# 1. Introduction

In the chapter the authors discuss the location-based factors' impact on accommodation prices. The aim of the paper is to compare the results of qualitative and quantitative research on location-based determinants of accommodation prices in Lodz Metropolitan Area (Poland). The authors employ methodological triangulation (Yeung, 2000), both to explore statistical significance of location-based determinants of accommodation prices, and to present managerial opinions about the influence of location on accommodation prices.

# 2. Theoretical consideration

Location-based variables explaining accommodation prices were considered by many researchers. Balaguer & Pernias (2012) argued that location is essential attribute for lodging enterprises, with remarkable impact on room rates. Andersson (2010) confirmed that location-based factors have not only statistically significant influence on accommodation prices, but also are perceived by the customers as a relevant attribute of accommodation facilities. In fact, locational advantages are commonly highlighted in promotional materials of lodging products (Bull, 1994).

The difference between two location-based determinants of prices must be underlined: distance from the city center and location in the city center. Distance from the city center was discussed by most of cited researchers (Andersson, 2010; Balaguer & Pernias, 2012; Bull, 1994; Egan & Nield, 2000; Hung et al., 2010; Lee & Jang, 2011; Napierala & Adamiak, 2013; 2014; Schamel, 2012). However, the significance of mentioned attribute has not been clearly confirmed. In the opinion of Andersson (2010), the proximity of the city center strongly affects the prices of hotels oriented for business travelers. It corresponds with findings from empirical results of studies of Napierala & Adamiak (2014). They confirmed higher dependency between prices and distance from the city center on work days. However, research of Balaguer & Pernias (2012) on hotels in Madrid (Spain) brings completely different results.

Location in the city center was verified as clearly significant determinant of hotel prices in Taipei (Taiwan). This location-based attribute was the only significant determinant of prices, among non-intrinsic hotel characteristics (Chen & Rothschild, 2010). The other authors used similar, both location-based and dummy variables to explain

volatility of accommodation prices. Andersson (2010) discussed the location in the tourism business district (Raffles Place in Singapore). Bull (1994) considered motels' locations on both sides of the highway in Ballina (Australia). Due to the spatial range of presented study, another one dummy, location-based variable must be mentioned. It refers to the urban versus rural location of lodging enterprises in four U.S. states discussed by White & Mulligan (2002).

Location can be understood in a subjective way as the assessment of the location made by tourists. Zhang et al. (2011) employed average of travelers' five-point ratings of location as an independent variable in hedonic function of hotel prices in New York (U.S.). However, they found that the customers' assessment of the location has significant impact of midscale and luxury hotels.

Becerra et al. (2013) examined distance from other competitors influence on hotel prices. They defined direct competitor as the hotel in the same category, exists in the same location. As the result of the research, they confirmed that the greater density of the competition in particular tourist destinations exists, the lower prices of accommodation services are. In fact, they argued that geographical distance from direct competitors is not statistically significant for Spain destinations. It corresponds with findings from empirical results of studies of Urtasun & Gutierrez (2006). They confirmed that proximity of direct competitors has negative but statistically insignificant impact on hotel prices in Madrid (Spain).

The last discussed location-based determinant of prices of services offered by lodging enterprises is distance from main transport nodes and tourist attractions or tourist focal points. This variables were widely recognized by various researchers. They examined impact of various, listed below factors on accommodation prices: geographical distance to nodes of Mass Rapid Transit in Singapore (Andersson, 2010), geographical distance to international airport and trade fair in Madrid, in Spain (Balaguer & Pernias, 2012), geographical distance from airport in selected U.S. cities, i.e. Cincinnati, Kansas City, Minneapolis, Oklahoma City, Providence, and Tucson (Lee & Jang, 2011), distance from Oslo Central Station (Thrane, 2007), and distance between hotel and its nearest transport hub or its nearest tourist attraction (Zhang et al., 2011).

# 3. Methods

The sample for quantitative part of research included all of 155 accommodation enterprises in Lodz Metropolitan Area. The data for the quantitative study were obtained from various sources: governmental and regional registers of accommodation enterprises, websites of accommodation companies and websites of reservation systems. Furthermore, missing data were replaced by telephone interviews with the stuff of accommodation enterprises. The data collection procedure was conducted in June and July 2012. The final sample for qualitative part of the study consisted of 17 various accommodation enterprises (chain-affiliated and independent hotels, guesthouses and others) in Lodz Metropolitan Area. The in-depth interviews with owners and managers of selected accommodation enterprises were conducted in the summer 2012.
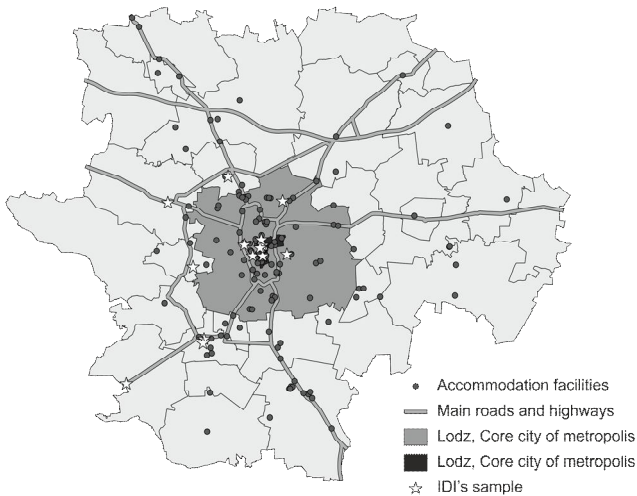


**Figure 1 – Location of accommodation facilities in Lodz Metropolitan Area**

In quantitative research, the authors employed hedonic functions of prices of accommodation facilities. As Andersson (2010) suggested, the hedonic price models can be used by revenue managers in the price policy making process. Moreover, the results of regression analysis of relations between accommodation prices and their determinants may support investment location decisions. More precisely, the hedonic analysis allows managers to estimate the value of various attributes of lodging industry in various locations (Bull, 1994).

The authors verified statistical significance of various location-based determinants of accommodation prices. As dependent variables, the authors considered logged rates (Best Available Rates) of rooms offered in Lodz Metropolitan Area, sold in the summer and autumn 2012, on working days and at weekends. Therefore, semilogarithmic regression model was employed four times for accommodation prices for each period. As Israeli (2002) suggested, accommodation quality should explained a large part of price variation. Thus, types of accommodation establishments defined by Polish Central Statistical Office: hotels, motels and boarding houses, both luxury (LUXHOT) and budget (BUDHOT), other hotel establishments (OTHHOT), other accommodation establishments (OTHACC), private rooms and agrotourism lodgings (PRVROO), were considered as independent, dummy variables. Moreover, the authors decided to employ the number of beds (BEDSNO) as an intrinsic characteristic of lodging enterprises.

Furthermore, independent variables included location-based factors. The following, discussed above variables were used in this study: urban location (LOCURB), location in the city center (LOCCEN), distance from the city center (DSTCEN), distance from the nearest competitor (DSTCOM), distance from the nearest accommodation establishment (DSTACC), and finally distance from the nearest transport node (DSTTRA). Therefore, the authors were unable to recognize tourists opinion about location of accommodation facilities. Zhang et al. (2011) used data from tripadvisor.com. However, only very limited number of accommodation facilities in Lodz Metropolitan Area was presented on mentioned website.

As shown in table 1, near-linear dependence was detected between two independent variables: distance between hotel and nearest transport hub, and distance between hotel and center of the core city in metropolitan area. To verified the risk of the multicollinearity, the authors employed Variance Inflation Factor (Montgomery et al., 2012). It must be noticed