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# Factors affecting passenger choice of low cost carriers: An analytic network process approach

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## ABSTRACT

Although the literature has contributed to identifying various influences on passenger choice of low-cost carriers (LCCs), the evaluation of the relative importance of these factors has not been empirically determined. In their decision about choices of LCCs, passengers may consider more than one factor or criterion. Passenger choice of LCCs can be viewed as a multi-criteria decision-making problem and the various factors involved are interdependent. Analysis network process (ANP) methodology satisfies these requirements by considering inner and outer dependences among multiple criteria. In this study, the goal is to use ANP to evaluate the relative weights and priorities of the factors determining passenger choice of LCCs. Firstly, literature review and expert opinion are conducted to generate 16 sub-criteria along with four criteria (e.g., perceived advantages, perceived external influence, perceived service quality, and perceived corporate value) that affect passenger choice of LCCs. Secondly, ANP is applied to develop an evaluation model that prioritized the relative weights linking the above four criteria with 16 evaluated sub-criteria. The results not only provide an evaluation model to determine the relative importance of the influences of LCCs on passenger choice, but can also help managers focus on the main factors and identify the best policy for promoting passenger acceptance toward LCCs.

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## 1. Introduction

Low-cost carriers (LCCs) have revolutionized passenger air travel, and have attracted passengers with cheap fare, simple, no-frills services. LCCs differ from traditional full-service carriers in three main respects: service savings (no free meals, economy seating), operational savings (standardizing airline fleet and cabins, flying point-to-point) and overhead savings (Internet sales, strict baggage regulations) (Chang & Hung, 2013; Huse & Evangelho, 2007). The development of LCCs currently focuses on the airline market, which significantly impacts trends in the evolution of airline networks, competition, and demand (Aydemir, 2012; Mason & Alamdari, 2007). The operational management of LCCs is not an easy task because LCCs need to maintain high quality service and maintain low ticket costs to attract passengers (Kim & Lee, 2011). Understanding the factors that drive passenger selection of airlines is fundamental in achieving growth in the LCC market. Thus, it is important to better understand the key factors affecting passenger intentions to choose LCCs.

Passengers base their purchase decisions on their personal perceptions and motivations concerning the adoption of a specific service or product (Schiffman & Kanuk, 2004). From the motivational perspective, researchers believe that passengers perceive extrinsic motivations (such as rewards or external social support) to be important predictors of LCCs' selection intentions (Chiou & Chen, 2010; Fernando, Saad, & Haron, 2012; Jiang, 2013). As argued by previous studies (Bigne, Hernández, Ruiz, & Andreu, 2010; Kim & Lee, 2011; O'Connell & Williams, 2005), perceived advantages of LCCs (e.g., low ticket price, efficient check-in, convenient flight schedule, and convenient booking channel) significantly affect passenger intention to travel via LCCs. In a more recent study, Chang and Hung (2013) found that cheaper fares and more convenient booking channels might be important for accelerating LCC adoption. Interestingly, Chen (2007) and Saha (2009) found that external social support (e.g., positive word of mouth, mass media reports) influences passenger acceptance of LCCs. Additionally, some scholars agreed with the claim that intrinsic motivation (the provision of high quality services to passengers) and airline image concerns trigger passenger adoption of LCCs (Fernando et al., 2012; Jiang, 2013; Mikulic & Prebezac, 2011; Yang, Hsieh, Li, & Yang, 2012). However, although several studies argue that motivational factors (extrinsic, intrinsic and image motivations) crucially determine passenger choice behaviors, the evaluation of the relative weights (importance) of factors affecting passenger choice of LCCs has not been empirically determined.

The LCCs' literature has mentioned a broad range of motivational factors that influence passenger choice of LCCs; the key variables normally considered include extrinsic (i.e. perceived advantages and perceived external influence), intrinsic (i.e. perceived service quality) and image (i.e. perceived corporate value) motivations (Fernando et al., 2012; Jiang, 2013; Mikulic & Prebezac, 2011; O'Connell & Williams, 2005; Saha, 2009). That is, the evaluation of the influences on passenger choice of LCCs is a multi-criteria decision-making problem since passengers may consider different evaluation factors or criteria. Different methods can be applied to solve multi-criteria decision-making problems, such as analytic hierarch process (AHP) and analysis network process (ANP) (Saaty, 1996a). AHP is applied to solve the decision-making problem by modeling in a hierarchy, while ANP is used when interdependent relationships exist among decision criteria that cannot be modeled as a hierarchy. In the LCC service context, passenger choice criteria may exert a mutual influence (for example improving in service quality affects the corporate image). Consequently, this study applies an ANP approach to determine the relative weights of factors that affect passenger choice of LCCs.

In this study, the goal is to develop an evaluation model to determine the relative weights of the factors influencing passenger choice of LCCs through ANP during group decision-making. The study results can provide both theoretical basis and empirical evidence indicating the relative importance of influences on passenger behavioral intentions in the LCC service context. From the managerial perspective, the analytical results can help managers focus on main factors and identify the best policy for promoting passenger acceptance toward LCCs. Also, some interesting findings and useful suggestions are given to LCC managers to keep existing passengers and attract new ones.

## 2. Factors affecting passenger choice of LCCs

Motivation has been identified as a key determinant of both general behavior (Deci & Ryan, 1987) and work-related behavior (Venkatesh & Speier, 1999), and is suggested to be the main determinant of customer intentions and decisions to select new technologies or services (Herath & Rao, 2009; Shin, 2009). Scholars have identified and examined three main types of motivations in various contexts and studies (Benabou & Tirole, 2006; Lai, Griffin, & Babin, 2009): extrinsic motivation, intrinsic motivation and image motivation. Extrinsic motivation refers to external drivers that influence the performance of an activity (Ryan & Deci, 2000), such as rewards or external social support. In contrast, intrinsic motivation refers to the performance of an activity for the inherent associated satisfaction (Ryan & Deci, 2000). This motivation stems from internal factors such as personal outcome expectation. Image motivation refers to motivation that is driven by the overall public impression of the firm (Park, Robertson, & Wu, 2004). Together, extrinsic, intrinsic and image motivations influence individual intentions regarding an activity as well as their actual behaviors (Hung, Durcikova, Lai, & Lin, 2011; Lai et al., 2009).

Extrinsic motivation to adopt a new service relies on a desire for rewards (advantages or effectiveness) or external social support. For example, customers adopt a new service because they benefit from its use and may be influenced by external social support (e.g., positive word of mouth, mass media reports). A plausible reason for this phenomenon is that individuals will adopt a new service only if they perceive it would help them achieve desired outcomes (Teo, Lim, & Lai, 1999). In the LCC service context, identified advantages such as cost-saving and convenience in selection of the airline service can be attributed to the extrinsic motivators that explain passenger intention to choose LCCs. Additionally, external social support is important in individual decision making (Bhattacherjee, 2000). Individuals sometimes take actions or choices because they think their behavior is approved of or supported by significant others. Thus, this study applies perceived advantages and external influence as extrinsic salient determinants of passenger choice of LCCs.

Intrinsic motivation refers to engaging in an activity for its own sake, out of interest, or for the associated pleasure (Deci & Ryan, 1985). According to this perspective, Ryan and Deci (2000) identified intrinsic motivation as an individual who engages in an activity because they feel satisfaction or pleasure as a result. For example, developing intrinsic motivation for customers to adopt a new service requires the display of sincere interest, willingness to help, and the provision of prompt service (Lee & Lin, 2005). Research has recognized the essential role of intrinsic motivators in explaining human behaviors in several domains (Vallerand, 2000), including passenger choice of airline services (Gilbert & Wong, 2003). Hence, this study proposes that perceived service quality can be viewed as passenger intrinsic salient beliefs to predict their intentions in relations to LCCs selection. Furthermore, image motivation is the perception of an organization that customers hold in their memory (Keller, 1993). Zins (2001) pointed out that a positive corporate value (image or reputation) has been considered strategically important owing to its influence on passenger choice with regard to airline services.

Motivational factors affecting passenger choice of LCCs examined in this study were selected and classified on the basis of LCC literature review and expert opinion. These factors are summarized in Table 1 and discussed below.