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## LOCATION FACTORS FOR BUDGET, MEDIUM STANDARD AND LUXURY HOTELS BASED ON THE EXAMPLE OF HOTELS OPERATING IN POLAND

The aim of this article is to indicate the most important factors determining the location of newly built hotels in Poland in 2000–2009, belonging to different groups in the hotel categorization system. We use a two-stage empirical study. The main statistical method applied is stepwise logistic regression with the backward elimination of regressors. The results of the study indicate clearly that there are differences between the location factors for hotels according to their standard. The factors determining the location of budget hotels differ from those influencing the group of medium standard and luxury hotels. The results contribute to a better understanding of the motives of investors when selecting a location and may have implications for economic policies, since they can focus the attention of local and regional authorities on important determinants of attractiveness to local investment.

**Keywords:** *location factor, hotel, decision, Poland*

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## 1. Introduction

The management process is carried out by continuous decision making at various levels in the hierarchy of an organisation and in different areas of management [22]. Although all decisions in enterprises are important, most attention is paid to the decisions of a strategic nature undertaken by top management. Incorrect decisions taken at top management levels can cause disastrous consequences for the manager and, above all, for the organisation [5, 24].

A multi-sided approach to the subject of this study seems well-grounded, as the overall attractiveness of the hosting region is important to a potential tourist. Accordingly, it is also important to potential investors looking for attractive sites for new hotels. The choice of a hotel's location is the most significant decision taken at the pre-investment stage. In fact, an attractive location for a hotel determines, to a large extent, its economic success, as it positively impacts demand [2], price [19], profitability and other indices of economic efficiency [35], as well as leading to an increase in guests' satisfaction [26, 29]. The high significance of the choice of location also results from the fact that this decision is long-term in its character and thus is burdened by the risk of a change in the conditions of business activity in the given area.

Although there have been some previous studies on factors in the location of hotels [14, 23], research analysing hotels of various standards separately is still scarce. However, the category of a hotel, e.g., the quality of the services provided, strongly influences both the costs and the income, whose level and structure are already determined to a significant degree at the stage of choosing a location.

In the context of these introductory remarks, the main academic objective of this paper is to identify the most significant factors determining the location of hotels of various standards.

## 2. Literature review

Locating a hotel involves selecting a specific country, region and settlement (community or town), where a hotel will be located. According to Godlewska [13], location factors are *the specific characteristics of individual sites, which have a direct influence on investment expenditure during the construction of a company, as well as its later net profitability*. Success of an investment in the hotel industry relies greatly on location factors [30] because better locations are associated with a larger demand for accommodation [2], higher revenue per room [35], higher customer satisfaction [26, 29], better performance [19], and lower failure rate [31].

The factors influencing the location of any hotel can be divided into three main groups: minimizing costs, maximizing revenue and the incentives used by local authorities to attract investors. In the first group there are: investment costs (including the costs of land acquisition), labour costs and the transport costs of materials necessary for the provision of hotel services. Investment costs can be very significant in the case of high standard hotels, and as such must be carefully examined in the decision making process, especially since they shape important indicators for investors. Although investment costs mainly relate to the period before a hotel begins functioning, it should be noted that they may also be relevant in later activities, i.e., during the modernization or expansion of a hotel. Labour and transport costs are important location factors for hotels of all categories [13]. Labour costs are especially relevant in high standard hotels, offering a wide range of services provided by numerous and well-qualified staff. This may be particularly evident for high standard hotels located in large cities or in very attractive tourist resorts. The significance of transport costs is particularly high in the case of low and medium standard hotels characterized by poor accessibility where there is a lack of a workforce in the local vicinity.

The location factors that maximize revenue include the following: the volume of demand, tourist attractions, the state of development of the local tourism market, the agglomeration effect, transport accessibility and proximity to the demand stream. The volume of demand is another important factor influencing the decision on the location of hotels of any standard [4, 21]. The importance of the volume of local demand may be particularly important for medium standard hotels with a wide range of services located in places where the supply of such services is limited or in the case of high standard hotels offering the highest quality services regardless of their location. Demand is shaped by the type and number of tourist attractions [13, 23], which may possess natural and/or anthropogenic values.

This premise seems to be particularly important in relation to holiday hotels, in locations with natural values and well-developed tourist functions, as well as to tourist hotels, located in cities. The state of development of the local tourism market and, consequently, the volume of the tourist supply can also influence location decisions concerning hotels of all standards. This is mainly due to the fact that tourists, when choosing where to stay are increasingly looking for products meeting a variety of their needs. A large number of tourist enterprises may contribute to the growth of tourist traffic in a specific location [24]. A developed tourism market may supplement any deficiencies in the services offered by low standard hotels. On the other hand, a large number of accommodation facilities on the local tourism market may negatively affect decisions to locate there and can be a barrier to the setting up of low and medium standard hotels.

Hotels are not randomly distributed in space. Instead, their locations are usually highly clustered with other hotels of a range of standards achieving an agglomeration effect. This refers to the benefits that a hotel can receive from clustering [29]. In the

case of 4 and 5 star hotels oriented to business customers, the agglomeration effect appears to be a particularly significant location factor [32]. This is associated with the external benefits of locating a hotel in large cities. Regarding advantages related to service provision, agglomeration allows enterprises in a cluster to have exclusive access to resources, and provides greater access to leading suppliers, special services, or special relationships. Regarding advantages based on demand, agglomeration reduces consumers' search costs. The presence of different kinds of business centres, large enterprises, special economic zones, science and technology parks may lead to a high level of accommodation services. This also applies to services for business travellers, as well as the organization of conferences, seminars and business meetings. This agglomeration effect also implies benefits associated with the functioning of other hotels and tourist companies located nearby. Additionally, this effect includes better access to a skilled workforce, suppliers and services [9, 37].

Transport accessibility and the degree of its development is important in this context, particularly the length and quality of transport routes, mainly roads, highways and railways, as well as the frequency and availability of public transport. The importance of transport accessibility to decisions regarding location applies to all types of hotels. Guests of hotels of all standards in inaccessible locations expect a competitive offer with an attractive price and/or high quality. Another important factor is proximity to the stream of demand. The best locations in this regard are city centres, city exit points, and areas around airports, train stations and highways [37].

Incentives adopted by local authorities to attract potential investors may be very important in the process of deciding where to locate a hotel [8, 17, 20]. They may include fiscal instruments (lower taxes and local fees, as well as subsidies and grants), planning and administrative instruments (development and functional strategies, e.g., for the development of tourism, zoning plans, administrative decisions, quality of real estate management, etc.), educational instruments (investment and economic advice), and infrastructure instruments (the construction and modernization of infrastructure). These factors may influence both the costs incurred and revenue generated by hotels.

### 3. Methodology

The empirical study consisted of two stages. In the first stage, to create an initial list of the most important factors for locating hotels, we used two methods: the deductive method based on an analysis of the literature, and the method of a diagnostic survey based on a questionnaire. The authors requested representatives of all the hotels created in the regions of Opole, Lower Silesia and Silesia (Opolskie, Dolnośląskie and Śląskie) in the years 2000–2009 to participate in the diagnostic survey. Willingness to participate in the survey was reported by 24 enterprises, which represented approximately 33% of the enterprises invited. In the case of a hotel expressing willingness to participate in the

survey, the authors asked for a person to be selected (typically the owner or manager) who had participated in or possessed knowledge about the process of choosing a hotel's location. The survey was conducted in the first half of 2011.

In the second phase, quantitative analysis was applied and all 72 hotels and 408 municipalities were considered. The preliminary list of factors in locating hotels and their measures were subjected to statistical analysis. Statistical data from secondary sources were obtained from hotels and municipalities in the three analysed provinces (the data sources were: telephone interviews, municipal office web pages, and the Public Information Office), as well as from the Central Statistical Office in Warsaw (Local Data Bank). The collected data included both the characteristics of the hotels and measures describing the specified location factors. The research covered all the hotels launched in the period of 2000–2009 ( $n = 72$ ) and all the municipalities ( $n = 408$ ). The main statistical method applied was stepwise logistic regression with the backward elimination of regressors. The software used in the calculations was SPSS 20 and Statistica10 StatSoft.

The spatial scope of the research covered the area of south-western Poland, i.e., the provinces of Lower Silesia, Opole, and Silesia. These provinces are diverse in terms of their cultural, social, economic, and natural conditions, and are characterized by different levels of attractiveness as tourist destinations. We believe that the large regional diversity of this part of the country allows us to formulate assumptions relating to Poland as a whole, but this requires confirmation in further studies throughout the whole country.

The time range of the statistical data analysed covers the years 2000–2009. The year 2000 opens the analysed period owing to the fact that it is considered to be the end-point of the political and economic transformation in Poland. The year 2009 closes the analysis for two reasons. Firstly, because in the course of the research process, 2010–2013, complete statistics regarding subsequent periods were not yet available. Secondly, after 2009, the rate of growth in the hotel market soared (as a result of a supply shock due to the European Football Championships which took place in 2012 in Poland), and therefore this period, in the opinion of the authors, should not be included in the analysis.

In our research, we assumed that hotels which have at most two stars are low standard hotels (budget hotels). Hotels with 3 stars are medium standard. Four- and five-star hotels were classified as objects of high standard (luxury hotels). In later analyses, medium and high standard hotels, owing to the similarities concerning their location factors, were considered together as one group.

## **4. Results**

A survey of the literature allowed us to create an initial list of hotel location factors (Table 1) that could be subjected to statistical analysis as proposed by Panek [28].

Table 1. Hotel location factors

Group of factors	Location factors	Measurement	Expected impact on location
Minimizing costs	access to qualified personnel	access to secondary or higher education in tourism professions in the municipality: yes (1), no (0)	+
	labour costs	average monthly wage [PLN]	-/+
	availability of land for investment	total municipal land area [ha]	+
	land prices	average transaction price for 1 m <sup>2</sup> of land for housing development [PLN/m <sup>2</sup> ]	-/+
Maximizing revenues	level of economic development	revenue of the municipality per capita [PLN]	+
	internationalization of the economy	number of business entities with foreign capital registered in the REGON system	+
		number of economic entities	+
	urbanization	population density [inhabitants/m <sup>2</sup> ]	+
		local public communication: yes (1), no (0)	+
		long-distance public communication: yes (1), no (0)	+
	transport access	distance from the nearest motorway/expressway [km]	-
		number of accommodation nights annually (all tourists)	+
	volume of demand for tourism	number of accommodation nights annually (foreign tourists)	+
		retail sales in current prices [PLN]	+
	volume of local demand	presence of objects included in the UNESCO List of World Heritage Sites: yes (1), no (0)	+
		Spa status or presence of unique tourist attractions: yes (1), no (0)	+
	tourist attractions	presence of national or scenic parks: yes (1), no (0)	+
		number of gastronomic enterprises	+
		number of arts and entertainment entities	+
	supply volume	number of sports and recreation entities	+
number of hotels, motels, and guest houses: competition in the hotel sector		-/+	
number of hotels: competition in the same market segment		-/+	
competition in the sector	profitability of hotels [PLN]	+	
Incentives	fiscal incentives	preferential rate of property tax: yes (1), no (0)	+
		incentive system for investors: yes (1), no (0)	+
	planning and administrative incentives	tourism in the development strategy: yes (1), no (0)	+
		zoning planning: yes (1), no (0)	+
	educational instruments	number of foreign twin cities or municipality partners	+
		municipality spending of tourism per capita [PLN]	+
	access to free consultancy: yes (1), no (0)	+	

We used statistical verification to assess the informational value of variables. To evaluate their usefulness for statistical discrimination, we employed the positional coefficient of variation, according to Młodak and Słaby [27]. Based on these calculations, we considered only variables which had a coefficient of variation satisfying the inequality:

$$V(x_j) \geq \varepsilon, \quad j = 1, 2, \dots, \mu \quad (1)$$

In the paper, the value of  $\varepsilon = 10\%$  was adopted.

The analysis of the information capacity of variables was also based on the parametric method proposed by Hellwig [15]. A threshold value of the correlation coefficient is arbitrarily determined and is used to reduce the set of variables by removing one variable in any pair satisfying the following condition:

$$r_{j,j'} > r^*, \quad j, j' = 1, 2, \dots, m \quad (2)$$

The variable from such a pair to be removed was the one least correlated with the dependent variable, which was an indicator variable stating whether a hotel of the appropriate class had been built in the municipality. In the paper, the value of  $r^* = 0.5$  was adopted.

The main statistical method that we used was logistic regression. The dependent variable was the establishment (yes = 1) or lack of establishment (no = 0) of a new hotel in the municipal area in a given year. The explanatory variables were diagnostic ones (measures describing the location factors) characterizing all the municipalities located in the analysed provinces (Table 2). The study assumed a 2-year delay between the dependent variable and the explanatory variables because, as practice proves, the average economic investment process takes approximately two years.

We used stepwise logistic regression with the backward elimination of regressors. Hence, iterative elimination of the least significant variable *ex post* was performed on the basis of the Wald chi-square test for the corresponding logistic regression models until the remaining regressors were all significant at the 5% level.

This selection of explanatory variables in the final regression models allowed the choice of a set of independent or, at most, weakly correlated variables that are both statistically significant location factors and give the best fit. This is evidenced by the overall  $p$ -value for the test of the explanatory value of the model  $p = 0.00$  and the value of the goodness of fit statistic  $\chi^2 = 122.02$ . This means that the presented models, based on the location factors found to significantly affect the decision to establish hotels in the analysed municipalities, give a significantly better prediction of the location of hotels than ones containing only an intercept. These models also given good predictions of the dependent variables (whether a new hotel is located in a municipality or not), as evidenced by the values of the Nagelkerke  $R^2$  coefficient of determination, which are 0.33 and 0.37 (for low standard and for higher standards, respectively).

Table 2. Results of logistic regression for the dependent variables: the creation of a low standard hotel (model 1) and of a medium or high standard hotel (model 2), with the independent variables: measures describing the location factors

Hotel standard	Location factor	Measurement	$B$	Standard error	Wald $\chi^2$ test	Significance	95% Wald confidence interval
Low $B_0 = -19.39$ $\chi^2 = 57.59$ $p = 0.00$ $R^2 = 0.33$	availability of investment land	total municipal land area [ha]	0.02	0.01	4.02	0.00	0.00 0.04
	supply volume	number of sports and recreation entities	0.03	0.01	9.03	0.01	0.01 0.05
	competition in the sector	number of hotels, motels, and guest houses: competition in the hotel sector	-0.35	0.11	10.12	0.00	-0.57 -0.13
	internationalization of the economy	number of business entities with foreign capital registered in the REGON system	0.02	0.01	4.05	0.00	0.00 0.04
Medium or high $B_0 = -3.61$ $\chi^2 = 124.81$ $p = 0.00$ $R^2 = 0.37$	transport access	local public communication	1.19	0.49	5.91	0.02	0.21 2.17
	supply volume	number of gastronomic enterprises	0.02	0.01	4.02	0.00	0.00 0.04
	supply volume	number of arts and entertainment entities	0.15	0.04	14.06	0.00	0.07 0.23
	competition in the sector	number of hotels, motels, and guest houses: competition in the hotel sector	0.16	0.02	64.01	0.00	0.12 0.20
	planning and administrative incentives	number of foreign twin cities or municipality partners	0.23	0.07	10.81	0.00	0.09 0.37

For the hotels of low standard  $B_0 = -19.39$ ,  $\chi^2 = 57.59$ ,  $p = 0.00$ ,  $R^2 = 0.33$ , for those of medium and high standards  $B_0 = -3.61$ ,  $\chi^2 = 124.81$ ,  $p = 0.00$ ,  $R^2 = 0.37$ , where  $B_0$  is the value of the constant (intercept),  $\chi^2$  – the value of the goodness of fit statistic for the model,  $p$  – the p-value for testing the goodness of fit of the model,  $R^2$  – the Nagelkerke coefficient of determination,  $B$  – estimates of the parameters of the model, Standard error – asymptotic standard errors of the parameter estimates, Wald  $\chi^2$  test – the value of the Wald  $\chi^2$  statistic which examines the significance of the parameters, Significance – p-values for the Wald test, 95% confidence interval – the lower and upper limits of the 95% confidence interval for the parameters.



Table 2 shows the models for the location of hotels, depending on their standard. Considering the standard of hotels as a grouping variable, it should be noted that the main determinant of whether a new budget hotel was established was the intensity of competition in the hotel sector (the higher the level of competition, the less likely a new budget hotel was to be established). The chances of the establishment of a budget hotel was increasing in the value of indicators describing the following location factors: the supply volume of other tourist services and the availability of investment land. It should be noted, however, that these relationships were very weak.

In the context of this analysis, the main determinants of the establishment of hotels of medium and high standard are as follows: accessibility, investment incentives (planning and administrative), the intensity of competition in the hotel sector, the supply volume of other tourist services and the degree of internationalization of the economy. All of these relationships were positive.

## **5. Discussion**

The research reveals that the average power of influence in absolute terms of location factors in the case of medium and high standard hotels is significantly higher than the influence of the location factors of budget hotels. These results explain the more complex decision making process for locating medium and high standard hotels. The level of investment costs and financial engagement for such enterprises are significant, and a greater number of factors can influence the decisions of investors, especially since an inappropriate location can have a serious impact on future profits.

Accessibility is the most important location factor for medium standard and luxury hotels according to our study. This is partly consistent with the conclusions reached by Egan and Nield [12]. They use the partial-equilibrium bid-rent approach to explain that hotels' revenues fall when they are not well connected to urban centres. According to their model, luxury hotels, which have a very steep and high bid-rent curve, prefer central and well-communicated locations. This applies mainly to business hotels, because in the case of tourist hotels, a greater distance from city centres is often preferred. The higher room rates targeting affluent guests can cover the higher land values associated with a central location. Conversely, due to insufficient revenue to pay for a central location, budget hotels choose to either locate at the edge of cities or of city centres. Other studies indicate this as well [6, 11, 16, 30].

Furthermore, according to the results obtained in empirical research by Yang, Wong et al. [37], access to public goods, such as local public communication, can be essential. However, they indicate that urbanization, not only accessibility itself, as well as the agglomeration effect are more important in this case. This is consistent with other studies [11, 14, 37]. Our results also indicate that factors representing the agglomeration

effect are important, e.g., volume of supply in tourism and recreation for hotels of all standards (for budget hotels the number of sports and recreation entities is a location factor, whereas for medium and luxury hotels the number of gastronomic, arts and entertainment entities is a more important factor).

Competition in the hotel sector is a very interesting location factor differentiating the ways in which the two analysed groups of hotels are located. In the case of budget hotels, competition in the sector has a negative impact, whereas among medium standard and luxury hotels this impact is positive. This implies that not all hotels can benefit from co-location. Gains and losses from co-location hinge on the standard of the hotel. Some studies partly support this view [1, 9]. Ingram and Inman [17] argue that the number of new hotels increases as the number of pre-existing hotels of the same standard increases and then decreases after a certain threshold value is achieved. This phenomenon can be explained by the fact that intense competition pushes new entrants away [1]. Such barriers to entry can be overcome by large-scale luxury hotels, but not by budget hotels. However, our result is partly inconsistent with Kalnin's and Chung's [20] findings which showed that budget hotels may choose to co-locate with other hotels, but only with luxury ones, as they are more likely to generate spillovers to their neighbours based on their affluent resource stocks. According to their results, medium standard and luxury hotels avoid areas with a large number of other types of hotels (of a lower standard), because they undergo substantial price erosion by locating proximate to budget hotels. The results of Canina et al. [7] and Enz et al. [10] support this view.

According to our research, the planning and administrative incentives implemented by local authorities are important location factors in the case of three-, four- and five-star hotels. The findings of Bernini, Guizzardi [6], Issahaku, Francis [16] and Pin-Ju, Shin-Yi [30] are similar. According to their studies, incentives which affect the attractiveness of an area as perceived by potential investors are an important factor in the process of selecting the location of a hotel. However, these authors particularly emphasize the importance of fiscal instruments such as lower taxes and local fees. This is in contrast with our results, which show that the most important factor is the number of international links as measured by the number of foreign twin cities or municipality partners. Our findings are consistent with the research results concerning the use of the Polish hotel base by foreign tourists. According to Central Statistical Office data, 79.5% of the foreign tourists visiting Poland in 2009 chose accommodation in three-, four- or five-star hotels. Therefore, the process of choosing a location is not only the result of market forces, but is also associated with other factors, such as government policy [3].

## 6. Conclusions

The results of the study indicate clearly that there are differences in the location factors for hotels according to their standard. Factors determining the location of budget

hotels differ from those influencing the location of medium and high standard hotels. The location factors important for both groups of hotels were the following: supply of tourist services other than hotel services and intensity of competition in the hotel sector. In the case of the last two factors, the directions of the observed dependencies were opposite for these two groups of hotels. The likelihood of establishing a budget hotel was decreasing the intensity of competition in the hotel sector, while the likelihood of establishing a medium or high standard hotel was increasing. This is mainly due to the different economics of these two groups of hotels. Low standard hotels compete primarily on the basis of price, using cost minimization as a strategy for maximizing profit. Hotels of medium and high standard more often compete on the basis of the scope and quality of services that they provide, maximizing revenue as a strategy for maximizing profits. The results of this research partially confirm Weber's Theory of the Location of Industries [36]. He pointed out the importance of factors minimizing costs in choosing the location of an enterprise. For the hotels surveyed, the agglomeration factor indicated by Weber proved to be particularly important, resulting from the joint location of functionally related activities and from spatial variation in the density of population and organisational associations.

These results contribute to a better understanding of the motives of investors selecting a location and may have implications for economic policies, since they may focus the attention of local and regional authorities on important determinants of the attractiveness of areas receiving a large number of travellers.

The limitations of the analysis carried out include the following: the relatively small sample size in terms of the number of new hotels of various standards and the fact that the study did not cover the whole of Poland. In addition, it is worthwhile to highlight other important factors in hotel location that have long been overlooked, but merit in-depth investigation, such as the cultural distance/affiliation of hotel investors, expected long-run risk associated with alternatives, and accessibility to different market segments. Future studies should be extended to these areas.

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