



Ground handling services at European hub airports: Development of a performance measurement system for benchmarking

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ABSTRACT

The liberalization of ground handling in Europe forces airports to assess their performance relative to their competitors in order to remain competitive and sustain long-term competitive advantage. Together with main EU hub airports, action research was conducted for one year to develop a holistic performance measurement system (PMS) for ramp services. The resulting PMS entails a process-based perspective and reflects the supply chain of airport logistics. As the findings of an ex-post validation suggest, the system represents a suitable basis for competitive benchmarking activities.

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1. Introduction

Today's aviation industry is characterized by a highly dynamic and volatile business environment (Doganis, 2001, 2002). On the one hand it holds high growth potential (Air Transport Association, 2006; Bernabai, 2001), but on the other hand competition is intensifying (Garvens, 2005) and margins are decreasing (Francis et al., 2005).

Changes in the aviation business affect all members along the value chain (SAS, 2005). Competitive pressures not only occur on the "air side" of the value chain but are especially increasing on the "ground side" (Albers et al., 2005). In this context ground handlings' logistics are one of the biggest challenges and a main factor that determines sustainable success (Gonnord and Lawson, 2000; Wyld et al., 2005). Efficient and customized processes in

the field of passenger, baggage and freight handling are therefore gaining paramount importance for airports and other logistics service providers (Oum et al., 2003).

The ground handling market has been facing a trend towards liberalization, which was induced by deregulation mechanisms implemented at the European level, such as the EU (European union) directive 96/67/EC which increases competition and cost pressure especially in the ramp handling sector (Fuhr, 2006; SH&E, 2002).

Ramp handling, as a major part of ground handling, can be seen as one of the primary functions of airports, subsuming all handling activities on the apron. It encompasses the activities of loading and unloading aeroplanes as well as the transport of passengers, crew, baggage, freight and mail between aeroplanes and terminal buildings. It represents the interface to the airlines on the one hand and the interface to airports infrastructure on the other hand.

Historically, air transportation used to be a highly regulated sector. Mobility was regarded as a good of public interest and regulation by the state was considered necessary. EU directive 96/67/EG was the basis for today's market structure and was published in the beginning of the 90s to liberalize air transportation in Europe.

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The main goal was to induce a step-wise liberalization and to achieve a unified regulation of ground handling, particularly affecting the air side, so-called ramp handling. By opening the market a further aim was to reduce operating costs of air transportation and improving the quality of aircraft handling. Today the EU directive determines the number of ground handlers, which have to be enabled to enter the market (Soames, 1997). It makes limiting the number of providers only possible in exceptional cases. Moreover, changes in line with the latest discussion about a revision of the EU directive (European Commission, 2003) will further enforce liberalization of the ramp handling market.

Due to this increased competitive pressure, ground handlers and in particular ramp handlers will also have to rethink their strategies and structures as well as their scope of work (Müller et al., 2005) in order to maintain or gain long-term competitive advantage. As seen in other liberalized markets, today's ramp handling organizations need to become more competitive, market-oriented and customer-driven (Chan et al., 2006).

Therefore, it is particularly important for them to improve their ability to assess their own performance relative to that of their competitors (Oum et al., 2003). To achieve this, performance measurement can be seen as an adequate approach that permits a holistic analysis of their efficiency and effectiveness (Kennerley and Neely, 2002; Neely et al., 1995). As a sole usage of a performance measurement system (PMS) would not be "[...] able to answer one of the most fundamental questions of all—what are our competitors doing?" (Neely et al., 1995), benchmarking is considered as an appropriate tool that should be combined with performance measurement for the identification of best practice solutions among the industry (Francis et al., 2002). As such, the performance gaps provide an initial basis for targeting radical changes, as well as continuous improvement, both aimed at providing a long term competitive advantage.

Although benchmarking has been criticized to be limited (Gregory 1993) and mainly provides information that helps to get on a par with other companies, it is an important method to take the first step in strategically positioning the company, identify the relative competitive position of a company (McIvor, 2003) and lay the foundations for a sustainable competitive advantage.

Within the scope of this article, performance measurement and benchmarking are seen as integrative approaches, whereby the PMS acts as the source of information for benchmarking activities. Nevertheless, such a system has not yet been developed for ramp handling businesses. Therefore, the research objectives of this article are twofold: The first objective is to develop an adequate PMS for analyzing the effectiveness and efficiency of ramp handling businesses. The second objective is to test its practical applicability for performing a benchmarking.

The next two sections provide a background on performance measurement, considering also the context of airport logistics. Based on this background, a conceptual PMS is presented. Then the action research methodology followed here is explained. The conceptually

developed PMS was applied in a benchmarking study with several ramp handling organizations of EU hub airports. The article closes with a summary of the main findings, suggestions for further research and managerial implications.

2. The need for a ramp handling PMS

Although it has been put forward that a PMS is required, it remains unclear how ramp handling service business units can adapt and implement such a system to improve their efficiency. As ramp handling encompasses the activities of loading and unloading aeroplanes as well as the transport of passengers, crew, baggage, freight and mail between aeroplanes and terminal buildings, it can be classified as a logistics service. This service is provided by a third party ground handler, the airline (self handling) or by the ramp handling business unit of an airport (Fuhr and Beckers, 2006). In this study, we focus on airports in their role as (integrated) ramp handlers.

Today's airport performance measurement approaches mainly deal with the airport as a whole organization (Francis et al., 2002), not with ramp handling business units in particular. In the context of airports, a large number of studies have been conducted with focus on financial, qualitative, political or ecological perspectives, whereby most research concentrated on financial performance indicators (Abbott and Wu, 2002; Doganis et al., 1995; Gillen and Lall, 1997; Martin and Roman, 2001; Murillo-Melchor, 1999; Parker, 1999; Sarkis, 2000) or quality-based performance measures (Adler and Berechman, 2001; Ashford et al., 1995; Hegendorfer and Morris, 2000; Hegendorfer and Tyler, 1999; Tyler, 2000; Yeh and Kuo, 2003). Some authors follow a combination of economic and quality driven perspectives (ATRS, 2003; Pels et al., 2003; TRL, 2003).

However, the most contemporary subject of investigation concerns liberalization and deregulation of the airport market (Civil Aviation Authority, 2000; Templin, 2005) as well as the analysis of ecological influences of airports, such as noise or exhaust emissions (Graham and Guyer, 1999; Upham and Mills, 2005). From this we can see that there is no fully developed PMS available, which could be applied to the context of ramp handling. Therefore, the following section will provide the necessary conceptual background on PMSs.

3. Conceptual background

The topic of performance measurement is often discussed but rarely defined (Neely et al., 1996). Performance can be seen in various ways, but there is a consensus that when evaluating performance, and also especially logistics performance, it can generally be distinguished between effectiveness and efficiency (Glaeson and Barnum, 1986; Neely et al., 1996; Rafele, 2004). Effectiveness refers to the extent to which customer requirements are met, whereas efficiency is a measure of how economically the firm's resources are utilized when providing a given level of customer

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