Katsoulacos 1991). McMillan and McGrath (1997) recognize that most profitable strategies are built on differentiation.

The trend towards product differentiation observed nowadays in the airport business is a result of many challenges facing the aviation industry. Prior to airline deregulation in Europe, the demand for airport products was relative stable and homogeneous. Indeed, airports' customers, namely the main network carriers were traditionally government owned and regulated and had similar needs as far as airport facilities are concerned. However, with the deregulation of Europe's domestic travel markets in 1997 low-cost carriers took off and airports that previously serviced only network carriers are now servicing low-cost carriers

(Barett 2004). But the post-deregulation has proved to be troublesome for the aviation industry. Financial distress and stiff competition have caused some major carriers into bankruptcy. Low cost carriers (LCCs) have not only been successful at acquiring market share, but they have also been profitable (Vasigh et al.2008).

However, these new clients are not interested in the same services as legacy carriers (Francis et al. 2004). They want "no-frills" and uncongested facilities at lower cost. Moreover, they want customized products that optimally fulfil their requirements. The differences in demand for airport services among carrier types have forced some airports around the world to redesign their product to suit the needs of their clients. One base of differentiation has in recent years been the emergence of low cost terminals (LCTs). This is the redesign of a terminal to make it more cost-effective and therefore consistent with the needs of LCCs. The key objective is to deliver services at cheaper prices which are affordable by the LCC. The key question is whether this business strategy might create competitive advantage for airports pursuing it. The following questions are raised and answered in this paper:

- What are the characteristics of a low cost terminal and how do they differ from a "traditional" terminal?
- Does the provision of low cost terminal have any significant influence on airport profitability?
- Under which conditions does product customisation lead to success? Moreover, are dedicated budget terminals a successful solution model to the turbulent aviation environment?

The paper analyses the drivers for dedicated facility which airports offer to LCCs and in particular considers the European situation. The paper concentrates on five main themes:

- The rationale for product differentiation;
- Low cost airlines characteristics and the implications for airports operations;
- The role of terminal in the airport system;
- Customised terminal and competitive advantage;
- The VRIO (Value, Rarity, Imitability and Organisation) framework and its application to low cost terminals.

2. The rationale for product differentiation

The essence of this section is to have a better understanding of a firm's decision for the differentiation of his products or services. Barney and Hesterly (2006) define product differentiation as

> "*a business strategy whereby firms attempt to gain a competitive advantage by increasing the perceived value of their products or services relative to the perceived value of other firms' products or services."(p. 146)*

The objective of differentiation is therefore to increase perceived value of firm's services or products and to generate a customer preference for them as compared to competitor's products. Anderson (2005) emphasises the ability of product differentiation to reduce consumer's sensitivity to competitor's products:

> "*Product differentiation refers to such variations within a product class that (some) consumers view as imperfect substitutes.*"

According to Hooley et al. (2004), differentiation aims at creating and exploiting differences between a firm's product or service and competitor's offering. They indicate that if customers perceive these differences and have a preference for them; this strategy may lead to competitive advantage.

Whether two firms in the same market would choose to produce homogeneous products or differentiated products was first studied by Hotelling (1929) in a model where consumers are differentiated by their locations ("addresses") and dislike distance. Products, too, are location in this space (geographic, characteristics, etc.). Lancaster (1966) pioneered the concept of horizontal product differentiation which states that when products are priced at marginal cost, consumers differ by which they like best. This means that consumers care about the characteristics intrinsic to goods and purchase goods because they deliver the desired characteristic mix, adjusting appropriately for prices. Vertical product differentiation constitutes the second type of differentiation and refers to the model where products differ in both price and quality and consumers differ in their willingness to pay for quality. The models of vertical product differentiation were first developed by Mussa & Rosen (1978), Gabszewicz & Thisse (1979), and Shaked & Sutton (1983). Other studies by Schmalensee (1978), Hay (1976), Archibald & Rosenbluth (1975) and Bonanno (1987) have whether or not the introduction of new products (brand proliferation) can serve as an optimal strategy for entry deterrence.

There are several ways to make a product or service different in the eyes of a consumer. Almost anything from tangible product characteristics to abstract intangible concepts like national pride could be a base of differentiation (Barney & Hesterly 2006). A base differentiation can be achieved through the attributes of the product or service (product design timing of product introduction and location); relationship between the focal firm and its customers (product customization, consumer marketing and product reputation) or linkages within and between firms (linkages among functions within the focal firm, linkages with other firms, product mix, distribution channel, service and support) (Hooley et al. 2004).

Customized terminals fall into the second category of these bases, namely differentiation based on the relationship between the firm and its customers. Tailored facility at airport is not a new phenomenon. The need for dedicated infrastructure, many times for safety concerns, has often led to the segmentation of the airport areas between passenger and cargo terminal. Pine & Gilmore (1999) define customization as *"producing in response to a particular*

customer's desires". Hence, preferences are generated as the firm develops and exploits relationships with its customers based on what the target customers want. Therefore, customization strives to fulfil the needs of individual customer. This leads to the question regarding LCC characteristics and their requirements of airports. The next section briefly describes the requirements that LCCs place on airports facilities.

3. Low cost airlines characteristics and the implication for airport operations

A knowledge and understanding of the LCCs characteristics and their airport requirements is crucial if the prevalence of product customization at airport is to be appreciated.

Low Cost Carriers characteristics

The main characteristics of low cost airlines can be summarized as followed:

Focus on short haul routes. LCCs operate several times a day on the same relative short route (of generally less than 1,500 km). By focusing on short haul routes they save costs on additional staff training for other routes as well as costs for staff accommodation.

Origin and destination route structure. As a result there are no costs for baggage administration or costs related to connecting flights.

Lower labour costs for hour of productivity. LCCs usually pay lower than industry average wages. Moreover, employees work on multiple roles thereby reducing staff costs (cleaning the aircraft and acting as gate agents, for example).

Use of airport with spare capacity such as small and regional airports This means that Delay due to congestion is less. Charges in these airports are low vis-à-vis larger airports.

No-frills service and no free on-board service Creating additional revenues for the Low cost carrier.

Homogeneous fleet type This may facilitate discount for fleet acquisition. Using only one aircraft type also produces economies of scope in aircraft maintenance and flexibility in the use of the crew.

Increased aircraft utilization Consequently fixed cost can be spread over more flying hours and more passengers.

Lower ticket distribution costs LCC avoids travel agency commissions and computer reservation system fees by direct sales to customer via the Internet and call centres.

Minimized time between landing and take-off LCCs turnaround time at the airport is kept at the minimum (approximately 25 minutes).

While LCCs carried only six per cent of European Union short haul traffic in 2004, the market share of LCCs in Europe grew rapidly and recorded 26 per cent in January 2010 (DLR & ADV 2009). It is worth noting that not all LCCs operate from secondary or regional airports. However, two types of low cost business model can be observed in Europe, the classic example being the difference between Ryanair and easyJet models. Whereas Ryanair favours secondary and regional airports at relatively low frequencies and concentrates on new leisure markets with no direct competition, easyJet prefers primarily main airports at high frequencies and focuses on both new and existing leisure and business markets, accepting competition from established carriers. The Ryanair model focuses on cost rather than market (Air-Scoop 2009). However, if for a specific market there is just one airport available the carrier has to "break" its rule to access large and growing market as it is the case of Ryanair in Madrid (Echevarne 2008).

Low cost carrier requirements of airports

The services offered by full service carriers and those deliver by low cost airlines differ (See table 1) and consequently their demand for airport facilities. LCCs usually avoid expenditures on services that are not strictly necessary for the provision of the core air transport product, such as the use of air bridges or escalators for example (P. McLay et al. 2006). With reference to runway and taxiway systems and the navigation aids are concerned, there are no differences between the needs of conventional carriers and LC airlines. The design standard and regulations concerning these infrastructures are set by ICAO on the basis of ensuring operational commonality and minimum safety standard (Echevarne 2008).

Table 1: Differences between low-cost and full-service carriers

Characteristic	**Low-cost carrier**	**Full-service carrier**
Brand	One brand: low pricing	Extended brand: price and service
Price	Simple pricing structure	Complex pricing structure
Distribution	Internet, direct booking	Internet, direct, and travel organisation
Checking in	No ticket	No ticket, IATA ticket contract
Airport	Mostly secondary	Primary
Network	Point-to-point	Hub-and-spoke
Classes	One class	Multiple classes
During flight	Unbundling (pay for 'extras')	Bundling (free 'extras')
Aircraft usage	Very intensive	Average – intensive
Aircraft type	One type	Multiple types
Turnaround times	25 minutes	Slow: congestion/work
Product	One product	Multiple integrated products

Source: Low Cot Carrier – Europe: http://www.jvdz.net/index2.html

LCC requirements of airport include:

Low airport charges The airport costs (fee for starting, landing, parking, checking, baggage processing, aircraft check) make up for a higher fraction of the airline's total costs. Hence, LCCs will negotiate airport charges to the minimum possible level.

Simple terminals The terminal building and ramp operations are areas where significant design and operational differences between the requirements of low cost airlines and those of other carriers can be seen (See table 2). Generally they require simple airport products (bridges or business lounges), thus avoiding the use and pay for unnecessary infrastructure and services. This is essential to ensure fast operations and cost cutting for LCCs. They are neither concerned about passenger comfort, nor are they concerned about the quality of the airport related services. Their primary objective is cost minimization. These airlines tend to use the aircraft parking stands next to the terminal, with the purpose of minimizing passenger's walking time to the aircraft. In terms of space per passenger, this tends to also be smaller compared to conventional terminals. In order to avoid costs associated with the building and operation of commercial space in airports, LCC tend also to require less amount of retail activity (Francis 2003).

Quick turnarounds LCCs aim to maximize productivity and minimize costs. At airports this is generally achieved by minimizing turn around times.

Table 2: Key passenger terminal requirements and ramp operations

Operational area	**LCCs Requirements**	**Traditional airlines**	**Comments**
Access & Car Parking	High demand of car parking facilities at regional and secondary airports	Higher use of taxi	LCCs favour airports with public transportation systems
Check-in	LCCs require fewer check-in desks which usually results in longer queues	Separate check-in desks according to class of travel. Higher number of desks than LCCs to reduce queuing time	LCCs and traditional airlines are enthusiastically embracing web check-in as it reduces the seed for check-in desks and hence reduces costs
Security	LCCs demand that procedures do not delay aircraft boarding	Some request separate channels for premium class passengers	
Baggage handling system	Very simple. No need for sophistication as flights are point-to-point	Airlines that operate hubs require sophisticated and costly baggage handling systems in order to transfer bags between flights at their hub airport	
Boarding bridges	Most prefer not to use them to expedite boarding and unloading of aircraft by	Prefer to use them for the convenience and comfort of passengers	

	using from and back doors		
Ramp operations: aircraft boarding	LCCs prefer passengers to get to the aircraft by foot and avoid using busses to ferry passengers in order to save costs	If possible passengers are ferried to aircraft by bus for their convenience	Ramp safety issues may arise as a result of passengers walking to/from aircraft
Ramp operations: aircraft push-back	LCCs prefer self-power manoeuvring to reduce costs and expedite operations	Push-back necessary if aircraft connected to boarding bridge	Self-power manoeuvring normally requires more ramp space

Source: Echevarne 2008 (aviation and Tourism)

Implications for airports

The most obvious implication of the successful market entry of the low cost sector for the airport industry is undeniably the rapid growth of secondary/smaller airports during the last decades. Lomax & Gregory (2007) argue that the development of many regional and secondary airports in United Kingdom is intrinsically linked to the arrival and subsequent performance of the LCCs.

In fact, in order to achieve available economies of scale and improve their financial performance, many underutilised regional and small airports in Europe have seen it imperative to attract LCCs (Francis et al., 2004). Since airports face large fixed infrastructure costs, each airport with excess capacity can benefit from the LCCs services following the fact that airports can do so at low marginal cost per passenger (Barret 2004). For airports close to maximum capacity, there is no particular benefit in having LCCs except at off-peak periods. Airports and particularly secondary and small airports have benefited from the LCCs starting services (Francis et al. 2004). These new clients are powerful as their presence boosts traffics at airports and as a result they seem to instruct their suppliers what to offer. The classic example of this is the agreement between Brussels Charleroi airport and Ryanair signed in 2005 to develop the airport until 2016. Some airports have developed the concept of tailored terminals to accommodate the needs of LCCs. Marseille (MP2 Terminal), Vienna (Terminal 1A), Kuala Lumpur (Low Cost Terminal), Singapore (Budget Terminal), Bremen (Ryanair Terminal), and Mexico's Monterrey Airport (Terminal C) are some examples of such developments.

4. The role of terminal in the airport system

The airport passenger terminal is a building which allows connectivity between airside and landside access and where a complex interaction between airport operator, airline companies and passengers take place. The passenger terminal performs three principal functions (Ashford & Wright 1992):

- Change of mode (i.e. terminals enable the change of passenger movement types, a place of transferring passengers from one airline destination to another);

- Processing (i.e. ticketing and checking in the passengers, processing baggage, carrying out security checks and governmental controls);
- Change of movement type (i.e. terminals perform a reservoir function on the departure side, namely collecting passengers continuously and processing them in the batches; on the arrival side terminals act as a passenger holding space.

The airport terminal constitutes one of the main elements of the infrastructure cost at airport. Many of the modern airport terminals have been designed for maximum convenience and comfort, applying high standards and expensive materials and sometimes including architectural monuments with the aim of delivering a prestigious image to represent the culture of the region or country. Such developments are associated with higher costs including capital investment, operating and maintenance costs. Thus, some designs have little to do with the function the terminal is intended to achieve (Ashford & Wright 1992).

Two main terminals type can be distinguished, which are "traditional" terminals and low cost terminals. The traditional terminal is defined as a terminal designed to process the flights and passengers associated with the operation of full service carriers with full service facilities. Low cost terminal is defined as an airport terminal that has been developed with low capital investment cost and with the aim of reducing costs turnaround time. In terms of terminal design, two types of low cost terminals are distinguished, converted (a modification of an existing structure into an airport terminal building) and dedicated (new building).

5. Customized terminal and competitive advantage

According to Porter a firm can only be profitable by following one of two strategies: be the low cost operator or differentiate products or services in a way that induces consumers to pay a premium for the products or services.

> *"Competitive advantage fundamentally grows out of the value a firm is able to create for its buyers that exceeds the firm's cost of creating it. Value is what buyers are willing to pay, and superior value stems from offering lower prices than competitors for equivalent benefits or providing unique benefits that more than offset a higher price" (Porter 1998, p. 3).*

A firm is said to have competitive advantage when it implements a strategy that creates value. In this context, providing tailored infrastructure seems to be a source of competitive advantage because the ability to develop and exploit customised terminal can be marketed as a differentiating and distinctive capability that provides customers with superior value. Thus, customised product responds to particular requirements and customers pay only for the products that satisfy their needs. A "traditional" terminal contains features that are not suitable to the requirements of LCCs and may represent a waste that increase cost for both the airport's as well as airline's perspective. Therefore, costs and price can be lowered with the

avoidance of such features. Thus, a competitive advantage may result from the cost effectiveness of the simplified terminal facilities and the reduction of airport charges that, in turn, encourages traffic levels.

Consequently, the capability of providing customised terminal may enable an airport to enjoy a sustained comparative advantage if it meets the VRIO[1] criteria. That is, when a firm's resource is valuable in exploiting opportunities and/or neutralising threats, other current and potential competitors are unable to duplicate and there cannot be equivalent substitutes for this resource (Barney & Hesterly 2006).

6. The VRIO Framework

Barney and Hesterly (2006) describe the VRIO framework as a good tool to analyse the internal environment of a firm. In other words, it is a tool to analyse the nature of resources and capabilities of a firm and the difficulty of their replication. Barney and Hesterly state that in order to lead to a sustainable competitive advantage, a resource or capability should meet the following criteria:

1. It must be valuable: a resource is valuable if it enables a firm to neutralise an external threat or exploit an opportunity. That is whether differentiation result in an increase in revenue, whether customers are willing to pay premium and whether there are higher sales of products.

2. It must be rare: A resource is rare if it is not widely possessed or controlled by other competitors. If the product is differentiated, then it is by definition, rare – the question is whether customers value it.

3. It must be costly to imitate: do firms without a resource face a cost disadvantage in acquiring or developing it or in offering a substitute in its place. In other words, how easy or costly would it be for competitors to imitate the differentiating factor?

4. The firm must be organized to exploit it. A resource is organised if a firm's policies and procedures are organized to support the exploitation of its valuable, rare, and costly-to-imitate resources.

The listed criteria can be brought together into a single framework to understand the return potential associated with exploiting any firm's resources or capabilities. This is done in Table 3. If a resource controlled by a firm is not valuable, it will not enable a firm to choose or implement strategies that exploit environmental opportunities or neutralize environmental threats. Organizing to exploit this resource will increase a firm's cost or decrease its revenues. If a resource is valuable but not rare, its exploitation and implementation will generate competitive parity. If a resource is valuable and rare but not costly to imitate, exploiting this

[1] VRIO analysis is at the core of the resource based view of the firm, an internal analysis of organizational strengths and weaknesses.

resource will create a temporary comparative advantage. If a resource or capability is valuable, rare and costly to imitate, exploiting it will generate a sustained competitive advantage.

Table 3: The VRIO Framework

Is a resource or capability:					
Valuable?	**Rare?**	**Costly to Imitate?**	**Organized Properly?**	**Competitive Implications**	**Firm Performance**
No	-	-	No	Competitive disadvantage	**Below average**
Yes	No	-	↑	Competitive parity	**Average**
Yes	Yes	No	↓	Temporary competitive Advantage	**Above average (at least for some amount of time)**
Yes	**Yes**	**Yes**	**Yes**	**Sustained competitive advantage**	**Persistently above average**

Source: Adapted from Barney and Hesterly (2006, p. 95)

7. Applying the VRIO Framework to dedicated low cost terminal

This section discusses the Strengths and weaknesses of dedicated LCT as compared to competitors. It starts with the question of value.

Are low cost terminals valuables? LCT generates value for the airport in two important ways. First, LCCs develop preferences for the product. Second, when LCCs perceive a benefit to themselves they become willing to operate services or even to pay a premium for the differences that create that benefit. If the benefit is great enough that LCCs are willing to pay a price that is above the airport's average total cost, then it can be concluded that the LCT has created value for the firm. In other words, if the development and exploitation of an LCT result in an increase in revenues, a decrease in costs, or some combination of the two, then it has generated value for the airport. LCTs construction and operating costs are expected to be lower than that of a "traditional" terminal due to the introduction of basic facilities. O'Connell (2007) argues that the reduction in operation cost with regard to LCT concept is expected to be 30 per cent or 40 per cent of "traditional" airport terminal cost. Whether LCT generates value for the airports will depend on their ability in turning increased passenger volume into additional revenues (Humphreys et al. 2006). Airports generate revenue from both aeronautical and non-aeronautical activities. It appears questionable as to exactly what extend a LCT can affect these activities.

Graham (2003) argues that the factors influencing the cost and revenue structures of an airport are dependent on the volume and the nature of the traffic, airport patterns, airport location, physical service standards, geographical situation, accounting policies and environmental factors. With regard to aeronautical charges, airports seek to attract LCCs through reduced airport charges and marketing assistance. In terms of commercial facilities, it is often argued that LCTs do not have sufficient space because of the need of minimising capital investment. The situation, combined with the idea that most of the commercial activities are on the space availability at the airport, have led to discussion among planners of the ability of LCTs to generate commercial revenues for airports. Therefore, if sufficient retail spend is not achieved from passengers, it is possible that an airport can attract new services but lose money.

It is believed that LCT would attract LCCs which in turn would attract cost conscious passengers who would not want to spend as much in airport shops as passengers travelling on full service carriers. Moreover it has been argued that revenues generated from commercial activities had been one of the key factors behind the overwhelming success of the airport business. Relying on the results of a study undertaken by the Spain's Institute of Tourism (Instituto de Estudios Turisticos 2004), Echevarne (2008) argues that, contrary to what is usually perceived, the buying behaviour of LCC passenger at airports does not vary significantly from those flying on legacy carriers.

According to this study average income and medium-high income passengers on LCCs to Spain represented 65.3 per cent and 20.5 per cent of the total respectively. It was also found that there were more high income passengers on LCCs (5.2 per cent) than on conventional airlines (4.4 per cent). In overall, it could be said that the socio-economic profile of LCC passengers is very similar to those on conventional carriers (Echevarne 2008). Nigel & Graham (2006) agree that many low cost passengers are not budget travellers and are willing to spend at airports but do not find any overall relationship between LCCs starting services and airport profitability. Commercial activities likely to benefit from LCCs are food and beverages, car-rental and car parking services as well as car-rental concessions (as a result of independent travel).

Neutralising threats: can LCTs help in neutralizing the threats of the forces in the Five Forces Model?

In order to answer this question, an airport typology is defined. Different types of airport are classified using the following indicators: capacity, location, accessibility and market structure. Table 4 shows typology of airports developed using indicators of airport potential for growth in capacity and demand. Table 5 illustrates a similar typology developed on the basis on competition among airports in the same catchment area using indicator of airport potential for growth in capacity.

Table 4: Airport types in relation to market structure, airport capacity and LCTs impact on profitability

Potential success of LCTs		**Capacity** (indicators of slot constrains/spare terminals/runways capacity, possibility of extension)		
		Low	Medium	High
Market structure (indicators of inhabitant/population, tourism, etc.)	Low	Type 1.a	Type 1.b	Type 1.c
	Medium	Type 2.a	Type 2.b	Type 2.c
	High	Type 3.a	Type 3.b	Type 3.c

Table 5: Airports types in relation to competition on the basis of overlapping catchment area and airport capacity

Potential success of LCTs	**Capacity** (indicators of slot constrains/spare terminals/runways capacity, possibility of extension)		
	Low	Medium	High
Regional market with overlapping catchments of other airports	Type A	Type B	Type C

Threat of Entry: would be entrants face the costs of overcoming customers' preferences for the firm's products? The LCT project can be difficult to launch due to capital cost (cost of construction) involved; high utilisation of the terminal is also needed to cover the cost of offering the product. The availability of land for infrastructure development can act as a barrier for LCT development. On the one hand, the local government or the civil aviation authority may also play a role in the expansion of the airport infrastructure. Obtaining their approval for infrastructure development can be a long term process hindering airport expansion[2]. On the other hand, the airport must negotiate with one or several budget airlines to encourage them to operate services or set up a base at the airport (Cream 2009). Gillen & Lall (2004) argue that airports compete on terms using investment incentives to attract airlines. It is also of paramount importance to carefully plan with airline partners to ensure cannibalisation of other partner airlines does not occur. Immediate and short term competition with neighbouring airport is very low if the competitors fall into the typology 1.a, 2.a, 3.a, 1.b or 1.c; and is very high if the competitors fall into the category 3.c.

It is also worth noting that not all airports are seeking to attract LCCs by developing LCTs. Frankfurt Airport has indicated that they won't develop a LCT. The reason for this may be that Frankfurt has its own competitive advantage, and offering a LCT might destroy, or at least compromise, its own source of competitive advantage.

[2] Local authorities tend to support investment aiming at attracting low cost airlines at small and regional airports on the promise that this would boost tourism and the local economy. Thus, regions on the other hand see airport as tool for their social and economic development.

Threat of Substitutes: Potential substitutes are "traditional" terminals where the LCC may obtain discounts for operating at off-peak times in the same airport or "traditional" terminals as well as LCTs within the catchment area of the airport (within a range of 100 km/area reachable within 1 hour car travel). Other things being equal, LCCs will find LCT substantially more attractive than substitute products. It should be noted that a good ground transportation link to the airport and the infrastructure in place to access the local catchment area is of paramount importance in determining the volume of potential airport users and airport substitutability (Cream 2009). For airports with overlapping catchment area the threat of substitute may be mitigated if other airports are of type A and may be very high if the competitors of type C.

Threat of Suppliers: the power of suppliers may be mitigated in two ways. First, the airport will likely be able to pass price increases to customers who have a preference for the airport's differentiated product. Since LCCs require 25 minutes turnaround, they may not want to serve other airports even if the costs were reduced. The airport that enjoys a strong preference of customer will usually have more bargaining power with suppliers compared to competitors who do not have differentiated products or services. The power of shops and car park operators, as well as taxis and bus companies may also be mitigate if the provision of LCT lead to an increase in traffic levels.

Threat of Buyers: LCCs usually have a strong bargaining position because they can move their activities elsewhere unless reductions in charges are granted by the airport (Francis et al. 2004). In addition, airlines attempt to create competition among airports by negotiating with many airports. This also can negatively affect the bargaining power of airports. However, the power of buyers is reduced because the airport enjoys a quasi-monopoly. If an airport is the only one in the market that offer a highly differentiated product, then customers with a preference for the airport's product and services must buy from that airport, thus reducing the power of buyers. Threats made by an individual airline to terminate service are less credible because the airport has alternatives[3] and the carriers need the population base in the catchment area of the airport. Even though the airlines create the business for airports (Gillen & Lall, 2004) they both need each other for their business. Competitive advantages of LCT may result from first-mover advantage, in terms of customers switching costs. Thus, airports are local in nature and derive their value from location, which comes from large economic and population base, or other sources such as "warm water" destination (Gillen & Lall 2004). Competition between airlines to increase market share can also positively affect airport's bargaining power.

Are low cost terminals rare? The answer to this question can safely be assumed to be affirmative. The assumption is that the airport has established a differentiated product, which implies that the product is rare. Low cost terminal are usually designed to allow sub-30

[3] Small airports relying on one airline may have less bargaining power than medium and large airports with different clients.

minutes turnaround, which is exactly what LCCs want. Low cost terminals may provide airports with more flexibility to deal with changing industry conditions. In the airport industry LCTs do not seem to be widespread. Table 6 illustrates the development of LCTs in Europe.

Table 6: Examples of LCTs in Europe (Internet research, updated by author)

Airports	Date of opening	LCTs types	Passenger capacity (Mio)	Gross area (m^2)	Cost (Mio)	Number of LCC (2008)
Marseille Provence Airport,	2006	Old cargo facility refurbishment	3.5 p.a.	7,532	16.4	5
Bordeaux-Mérignac Airport	2010	New dedicated terminal	2	4,000	5.5	-
Lyon Saint-Exupery Airport	2008	Old cargo facility refurbishment	1.8 p. a. (by 2010)	-	-	-
Brussels National Airport	-	New pier	-			3
Bremen Airport	2007	New (Ryanair) dedicated terminal	-	3,200	10.4	1
Frankfurt Hahn Airport	-	Current terminal specifically developed for LCC operations	-	18,500	25	3
Amsterdam Airport Schiphol	-	Pier off existing terminal. Passenger processed through existing terminal	-	6,150	30	9
Budapest Ferihegy Airport	2005	terminal 1 refurbishment	-	7,990	35	8
Warsaw Frederick Chopin Airport	-	Converted supermarket	-	-	-	6
Parma Airport	-	New dedicated terminal	-	-	-	2
Copenhagen airport	2010	New pier	6 p.a.	6,700	-	-
Dublin?	2009	-	-	75,000	395	-

Tempere-Pirkhala Airport	2003	Renovated former cargo terminal 2	-	-	-	2

The question of Imitability. If a product differentiation strategy is costly to imitate, the focal firm can be expected to enjoy a competitive advantage. Thus, if the cost of offering a LCT is greater than the benefit, the would-be imitators would rationally choose not attempt imitation. Product customisation may be costly to duplicate as the base entail a relationship and or the need of coordination. These relationships may be costly for other firms to imitate if they are marked by unique historical circumstance, causal ambiguity, or more likely social complexity; otherwise they could be easily imitate (Barney & Hesterley 2006). Terminals in general and LCTs in particular are likely to pose fewer problems for investment as compared to runways because they can be built in smaller stages and they pose fewer environmental problems (Forsyth 2007).

The question of Organisation. Having an appropriate organisation (formal and informal management controls, formal and informal reporting structures and compensation policies) in place will enable the airports to realise the full competitive advantage potential if their resources or capabilities. The airport must, for instance, be able to respond quickly and accurately to customer requirements. The interaction between the firm and its customers is the focus of this criterion. The key to understand a successful business strategy is a detailed understanding of the potential customer base. Therefore, it is essential to establish who the potential customers are, and how different groups of customers may view the facility offer. LCCs are not homogenous (easyJet and Ryanair) and tend to make use of airports facilities according to different primary motivations.

Humphreys et al. (2006) argue that the LCC sector is rather volatile both in terms of revenue streams and the networks available. They seem to be footloose in nature and have less commitment to their route networks than legacy carriers. The European LCC sector is characterised by a high number of route entries and exist, and operators transferring (or threatening to transfer) theirs operations to other airports (Lawton & Solomko 2005). An analysis of OAG (official Airline Guide) data reveals that 28% of the LCCs services that started between 1997 and 2002 have been withdrawn, compared to an average of 2% for conventional airlines.

The benefits of attracting the airline is uncertain and may be short lived. Airport managers must carefully evaluate the agreements terms and the associated costs/benefits. A long term viability of each LCC and impact on incumbent operators needs careful evaluation. The difficulty arises when LCCs wish to expand their capacity beyond the existing terminal capacity.

Table 7 summarises the application VRIO framework to LCTs. It concludes that although LCTs may be a source of temporary competitive advantage, it seems easy to imitate and thus not likely to be a source of sustained competitive advantage.

Table 7: Summary of VRIO Application to Low Cost Terminals

Is tailored low-cost terminal:					
Valuable?	**Rare?**	**Costly to Imitate?**	**Organized Properly?**	**Competitive Implications**	**Firm Performance**
Yes	Yes	No	-	Temporary competitive advantage	**Above average (at least for some amount of time)**

8. Conclusion

In summary, the contributions of this paper are twofold. Firstly, it has shown that some airports have chosen to differentiate their product or service to LCCs by proposing to operate from Terminals with a different quality of service.

Secondly, the VRIO framework has been applied to LCTs to evaluate their potential in generating competitive advantage for airports. The VRIO framework is a resourced-based analytical tool used to examine if firm specific capabilities and resources are a source of competitive disadvantage, parity, temporary advantage or sustained advantage.

In terms of business strategy, LCTs contain element of both cost leadership strategy and product differentiation. Firms that effectively pursue cost and product differentiation strategies are said to be in an enviable position. These firms usually start off with a sharp focus on one strategy and with time they are able to pursue the other as well. Airports could first focus on cost strategy such as providing budget terminals. In doing so, they can gain market share and become profitable. In time, they could afford to advertise and convince customers that their prices are lower. This advertising is indicative of a product differentiation strategy.

The analysis of LCTs using the VRIO framework has shown that if the following criteria are met, the provision of LCTs may create a temporary competitive advantage for airports: the development of LCTs must result in an increase in passenger traffic as well as an increase in revenues; competition between airports serving the same hinterland must be low and the airport must be able to respond quickly and accurately to LCCs requirements. However, given the individual characteristic of each airport, a thorough analysis using a case study methodology is needed if the effect of low cost terminals for airport profitability is to be precisely appreciated. This step should be address in future research.

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