A Study of Hotel Occupancy

Using Multiple Linear Regression and Market Strategy Analysis

MICHAELA KAREFLOD

JENNIFER LJUNGLQUIST
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Abstract
This paper is based on collaboration between a company called StayAt HotelApart AB and two KTH students. It examines which factors that are influencing the hotel’s occupancy and how this may be increased by enhancing the market strategy. The aim is to provide a foundation for strategy development to the company. The study is performed by connecting applied mathematics with industrial management. The mathematical part is based on a multiple linear regression on occupancy with historical data from 2011 to 2016 mainly collected from StayAt. The analysis of the market strategy is performed by means of the mathematical results and by using two marketing models, SWOT analysis and 4P’s. The result shows that relative price, weather, high- and low season for the hotel, months on market, occupancy for the competitive set, location and market shares are significant factors influencing the hotel’s occupancy. The main recommendations concluded from the analysis of the market strategy are to put effort on digitalisation, visualising the brand, publications, CSR initiatives, exploiting existing resources and carefully considering timing of marketing.
Sammanfattning

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1. Introduction

1.1. Background

This study is based on collaboration between KTH students and StayAt HotelApart AB, a company currently running three apartment hotels based in Bromma, Kista and Lund. StayAt’s business concept is to offer short- and long-term leases on hotel apartments; furnished accommodation with a fully equipped kitchen. Along with the lease, customers receive a complete service package including a reception open at all hours, breakfast on demand and weekly cleaning. The prices of the apartments are currently divided into three lengths of stay: Daily (1-4 days), Extended (5-29 days) and Long Term (>29 days). The contribution margins for Extended and Long Term accommodation are much higher than the one for Daily. The reason for this is that services are more limited and thereby the costs are lower for the longer stays. (Frisell 2016)

History of the Hotel

Originally the hotel chain is established in 1999 as the company initiates their operations under the name City Apartments. The facility in Bromma inaugurates in October 1999, Kista in January 2003 and Lund in September 2006. In 2004 the chain changes name to Accome and in 2007 the name StayAt is taken. Due to financial issues the organisation is forced into bankruptcy and a new firm is founded under the name StayAt HotelApart AB on the 16th of April 2010. This leads to a complete reformation of the internal structure, which is performed by the old management. The reconstruction serves as a foundation for the current operating organisation. (Schwalm 2016)

Competitive Set

The main competitive set for StayAt in Bromma is 2Home Hotel Apartments, BW Plus Sthlm Bromma, Courtyard by Marriott Stockholm, Mornington Hotel Bromma, Park Inn by Radisson Solna, Scandic Alvik, Scandic Bromma and Sky Hotel Apartments Stockholm. In Kista the rivals are primarily Good Morning Kista, Memory Hotel, Mornington Hotel Bromma, Mr Chip Hotel, Scandic Järva Krog, Scandic Victoria Tower and Welcome Hotel Barkarby. For the hotel in Lund, Clarion Collection Hotel Planetstaden, Good Morning Lund, Grand Hotel Lund, Hotel Finn - Lund, Hotel Lundia, Scandic Star Lund constitute their competition. (Benchmarking Alliance 2016)

Business Model

StayAt’s primary strategy is B2B (Business to Business), 80% of their customers are national and international companies sending consultants to Lund or Stockholm for work. Many of these
consultants arrive from Asia. Great effort is put into achieving long lasting customer relationships by creating contracts with corporations, especially within the R&D industry. (Schwalm 2016) The implication of this is that a majority of the guests have booked the accommodation far in advance. This customer segment is a large and stable part of StayAt’s target group, but often the hotel is not fully booked partly since last minute cancellations and low seasons for this target occur. In addition to the corporate contracts and selling rooms directly from the hotel receptions and their website, StayAt use booking.com, hotels.com, expedia.com, hotelbeds.com as distribution channels. (Frisell 2016)

StayAt’s monthly average occupancy, id est number of sold rooms divided by number of available rooms, is 77% (Financial Statement of StayAt January 2016). Because of this, there are ongoing discussions at the company of how to reach out to a wider audience. They wish to appeal guests who can book apartments short in advance of their visit in order to reach full occupancy (Schwalm 2016, Frisell 2016). A reformulation and enhancement of the organisation’s market strategy is required; their brand establishment needs to be directed not only to businesses but also to the end user. Today, there is no substantial marketing towards the B2E field (Business to End user). Further, the company has noticed that the contracted consultants receive an increased influence on the choice of stay, and therefore the need for a B2E strategy is even more essential.

*We bring people together and help people to a better stay* is StayAt’s stated mission. Their vision is to be the *Stay of the Future*. They have formulated their fundamental values as *Passion, Consideration* and *Competence* and from these three perspectives the organisation has created their business idea and model. StayAt’s original concrete business idea is to offer fully equipped and furnished apartments. Today, this is rather considered a hygiene factor and the focus of the idea is staging an experience for the customer. (Schwalm 2016)

*Future*

StayAt is currently in an expansion phase. The company is planning to increase number of facilities and introduce two new concepts. (Schwalm 2016, Frisell 2016) Because of the expansion the need for a broader target group and marketing toward the end user is even more important. There will be more rooms to fill, and so an analysis of the hotel’s occupancy and market strategy is necessary.
1.2. **Aim**

The aim of this paper is to help StayAt find the factors influencing their occupancy, and consequently their profit. The analysis will be performed by examining the average occupancy and each price category separately to enable a comparing study in the discussion chapter. StayAt is interested in how the entire organisation may develop and expand, and so the analysis will be based on data from all three facilities. The study will assess how each factor effects occupancy. The results aim to serve as a foundation for an analysis of the company’s market strategy. The variables found, especially the ones StayAt have not considered or enlightened earlier, can be useful to improve their way of operating. Hence, the final aim of this paper is to examine how the market strategy can be improved in order to reach out to the end user and thereby receive improved occupancy. The party interested in the results will mainly be the management of StayAt.

1.3. **Research Questions**

1. Which factors impact StayAt’s occupancy and how do these matter?
2. How can StayAt’s market strategy focus on B2E in addition to B2B in order to improve the occupancy?
2. Theoretical Framework

2.1. Multiple Regression Analysis

In multiple regression analysis the essential part is investigating if one specific variable depends on several others, and in that case how. The dependent variable, \( y \), is called response variable and the variables constructing \( y \) are called explanatory variables or covariates: \( x_j \). The model is constructed in following way:

\[
y_i = \sum_{j=1}^{k} x_{ij} \beta_j + e_i, \ i = 1, ..., n
\]

Or in matrix form:

\[
Y = X\beta + e
\]

Where

\[
Y = \begin{pmatrix} y_1 \\ \vdots \\ y_n \end{pmatrix}, \quad X = \begin{pmatrix} 1 & x_{11} & \cdots & x_{1k} \\ \vdots & \vdots & \ddots & \vdots \\ 1 & x_{n1} & \cdots & x_{nk} \end{pmatrix}, \quad \beta = \begin{pmatrix} \beta_0 \\ \vdots \\ \beta_k \end{pmatrix}, \quad e = \begin{pmatrix} e_1 \\ \vdots \\ e_n \end{pmatrix}
\]

Here \( x_1, ..., x_k \) compose the \( k \) number of factors on which \( y \) depend. Both the \( x_{ij}'s \) and \( y_i's \) are always given data whilst \( \beta_1, ..., \beta_k \) are the ones intended to be estimated. The \( \beta_j's \) are the covariates corresponding coefficients, called regression coefficients. The last part of the model, the \( e_i's \), are the regressions residuals. These are random variables, so they are not given beforehand. The constant \( n \) corresponds to the number of observations used when running the regression. (Lang 2015)

2.1.1. Assumptions for Linear Regression

When using a linear regression model, five assumptions have to be made for the prediction to be accurate:

- There exists a linear relationship between the dependent variable and the explanatory ones. Inaccurate covariates and non-constant estimates of \( \beta \) can cause non-linearity.
- The model is homoscedastic, which means that the variance of the residuals is constant: \( E(e_i^2) = \sigma_i^2 \).
• The residuals are independent, normally distributed random variables with expected value zero: 
  \( E(e) = 0 \). This creates a more correct expected value for the betas.

• There is no or little multicollinearity.

(Williams, Gómez Grajales and Kurkiewicz 2013; Hayes and Cai 2007)

2.1.2. Ordinary Least Square

Ordinary Least Square (OLS) is a method used to estimate values of the regression coefficients \( \beta \). The estimated values are denoted with a hat, \( \hat{\beta} \). The purpose of OLS is to minimise the sum of the squares of the residuals (\( |\hat{e}|^2 \)). To achieve this, one needs to solve the normal equations for \( \hat{\beta} \):

\[
X^T \hat{e} = 0 \tag{1}
\]

Where

\[
\hat{e} = (Y - X\hat{\beta}) \tag{2}
\]

Equation (2) in (1) gives:

\[
X^T(Y - X\hat{\beta}) = 0
\]

\[
X^TY - (X^TX)\hat{\beta} = 0
\]

\[
(X^TX)\hat{\beta} = X^TY
\]

\( \rightarrow \hat{\beta} = (X^TX)^{-1}X^TY \)

(Lang 2015; Belsley, Kuh and Welsch 2004)

2.1.3. Possible Errors

Heteroskedasticity

The difference between homoscedasticity and heteroskedasticity lies in the structure of the variances. In a heteroskedastic linear regression, the variances of the residuals are unequal whilst in a homoscedastic, they are equal. When assuming homoscedasticity one of the benefits lies in the
great simplification of the theoretical calculations (Hansen 2015). One can express heteroskedasticity as: \( E(e_i^2) = \sigma_i^2 \). Consistent residuals are one of the conditions to use OLS. The inconsistent variances effect the standard deviations and the significance of the estimates. The consequence is an incoherent hypothesis result, see section 2.1.4. under Hypothesis Test. Remedies for heteroskedasticity is therefore necessary if OLS is to be used for inference. (Lang 2015)

One of the remedies is to use White’s Consistent Variance Estimator. This estimation includes a covariance matrix, expressed below, where the standard deviations are derived as the square root of the diagonal elements in the matrix. When White’s method has been performed, one can use OLS without consequences.

\[
\text{Cov}(\hat{\beta}) = (X^TX)^{-1}(\sum_{i=1}^{n} e_i^2 x_i^T x_i)(X^TX)^{-1}
\]

The Bootstrap is an approach one may use to manage heteroskedasticity in small samples. Bootstrap is used when the standard methods have poor properties. The method includes a resample of the data after the regression. The residuals are kept and the regression is run again with two outcomes. With a probability of 0,5 the dependant variable has changed. The re-estimated parameters is intended to result in an improved result. The method is repeated several (over 1000) times. (Lang 2015)

**Non-normality of Residuals**

Measurement errors can have substantial consequences on statistical relationships (Andrews 1984). Non-normality of the residuals leads to inaccurate estimates of the beta values, just as in the case of heteroskedasticity. Detecting this can be done by creating a Quantile Quantile-plot, read more about this in section 2.1.4. under Quantile Quantile-plot. (Lang 2015)

If the non-normality is caused by the residuals mean value not equalling zero it will create erroneous results (Verbeek 2004). If it is caused by the variances differing, the remedies are the same as for heteroskedasticity.

**Multicollinearity**

Multicollinearity occurs as two or more of the covariates are linearly dependent and correlates with each other. The correlation of the covariates causes the standard errors of the coefficients to be large. The result is imprecise point estimates of the concerned coefficients. The standard errors are
decreasing as the number of observations increase. The implication of this is that the problem with multicollinearity is equivalent with few observations. Hence, a remedy is to add observations into the regression. If the multicollinearity remains, a plausible solution is to remove one of the correlating covariates. Alternatively, one can merge the affected variables. To examine if the model holds multicollinearity, one may perform a VIF-test which is further explained in section 2.1.4. under Variance Inflation Factor. (Lang 2015)

**Endogeneity**

Endogeneity means that one or several covariates are correlated with the error term. The consequence of this is that the expected value of the residual is not zero, which causes the OLS estimates to be inconsistent. A remedy commonly used for this is replacing the OLS model with 2-SLS. This method implicates substituting the endogenous variable with one or more instrument variables. An instrument is a variable which is related to the endogenous covariate but not the residual. This results in more precise estimates of the regression coefficients. Endogeneity is caused by one or several of the following situations.

*Sample Selection Bias*

This situation arises when the data assembled is somehow subjectively chosen causing one or more groups to be overrepresented. This may create misleading results.

*Simultaneity*

When the response variable affect one or several of the covariates there is simultaneity in the model. This means that the cause and effect relationship move in two directions, leading to the endogeneity issue.

*Missing Relevant Covariates*

A missing relevant covariate in the model can have effect on the error since the missing information of this variable is instead embedded in the residual.

*Measurement Errors*

Measurement errors cause endogeneity since it raises inaccuracies in the x values which is directly related to the residual.

(Lang 2015)
2.1.4. Model Selection

Qualitative or Quantitative Variables
When producing a regression model there are several options of how to express chosen factors. There are two main alternatives; qualitative or quantitative variables. Qualitative variables are coded numerically, but the numbers are in fact meaningless. In the specific case when a qualitative variable only takes on the values 0 or 1 it is called a dummy variable.

The opposite of the qualitative variable is the quantitative one, which is measured on a quantitative scale. The number representing this variable is in fact essential for the regression. (Lang 2015)

Quantile Quantile-plot
In a Quantile Quantile-plot the standardized residuals represent the values on the y-axes and the theoretical quantiles the ones on the x-axes. If a linear relationship is found between these two, the residuals are normally distributed. (Ford 2016)

Variance Inflation Factor
The Variance Inflation Factor (VIF) is a test performed as multicollinearity is suspected. It measures the increase in variance of an estimated coefficient if the independent variables correlates.

VIF is performed by running a regression with the suspected correlated covariate as the dependent variable on the remaining covariates. The formula includes the coefficient of determination, explained in section 2.1.4. under Goodness of Fit.

\[
VIF = \frac{1}{1 - R^2}
\]

If VIF exceeds 10 one can suspect severe multicollinearity, a VIF exceeding 5 warrant further investigation but is not necessarily a sign of linear dependence. (Pennsylvania State Eberly College of Science 2016) The disadvantage of the model is that the practitioner cannot tell which variables are correlating, only that a correlation with the tested variable exists (O’Brien 2007).

Hypothesis Test
To evaluate whether a covariate fits into a model, a hypothesis test may be performed. The null hypothesis \(H_0\) insinuates that the coefficient for the concerned covariate is zero. If the null cannot
be rejected, the covariate should be excluded from the model. The contradiction to the null is $H_1$, implying that the coefficient does not equal zero and a rejection of the null may be concluded.

The formulation of the mathematical approach is as follows:

$$H_0: \beta_i = 0$$  
$$H_1: \beta_i \neq 0$$

The test is performed on statistical data by analysing the observed point estimates. Derivations are based on a given distribution under the null. The test computes a $p$-value to obtain an understanding of the probability that the estimates belong to the distribution. Read more about the computation of the $p$-value in section 2.1.4. under *F-test*. (Lang 2015)

**F-test**

An F-test is a hypothesis test where one uses an F statistic to decide whether to reject a null or not. The test includes both an F statistic and an alpha quantile of the F distribution. If the F statistic is smaller than the alpha quantile, the null hypothesis should be rejected. (Lang 2015)

As one study a hypothesis, it is useful to compute a confidence interval. As mentioned in section 2.1.3. under *Heteroskedacity*, the standard deviations of the estimator $\hat{\beta}$ is the square root of the diagonal elements in the covariance matrix. A confidence interval at risk level alpha for $\beta_i$ is:

$$\beta_i = \sqrt{F_{\alpha}(1, n-k-1)} \cdot SS(\beta_i),$$

$n = \text{number of observations}, k = \text{number of covariates}$

The alpha quantile is denoted as $F_{\alpha}(1, n-k-1)$. It has $n-k-1$ denominator degrees of freedom and one numerator degrees of freedom.

The F statistic is a value received from a regression. The purpose of an F-test is to examine whether a group of variables are jointly significant. The F statistic for the hypothesis $\beta_i = \beta_0$ is derived from

$$F = \frac{(\hat{\beta}_i^0 - \beta_i^0)^2}{\text{Var}(\beta_i)}$$
To further evaluate whether the null is to be rejected, a study of the p-value is appropriate. The p-value for the hypothesis is $Pr(F(1, n - k - 1) > F)$. A restriction is given by alpha; if the p-value is greater than alpha, the null cannot be rejected.

When deciding if a result is significant, the combination of an F statistic and the p-value is crucial. If only the significance of the F statistic is studied, the result might be contradictory. This is due to the fact that the F statistic is the joint effect of all variables. If F is significant, the implication is not that all variables are significant. (Andale 2016)

**Criticism**

The hypothesis test performed by analysing the F statistic and the p-value is inefficient. Part of the results of mentioned tests that are not accurate. If the p-value indicates that the hypothesis may be rejected with 95% certainty, there is a 5% chance that it would be wise to not reject it (The Trustees of Princeton University 2007).

Due to described imperfection, it is advisable to strengthen the result with an effect size of the investigated coefficient, see section 2.2.7. (Nakagawa and Cuthill 2007, Levine and Hullet 2002)

**ETA-squared**

Studies of the effect covariates have on the result may be determined by computing partial eta squared, also called effect size. If a regression is run on a full model and one wish to see the impact of removing one variable, the effect size may be expressed as follows:

$$\eta^2 = \frac{|\hat{e}_1|^2 - |\hat{e}|^2}{|\hat{e}_1|^2}$$

In the described function, $|\hat{e}|^2$ represents the sum of residuals for the full model whilst $|\hat{e}_1|^2$ represents the sum of residuals for the reduced one. The eta squared is calculated separately for each factor and a high value indicates that the concerned covariate has a large effect on the response variable. (Lang 2015)

**Akaike Information Criterion**

When comparing different models and investigating which covariates to include, a common method is the Akaike Information Criterion test (AIC). The method calculates an estimation for the
“information lost” when applying a certain composed model to an analysis and this model is not the theoretically perfect one:

\[ AIC = n \cdot \ln(|\hat{e}|^2) + 2k, \quad n = \text{number of observations}, k = \text{number of coefficients} \]

Hence the lower AIC-value, the better. To compare a full model with a reduced one, id est a model where one or several of the variables are removed, an examination of the differences between the two AIC-values is performed. In this paper this \( \Delta AIC \) -value is calculated by subtracting the AIC-value for the reduced model from the AIC-value for the full model:

\[ \Delta AIC = AIC_{full \ model} - AIC_{reduced \ model} \]

Hence, if \( \Delta AIC \) is larger than zero, the model should be reduced. If \( \Delta AIC \) is smaller than zero, the full model should be kept. (Lang 2015)

The purpose of the method is not to test a null hypothesis; it rather displays the model that minimises the estimated “information loss”. (Snipes and Taylor 2014)

**Goodness of Fit**

The measure **Goodness of Fit** is the amount of variation explained by the covariates. It is generally called the **Coefficient of Determination**: \( R^2 \), and is used to analyse the linear approximation from an OLS-estimation. The coefficient is referred to as the measure of Goodness of Fit since it indicates how well the linear estimation fits into the given observations. Hence, the larger \( R^2 \), the better.

The *explanation part* of \( R^2 \) is computed as the difference between the sum of residuals of a full model \(|\hat{e}|^2\) and the one from a regression run with only the intercept, \(|\hat{e}_{*,*}|^2\). The relative size of the mentioned difference is what the expression \( R^2 \) represents:

\[ R^2 = \frac{|\hat{e}_{*,*}|^2 - |\hat{e}|^2}{|\hat{e}_{*,*}|^2} \]

(Lang 2015)
An adjustment for degrees of freedom in $R^2$ is a method that may be used to increase the understanding as a new covariate is included in the model. The value received after the mentioned correction is denoted $Adjusted R^2$. This measurement is calculated as follows:

$$Adjusted R^2 = 1 - \left( \frac{SS_{residual}}{n - k} / \frac{SS_{total}}{n - 1} \right)$$

$SS =$ standard error, $n =$ number of observations, $k =$ number of covariates

(GraphPad 2016)

It compares the descriptive power of models including different variables. The Adjusted $R^2$ is often used to study if a reduced model is more effective than the full one. (Investopedia 2016)

2.2. Analysis of Market Strategy

2.2.1. SWOT

The SWOT analysis is introduced in the 1950s by two Harvard Business School Policy Unit professors, George Albert Smith Jr and C Roland Christiensen (Friesner 2016). It is a tool often used for constructing a company’s market strategy (Finlay 2000). The analysis is divided into a study of four important factors of a company: Strengths, Weaknesses, Opportunities and Threats. (Skärvad and Olsson 2013). The strengths and weaknesses are observed in an internal perspective, whereas the opportunities and threats are external factors (Sjöberg 2016).

When analysing the internal part, it is common to examine the resources of a company. These provide a good view of the current state inside an organisation (Fallon Taylor 2016). Financial, human, physical and immaterial resources are often the factors being studied to help build this view. Financial resources represent money and money placement whilst human resources are the co-workers’ abilities, skills and knowledge. Examples of physical resources are facilities and inventories and immaterial resources stand for brand, goodwill etcetera. (Skärvad and Olsson 2013)

The external part of the analysis is different, it mainly represents factors a company cannot control. This could be whether the national economy is strong or weak, how the market trends develop along with new technology, political regulations, funding from donors etcetera. Other external factors are
easier for the company to regulate, this may be which target group is reached and the relationship with suppliers, partners and customers. (Fallon Taylor 2016)

2.2.2. 4P’s

The 4P’s in marketing, also called marketing mix, is originally introduced by Jerome McCarthy in the 1960s (Acutt and Kuo 2015). The model contains four factors, Price, Product, Place (Distribution channel) and Promotion. Price may be analysed by studying which factors are influencing the price setting, which methods are used when determining the prices and price differentiation. Examining Product is performed by evaluating the classification of the product, the brand and the product life cycle. Place includes determining which channels to use when selling and marketing concerning product or service and if middlemen are to employed. Promotion studies the sort of selling and communication performed in a company – if it is made personally, which kind of commercial is established etcetera. (Skärvad and Olsson 2013)

2.2.3. PENCILS

PENCILS is a model within the Promotion factor in the 4P’s often used to summarize a company’s publicity strategy. It is an abbreviation for Publications, Events, News, Community Relations, Identity Media, Lobbying and Social Investments. The model is constructed by the famous marketing professor Philip Kotler while comparing the need for advertising and need for Public Relations. He argues that advertising has been overdone and Public Relations underdone, that people are fed up with ads. (Kotler 2005) The factors in the model is further explained below.

Publications deals with all documents the company issues, exempli gratia brochures or financial statements. Events includes all happenings a company attends, both in-house and external, such as sports events and customer dinners. News explains organisation news, co-worker news and all other development and innovation occurring in a company. Community relations can be sponsorships of organisations promoting welfare or something else supporting a society, for example a local football team. Identity media presents the brand, profile and identity of a company in forms of symbols and media such as uniforms, letters and signs. Lobbying indicates a company influencing political, financial or other decision makers in order to benefit the company. The last factor, called Social investments, mainly concerns involvement in important issues in society and improving the goodwill and corporate culture. (Skärvad and Olsson 2013)
3. Methodology

This section is divided into two parts, first a quantitative research where a mathematical analysis is performed. Second, a qualitative research including a strategic meeting and an interview.

3.1. Literature Study

To obtain a deep understanding of multiple regression analysis and market strategy models a literature study is performed. The pre-study is mainly based on the books *Företagsekonomi 100* and *Elements of Regression Analysis*, laying a foundation for the entire thesis. By the means of this, further evaluation of the topics is done using several other reliable books, articles and webpages, see section 9 for a complete list.

3.2. Quantitative Research – Multiple Regression Analysis

3.2.1. Main Model

The regression analysis aims primarily to produce a final model for the average occupancy of the three facilities, independently of price category. As from now, this is referred to as the *main model*.

Variable Selection

In the regression analysis the initiating action is choosing which variables that is to be included in the original model. Firstly, the response variable is described and motivated. By the means of this, the explanatory variables can be obtained. In this section a definition to every variable is contained. Consideration to endogeneity is taken when choosing every variable.

*Occupancy*

StayAt’s *Occupancy* is naturally chosen as the response variable in the main model. The occupancy is defined as number of sold rooms per month divided with number of available rooms per month. This makes the model adaptable to data from all three hotel facilities; Bromma, Kista and Lund.

*Relative Price*

The *Price* variable for the main model is chosen as a ratio: average room rate divided with average room rate for StayAt’s main competitive set, see section 1.1.
Occupancy Competitive Set
This variable is expressed in percent and is computed as the average number of sold rooms per month relative to the average number of available rooms per month for the competitive set, see section 1.1.

Stockholm
Stockholm is a dummy variable taking on the value 1 if the concerned hotel is StayAt Bromma or StayAt Kista and 0 if it is located in Lund.

Season
The Season- parameter has three values, one for low season, one for medium season and one for high season. The definition for Season in this section is not the climatological seasons. It is the high- and low- seasons defined by the hotel management (Schwalm 2016). January, July and December are defined as low seasons, taking on the qualitative value 1. February, June and August are middle seasons with defined qualitative value 2. March, April, May, September, October and November are classified as high season and obtain qualitative value 3.

Weather
Weather is a variable explaining the average monthly temperature in the geographical area in which the hotel is located.

Nearby Events
The Nearby Events variable is assembled as the number of days per month where events are present. The definition of an event is concerts, exhibitions, marathons, various business events and festivals. The duration of the events varies; therefore, the above mentioned summary of days describes the variable.

Economy
The Economy variable is defined by the Swedish Institute of Economic Research (Konjunkturinstitutet) barometer indicator of the mood of Swedish economy. These values are produced by indications from households and companies and are standardised with mean value 100 and standard deviation 10. (Konjunkturinstitutet 2016)
*Months on Market*

This variable is defined as number of months from the date the facilities opened. **Note:** it is the time from when the *facility* is inaugurated; it is not when the re-establishing of the hotel is performed in 2010. See section 1.1 for further information.

*NPS*

The *Net Promoter Score* variable is a measurement the hotel uses to evaluate the customer satisfaction. The score is on a scale between −100 and 100, a positive NPS is one greater than zero. An excellent NPS is a score greater than 50. (Satmetrix Systems 2016)

*Market Shares*

The *Market Share* variable is a relation between StayAt and the competitive set’s revenue per available room. The stated revenue is the average rate multiplied with occupancy.

*Collection of Data*

This paper studies an average of the three facilities instead of them separately to delimit the research. Historical data for all variables except for *Weather* and *Economy* is received from StayAt. The weather data is obtained from SMHI and the information on weak/strong economy in Sweden is collected from the Swedish Institute of Economic Research. All data is collected from January 1st 2011 to January 31st 2016, and is divided monthly. The reason for not gathering data from earlier dates is the reformation of the company in April 2010, when the current concern is founded, see section 1.1. The results will be more accurate and relevant for StayAt if all data is obtained from after this date since extensive reformations were made.

*Original Main Model*

The regression equation and a graphical view of the variables are displayed below.

\[ y = \beta_0 + x_1\beta_1 + \ldots + x_{10}\beta_{10} \]
<table>
<thead>
<tr>
<th>Main Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>$y$</td>
</tr>
<tr>
<td>$x_1$</td>
</tr>
<tr>
<td>$x_2$</td>
</tr>
<tr>
<td>$x_3$</td>
</tr>
<tr>
<td>$x_4$</td>
</tr>
<tr>
<td>$x_5$</td>
</tr>
<tr>
<td>$x_6$</td>
</tr>
<tr>
<td>$x_7$</td>
</tr>
<tr>
<td>$x_8$</td>
</tr>
<tr>
<td>$x_9$</td>
</tr>
<tr>
<td>$x_{10}$</td>
</tr>
</tbody>
</table>

**Testing the Variables and Reducing the Model**

When testing the model, the computer program $R$ is used.

**Quantile Quantile-plot and Variance Inflation Factor**

The initial step is to control if the model is approved by the linear regression assumptions. A normal QQ-plot of the standardised residuals is created in R and the result indicates whether the errors of the model are normally distributed, ergo if the model is approved by the normality- and homoscedasticity assumptions. To approve the multicollinearity assumption a VIF-test is performed and an examination if any variable should be removed is made.

**Beta Estimates, p-values, ETA-squared and Confidence Intervals**

Estimates of the betas, p-values, ETA-squared and confidence intervals for the regression coefficients is accumulated in R by the means of an F-test. These generates a comprehension of which variable coefficients should be included in the zero hypothesis $H_0$, id est which covariates that may be insignificant. The risk level chosen for all tests is 0,05 and the limit for ETA-squared is a value greater than 0,02.

**Akaike Information Criterion and Adjusted $R^2$**

To examine which covariates should be removed an AIC-test is performed and adjusted $R^2$ is calculated for both full and reduced models.
3.2.2. Category Models

To aid the analysis of StayAt’s market strategy, an examination of differences in factors impacting occupancy depending on price category is pursued. This indicates that there are three additional regression models and response variables: one for Daily, one for Extended and one for Long Term stays. These are referred to as category models. The category models will only be used for determining the differences depending on price category, not for regression inferences. Therefore, final models are not necessary.

Variable Selection

Occupancy

The response variables in the category models are the Occupancy for respective length of stay. It is calculated as number of sold rooms in respective price category per month divided with the total number of available rooms per month.

Explanatory Variables - Category Models

The explanatory variables chosen for the category models are the same as in the final main model except for two factors. In the category models the number of sold rooms per price category is investigated and therefore the occupancy is much smaller. Hence, the Occupancy Competitive Set variable is not included in the category models since they are not comparable. The other factor is changing the covariate Relative Price to Price. The reason for this is that data for the separate price categories of the competitors is not available, only an average. This covariate is defined by the different price categories for respective length of stay.

The full category equations are expressed as follows:

\[ y = \beta_0 + x_1\beta_1 + \ldots + x_6\beta_6 \]

See Table 1 in section 10.1 for a graphical view of the variables.

Running the Regression

To examine the models, the linear regression assumptions first had to be approved with QQ-plots and VIF-tests. Thereby, the beta-estimates, p-values and ETA-squared could be evaluated. As mentioned, the models are only used to examine differences and therefore there is no need to perform AIC-tests or calculate \( R^2 \) to remove variables from the model. The interesting information from these models are the differences in beta estimates, p-values and ETA-squared.
3.3. Qualitative Research

3.3.1. Meeting with Management of StayAt

To enhance the comprehension of the company, a meeting with two of the key managers at StayAt Apartments is held February 2nd 2016. The Deputy CEO, Michael Schwalm, and the Commercial Manager, Niklas Frisell, present the company’s development and upcoming expansion. Information about current goals and overall vision is received. By means of this, a discussion about possible research questions is raised. The meeting lasts about three hours and is intentionally held early in the process of this thesis since it functions as a foundation for the problem formulation. It is important to lay a stable groundwork for the research question since it impregnates the entire paper. Whoever possess power of the problem formulation also bear the largest influence of the results as the problem privilege claims (Gustafsson 1989).

3.3.2. Interview with Deputy CEO at StayAt

Further along in the process of the paper, at April 14th, a two-hour interview with the Deputy CEO of StayAt is held. The purpose of the session is to obtain detailed information about the company’s current business model and market strategy. Focus is laid on questions concerning the two market strategy models: SWOT and 4P’s.
4. Mathematical Results

4.1. Linear Regression Assumptions

4.1.1. Quantile Quantile-plot

The plot of the standardised residuals is shown below. Since the line is almost straight, i.e., there is a linear relationship between the standardised errors and the theoretical quantiles, the normality assumption is approved.

![Normal Q-Q Plot](image)

4.1.2. Variance Inflation Factor

In this section, the VIF results are visualised. Seven of the ten covariates were directly approved for the multicollinearity assumption. The VIF-values of the variables *Months On Market, Stockholm* and *Occupancy Competitive Set* was close to five, which is the limit for when further investigation should be done (Minitab Inc. 2016). The fact that both *Months On Market* and *Occupancy Competitive Set* would correlate a little with *Stockholm* have already been realised though, since these two variables are also based on which facility is examined; where it is located. Despite this fact, it is concluded that all three covariates should be included in the model anyway since *Months On Market* and *Occupancy Competitive Set* describe the three different facilities while *Stockholm* only compare the difference between Stockholm and Lund. In addition, the remaining tests performed proves these variables to be relevant which further argues for the cause to keep them.
4.2. Testing the Main Model

4.2.1. Estimated Betas, p-values and ETA-squared

The results of the estimated beta-values, p-values and ETA-squared are presented in the table below. The indication of this is to examine if Nearby Events, Economy and NPS are relevant for the model since their p-values are high, ETA-squared low and their estimated coefficients are close to zero. (Thompson 2002)

<table>
<thead>
<tr>
<th>Original Model Summary</th>
<th>Estimate</th>
<th>Std.Error</th>
<th>Eta.sq</th>
<th>p.value</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Intercept)</td>
<td>3.464189e-01</td>
<td>0.1023685184</td>
<td>0.10054</td>
<td>0.0009</td>
</tr>
<tr>
<td>Relative Price</td>
<td>-6.715507e-01</td>
<td>0.0805634844</td>
<td>0.46844</td>
<td>0.0000</td>
</tr>
<tr>
<td>Season</td>
<td>2.928637e-02</td>
<td>0.0093973909</td>
<td>0.07956</td>
<td>0.0021</td>
</tr>
<tr>
<td>Weather</td>
<td>2.511372e-03</td>
<td>0.0011569987</td>
<td>0.00336</td>
<td>0.4719</td>
</tr>
<tr>
<td>Nearby Events</td>
<td>4.400136e-04</td>
<td>0.0006102560</td>
<td>0.00336</td>
<td>0.4719</td>
</tr>
<tr>
<td>Economy</td>
<td>9.198599e-05</td>
<td>0.0006729116</td>
<td>0.00011</td>
<td>0.8914</td>
</tr>
<tr>
<td>Months on Market</td>
<td>8.716381e-04</td>
<td>0.0002561764</td>
<td>0.07841</td>
<td>0.0008</td>
</tr>
<tr>
<td>Occupancy Competitive set</td>
<td>7.529508e-01</td>
<td>0.0944690071</td>
<td>0.37263</td>
<td>0.0000</td>
</tr>
<tr>
<td>NPS</td>
<td>6.716594e-06</td>
<td>0.0004084403</td>
<td>0.00000</td>
<td>0.9869</td>
</tr>
<tr>
<td>Stockholm</td>
<td>-2.317027e-01</td>
<td>0.0192297613</td>
<td>0.46527</td>
<td>0.0000</td>
</tr>
<tr>
<td>Market Shares</td>
<td>4.933680e-01</td>
<td>0.0342054941</td>
<td>0.61971</td>
<td>0.0000</td>
</tr>
</tbody>
</table>
4.2.2. Confidence Intervals
The results for the confidence intervals are stated in *Table 2* in section 10.1. The confidence intervals for the same regression coefficients mentioned in section 4.2.1. all contain zero hence the null for these covariates cannot be rejected. The conclusion to examine these covariates relevance is further supported.

4.3. Reduction of the Model
The regression coefficients being tested for zero are the ones for *Nearby Events, Economy* and *NPS* by the arguments presented above.

4.3.1. Akaike Information Criterion
In this test, $\Delta AIC$ is calculated for the models where respective variable tested for irrelevance has been removed. The $\Delta AIC$ is also calculated for the model where all three variables are removed. As seen in the table all $\Delta AIC$ values are larger than zero, implying that all variables should be removed from the model. One additional test is performed before making this decision though.

<table>
<thead>
<tr>
<th>Removed variable</th>
<th>Nearby Events</th>
<th>Economy</th>
<th>NPS</th>
<th>Nearby Events, Economy and NPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\Delta AIC$</td>
<td>1,383872</td>
<td>1.979247</td>
<td>1.999695</td>
<td>5,348732</td>
</tr>
</tbody>
</table>

4.3.2. Adjusted $R^2$
In the table below, adjusted $R^2$ values for the full models as well as the models with concerned covariates removed are shown. By means of these results, the implication from 4.2.1. is further strengthened. All $R^2$-values increase as the variables are removed. The largest enhancement is obtained when all three of them is removed. Therefore, it is decided to move these covariates from the model in lack of relevance.

<table>
<thead>
<tr>
<th>Removed variable</th>
<th>Nearby Events</th>
<th>Economy</th>
<th>NPS</th>
<th>Nearby Events, Economy and NPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjusted $R^2$</td>
<td>0.8438</td>
<td>0.8443</td>
<td>0.8443</td>
<td>0.8455</td>
</tr>
<tr>
<td>Adjusted $R^2$ Full Model</td>
<td>0.8434</td>
<td>0.8434</td>
<td>0.8434</td>
<td>0.8434</td>
</tr>
</tbody>
</table>

The final $R^2$-value is 0.8455, which indicates that the occupancy is highly explained by the model produced.
4.4. Final Main Model

In this section the final main model is presented. See Table 3 in section 10.1 for the estimates of the coefficients, standard errors, ETA-squared and p-values and Plot 1 in section 10.2 for the Quantile Quantile-plot.

\[
\text{Occupancy} = 0.3648 - 0.6728 \cdot \text{Relative Price} + 0.0297 \cdot \text{Season} + 0.0026 \cdot \text{Weather} + 0.0009 \cdot \text{Months on Market} + 0.7483 \cdot \text{Occupancy Competitive Set} - 0.2316 \cdot \text{Stockholm} + 0.4906 \cdot \text{Market Shares}
\]

4.5. Category Model

4.5.1. Linear Regression Assumptions

Quantile Quantile-plot

In section 10.2 the Daily, Extended and Long Term QQ-plots are displayed, referred to as Plot 2, 3 and 4. As can be seen in these, all models are approved of the normality assumption since there is a linear relationship between the standardised residuals and the theoretical quantiles.

Variance Inflation Factor

As one may see in Table 4, section 10.1, the VIF-values are all low. Therefore, multicollinearity is dismissed for the category models.

4.5.2. Differences in Regressions

Concluded from the displayed table below, the most distinctive differences composed from running the regressions are the following:

- For the Daily Occupancy the variables Low/High Season for the hotel and Market Shares are not as relevant as it is for the Extended and Long Term Occupancy.
- In the Extended and Long Term models Weather is irrelevant whereas in the Daily it has an impact.
- The last relevant difference noticed is that the Price covariate is not as significant for the Long Term stay as it is for the Daily and Extended. The value of ETA-squared for the covariate in Long Term was higher than in Daily. Although, the confidence interval showed that the null hypothesis could not be rejected for the Long Term Price, hence the conclusion is strengthened.

Primarily, the results are based on p-value and ETA-squared. But in case these results are conflicted, confidence intervals are taken into account, see Table 5 in section 10.1.
<table>
<thead>
<tr>
<th></th>
<th>Estimate</th>
<th>Std.Error</th>
<th>Eta.sq</th>
<th>p.value</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Intercept)</td>
<td>4.596590e-01</td>
<td>2.517435e-02</td>
<td>0.56497</td>
<td>0.0000</td>
</tr>
<tr>
<td>Daily Price (1-4 days)</td>
<td>-2.611038e-05</td>
<td>8.080908e-06</td>
<td>0.01270</td>
<td>0.0015</td>
</tr>
<tr>
<td>Stockholm</td>
<td>-4.792214e-02</td>
<td>1.507301e-02</td>
<td>0.06237</td>
<td>0.0017</td>
</tr>
<tr>
<td>Season</td>
<td>6.505140e-03</td>
<td>4.198131e-03</td>
<td>0.01118</td>
<td>0.1231</td>
</tr>
<tr>
<td>Weather</td>
<td>3.050437e-03</td>
<td>5.176522e-04</td>
<td>0.16907</td>
<td>0.0000</td>
</tr>
<tr>
<td>Months On Market</td>
<td>-2.153127e-03</td>
<td>1.461029e-04</td>
<td>0.53497</td>
<td>0.0000</td>
</tr>
<tr>
<td>Market Shares</td>
<td>-7.075996e-03</td>
<td>1.724625e-02</td>
<td>0.00072</td>
<td>0.6821</td>
</tr>
<tr>
<td></td>
<td>Estimate</td>
<td>Std.Error</td>
<td>Eta.sq</td>
<td>p.value</td>
</tr>
<tr>
<td>(Intercept)</td>
<td>0.3043020004</td>
<td>7.378198e-02</td>
<td>0.10985</td>
<td>0.0001</td>
</tr>
<tr>
<td>Extended Price (5-29 days)</td>
<td>-0.0003502485</td>
<td>8.876393e-05</td>
<td>0.12416</td>
<td>0.0001</td>
</tr>
<tr>
<td>Stockholm</td>
<td>0.0594250944</td>
<td>1.881643e-02</td>
<td>0.04597</td>
<td>0.0019</td>
</tr>
<tr>
<td>Season</td>
<td>0.0628790036</td>
<td>6.543170e-03</td>
<td>0.33764</td>
<td>0.0000</td>
</tr>
<tr>
<td>Weather</td>
<td>0.0006900965</td>
<td>7.777748e-04</td>
<td>0.00482</td>
<td>0.3761</td>
</tr>
<tr>
<td>Months On Market</td>
<td>-0.0006593034</td>
<td>1.724785e-04</td>
<td>0.04819</td>
<td>0.0002</td>
</tr>
<tr>
<td>Market Shares</td>
<td>0.1189444976</td>
<td>3.275107e-02</td>
<td>0.08579</td>
<td>0.0004</td>
</tr>
<tr>
<td></td>
<td>Estimate</td>
<td>Std.Error</td>
<td>Eta.sq</td>
<td>p.value</td>
</tr>
<tr>
<td>(Intercept)</td>
<td>-0.1430516865</td>
<td>0.0983190480</td>
<td>0.01964</td>
<td>0.1475</td>
</tr>
<tr>
<td>Long Term Price (&gt;29 days)</td>
<td>-0.0002872128</td>
<td>0.0001639458</td>
<td>0.02963</td>
<td>0.0815</td>
</tr>
<tr>
<td>Stockholm</td>
<td>-0.1855890739</td>
<td>0.0216101307</td>
<td>0.27203</td>
<td>0.0000</td>
</tr>
<tr>
<td>Season</td>
<td>0.0664863443</td>
<td>0.0066956415</td>
<td>0.33642</td>
<td>0.0000</td>
</tr>
<tr>
<td>Weather</td>
<td>-0.0015519374</td>
<td>0.0008925823</td>
<td>0.01902</td>
<td>0.0838</td>
</tr>
<tr>
<td>Months On Market</td>
<td>0.0043134249</td>
<td>0.0002294939</td>
<td>0.60072</td>
<td>0.0000</td>
</tr>
<tr>
<td>Market Shares</td>
<td>0.1441220846</td>
<td>0.0328317389</td>
<td>0.09591</td>
<td>0.0000</td>
</tr>
</tbody>
</table>
5. Inferences from the Regression Analysis

**Relative Price**

Since *Occupancy* is chosen as dependent variable, price seems to be one of the most important influencing variables. When choosing hotel this is one of the most common and conspicuous factors to consider. According to Lang’s theory *Thou shalt know your data*, price has a negative influence on occupancy (Lang 2015). Therefore, examining the relation between prices seems more relevant. The measurement becomes universal and standardized.

The result implicates that *Relative Price* has a negative effect on the occupancy. It demonstrates that price is a delicate factor when attracting customers. The coefficient of the covariate proves that customers are selective regarding price when choosing hotel.

In section 3.1.1. under *Variable Selection*, as the price covariate is chosen, the risk of simultaneity is taken into account. It is known from economic theory that if demand raises, price will raise as well (Krugman and Wells 2013). Although, since a variety of tests show that the covariate is still severely significant it is included in the model.

**Season**

The variable has a positive influence, indicating that the occupancy increases as the season is high. The result is predictable but the variable is still relevant due to the extent of the effect on the occupancy. Considering the result, StayAt may use the information to put effort on the marketing as they are approaching low season. Equivalent to the *Relative Price* variable, awareness of simultaneity is present when choosing this covariate. The seasons are defined by the average level of occupancy and therefore there is a risk of endogeneity. The motivation for keeping the variable is the small standard error and high ETA-squared.

**Weather**

Warm weather contributes positively. It may be concluded that the factor is advantageous when computing a market strategy to attract end customers to the hotel. The significance of weather unleashes strategy improvements as the relevance may reveal understanding of the guests choosing StayAt when visiting Sweden. The data for the variable is expressed in degrees Celsius. Data for hours of sun per month is not available and therefore excluded from the variable. Therefore, it may not be completely translated to “weather” but still contains significance.
*Months on Market*
The variable has a favourable impact on the demand, implicating that a well-established brand is beneficial in this market. Another interpretation of this variable is that tourism in Sweden has increased. The covariate represents the passing of time, implying that the conclusions are many. The main inference is that experience is valuable in this market and may be used in future strategy work.

*Occupancy Competitive Set*
The sign of this variable is positive, supposing that increased demand for adjacent competitors is beneficial for StayAt. An implication is that the branch seasons are synchronised. This inference strengthens the aim of this study. The need for a strong brand is essential and B2E marketing is evidently important for increased penetration power and occupancy.

*Stockholm*
The variable has a negative influence on the result. Hence, StayAt have better occupancy in Lund than in Stockholm. The observational advantage to exploit is evidently the importance of location. Since StayAt are expanding it is of greater interest to study the wider definition of location, to study sub-locations separately would not be as relevant in this project. Further, since most of the used data is obtained from each individual hotel, multicollinearity would be present if separating the variables into sub-locations. The established variable may implicate other properties than Stockholm versus Lund, based on common factors for the Stockholm hotels which differs for the facility in Lund. An example is that the Stockholm hotels are open 24 hours a day, whilst the Lund facility is not. Another difference is the proximity to Denmark and Western Europe. This is the downside with the inclusion of a dummy variable.

Despite of above mentioned criticism, the regression result eventuates that the dummy variable *Stockholm*, is significant for the hotel’s occupancy. The variable has a principally negative effect on the occupancy, indicating that the StayAt brand and the general standard of the hotel may be superior in Lund. Another implication is that the Stockholm hotels might be exposed to a more competitive market. A further explanation may be that the location of the hotel in Lund is more central and attractive.

*Market Shares*
The positive coefficient demonstrates that an increase of the hotel’s penetration power relative to the competitive set will generate an increase of the occupancy as well. This indicates that the
greater the company has become, the greater its occupancy will be. It leads to a well-known brand which attracts more customers. The main conclusion of the variable *Month on Market* is thereby strengthened.

**Nearby Events**

The *Nearby Event* variable is reduced from the model; it did not have a significant influence on the hotel occupancy. It is natural to assume that a desirable event would influence the occupancy due to the wider range of people arriving to concerned area. The reason for the poor relevance is probably due to incompatibility of the data. The information for the variable is compiled on data sorted day by day, and then summarised to a monthly value. The hotels are occasionally fully booked as an event is present but that do not affect the monthly occupancy enough to be considerable. If the variable instead would consider only events with longer durations, the occupancy may be influenced significantly.

**Economy**

The economic situation in Sweden does not show enough relevance to be significant. An initial assumption is that the economy in Sweden has an impact since it may influence incoming tourists and international consultants. The interpretation of the rejection is that the data does not cover a time period long enough to perceive a fluctuation in the economy.

**NPS**

The customer satisfaction is rejected from the model. Intuitively, one may assume that the guests’ judgement of the hotel is relevant since they would recommend it to others. The interpretation of the result is that the data is incoherent. The variable shows an average for the entire organisation, which does not generate a fair interpretation of the separate hotels.
6. Discussion and Market Strategy Analysis

In this chapter two main models are used: SWOT analysis and 4P’s. The SWOT analysis generates an overall view of the current market situation for the company. The 4P’s examine more thoroughly the practical capacities of the company which may be developed. Further, within the 4P’s-method concrete analytical understanding is found using PENCILS (Skärvad and Olsson 2013). All models are influenced with the results and inferences from the mathematical analysis to strengthened the arguments.

6.1. SWOT

Strengths

When observing StayAt’s strengths the most obvious factor is their customer relationships. They are established on the market towards companies employing international consultants and have excellent contact with these. Their ability to be perceptive, communicate with different audiences and adapt to the customers’ requests is definitely a strength. This is part of the idea with contract arrangements (Frisell 2016). The company has a lemma called work and life balance. Since most of their customers are in Stockholm or Lund for work, and are new to either the country or the city, StayAt raise the importance of being able to live a normal life and balancing free time with work. This is proved to be appreciated among the guests and is a very valuable resource. The heart of StayAt are the Extended and Long Term residences but there is capacity for the Short Term accommodation as well, which the company is eager to take advantage of. This is further examined in Opportunities.

Another strength of the company is the desire to do well and the genuineness among the co-workers, as the Deputy CEO explains. According to him, there is incredible drive and urge among the staff. By providing all co-workers with continuous feedback on their work and thereby encouraging them to increase their independence, the company may make further use of this potential. The hotel’s well thought out geographical positions is another valuable acquisition. Read more about location in section 6.2.

Weaknesses

Not being large enough is a weakness for StayAt today, this is further discussed in Opportunities. Another factor to consider is the insufficiency in mediating who StayAt are, what they do, why and how; id est articulating their brand within the B2E field. There is internal ongoing work to improve this today, the StayAt Academy. The Academy is a workshop for co-workers at the company where
vision and brand are filled with concrete value and stories. Visualising the brand towards the public is not as well-developed, and this is especially essential in an expansion phase.

To further discuss expansions, one may enlighten a case study of IKEA where it is mentioned that scale and size can be seen as a downside. The larger the organisation gets, the harder it is to control the standards and qualities (Business Case Studies 2016). This is a perspective the company may want to keep in mind while growing. One last weakness identified is that StayAt does not exploit their NPS-system completely. A follow-up is not performed with the people giving feedback. Having a continuous dialogue with customers generates additional value since it brings forth the missing parts in a product or service.

**Opportunities**

As mentioned in section 1.1, the hotel’s mean occupancy is about 77% and if StayAt can reach out to a broader customer segment, a large potential lies here. There is capacity within the company, which is brought up in *Strengths*, and the Deputy CEO declares the market demand exist. This opportunity is mainly based on the existing facilities and concepts but there lies many in the future expansion as well, both concerning offerings and geographical locations.

As stated, there is further capacity within StayAt and they have a thrive for expanding (Schwalm 2016) but their branch has a difficult time developing. The branch referred to here is the *Extended and Long Term Stay Hotels*. Because of this they have not yet been welcomed into the hotel segment and to the forums where they need to be heard and acknowledged. It is essential for them to show their Unique Selling Points (USP) to relevant decision makers in order to expand, see section 6.3 *Lobbying*.

**Threats**

Problems and barriers in the labour market is one of the threats to StayAt and the entire branch, for example if the government sharpen the rules for working visas. Creating these kind of obstacles is usually unfavourable for the business world and therefore also for the nation in the end. An example of this matter is when Spotify threatened to move to the US because of political barriers, one of which being the shortage of residents in Stockholm. This would have been costly for the entire country because of losses in tax incomes, occupations, innovation and human resources (Ek and Lorentzon).
When analysing StayAt’s threats it is clear that competitors is not the most essential one. Since the market for Extended and Long Term residences is still relatively small, it is rather beneficial for StayAt if others were to enter the field. This indicates that growth of current competitors and entrance of new ones is both a threat and an opportunity. One may compare this conclusion with a case study of McDonald’s entering the Chinese market. The threat is present due to the severe competition but opportunities arises as more consumers embrace the new concept, enabling others to succeed within the field. (Glenn and Castle 2011) In StayAt’s case, increase of competitors would cause the branch to grow and evolve influence but still expose the company to pressure. As the Deputy CEO expresses it, competitors are rather seen as inspiration and motivation. (Schwalm 2016) This is further supported by the coefficient of the variable Occupancy Competitive Set in the mathematical part of this paper, which is positive. That indicates that the more the occupancy of a competitor increases, the more it increases for StayAt.

6.2. 4P’s

Price

StayAt do not use a low cost strategy (Skärvad and Olsson 2013), instead they prioritise to create great value for the guests to a slightly higher price. The price strategy is constituted in the manner; the longer the stay, the lower the price is per night. The intention of the Deputy CEO is however to change this strategy. His vision is to implement a value creating system by personalising the price (Normann 2001). StayAt has the potential to adjust their product for each individual customer and consequently use a price strategy following the demand of the independent guest.

A result from the regression analysis indicates that the price varies significantly for the separate lengths of stay, see section 4.5. The implication is that the price elasticity is greater for Daily and Extended than for Long term accommodation.

An internal question one might raise is if it is beneficial to decrease the prices for the Daily and Extended category and increase it for the Long Term. As mentioned, a value creating system is to be synergised in the organisation and the price is included in the reformation. As the system is implemented, it may be of great importance to regard that the Daily and Extended rates are quite sensitive whilst the Long Term might be more flexible for inclusion of packages and increases in price. One must recall that the margin for Daily is the lowest of the three categories and that the Daily customers typically prefer a low price. This dilemma raises further investigation.
As stated in section 1.2, further marketing and establishment in the B2E sector is needed. The customers in focus here are mainly the short term ones since the end users are usually renting for vacation or temporary stays (Schwalm 2016). A lower price for this category will be an additional support for breaking into this market. On the contrary, the profit of the organisation is naturally prioritised – especially during an expansion phase (Berk and DeMarzo 2014). The conclusion one may draw is to keep the Daily price as low as possible and let the guests decide for themselves whether to add breakfast and other services, which today are included. Naturally, it is important to regard that the margin should stay positive while changing the price, see section 1.1.

The costs for Extended and Long Term categories are less than for the Daily (see section 1.1), and therefore a more adjustable pricing strategy can be conducted. As mentioned, the regression shows that the price elasticity is lower for the Long Term category, therefore it may be advisable to primarily let this variable be the most flexible while personalising the strategy.

Place

“We own the relations” is what the Deputy CEO replies when asked about their B2B marketing. The hotels current strategy is creating strong customer bonds on a business level, the brand is established via personalised marketing and mainly spread mouth to mouth. Concerning the outsourced distribution channels, StayAt has less control. They act on a large and unfamiliar market where they have little penetration power today (Schwalm 2016). The well established brands have an advantage here due to their direct marketing towards the end customer. What people see when looking for a hotel using the channels available is a picture, geographical location and price. The StayAt brand is not strong enough in the market to stick out in this area. It is difficult to show their exceptional brand since it is internally embedded.

Geographically, the hotels are strategically located in proximity to industrial areas. For StayAt’s primary client base this is especially inviting due to the closeness to work. For the B2E customers though, the location needs to be argued for. The hotels are centrally located but perchance not in the most pleasant areas. Due to mentioned fact, the marketing might enlighten factors such as proximity to metro, attractions and nature. This is something StayAt can use the distribution channels for by highlighting the beneficial aspects more consciously. The collaborations with distribution channels are costly and therefore it is meaningful to exploit the relation as much as possible.
The StayAt website is a platform used mostly by the frequent independent travellers (Schwalm 2016) and the opportunities here are nearly endless. If the website is thoroughly promoted, the hotel might penetrate the market segment they are excluded from today. Simplicity can help customers understand the StayAt brand, further explained in section 6.3.

**Product**

StayAt’s product is their accommodation; it is what they call the hardware. Although, as mentioned in section 1.1, the experience of the stay – the software – is the focus. The hotel is not only offering a place to sleep but a place to live and make use of their spare time. This development is a requirement in order to differentiate from competitors.

From the regression analysis it is deduced that the number of months on the market has a positive influence on the occupancy. This indicates that StayAt’s product grows in value proportionally to its time at the market. The result strengthens the differentiation to focus on the software; the hardware is rather valued high if it is recently reconstructed. To further enlighten a similar contrast, this can be compared to a technological product, which decrease in value the longer it has been on the market (Porter and Heppelmann 2014).

For StayAt, it is now important to create an alignment in their products, id est to construct a clear design of their accommodation and facilities. A standardization of the apartments and lobbies is necessary in order to build a brand and define the company’s essence.

**Promotion**

The B2B market communication of StayAt is strongly connected with the brand. Due to the fixed supply, they have a push-strategy which is combined with a personalised selling process (Skärvad and Olsson). The strategy can though be seen as a crossing between push and pull since the selling often is pursued through a dialogue. The selling process is designed such that main sales are managed in the sales department. Another platform for sales is the reception where the selling is done mouth to mouth. The implication is that StayAt’s current marketing is solely advertised via personalised communication and meetings.

The result from the regression analysis of the category models implicates that the high and low seasons for the hotel have no relevance for the Daily guests. Market Shares indicates the same and the interpretation of this is that Daily customers do not averagely consider these. On the contrary,
the mentioned factors can be used when advertising towards the Long Term segment, which generally mainly consists of business customers according to the Deputy CEO. One may consider putting greater effort on marketing towards these customers during low season. Further, it would be beneficial to emphasise the extent of StayAt’s market penetration.

The \textit{Weather} variable is significant for the \textit{Daily} customers according to the category results from the regression. The advantage one can take from this is to constantly have an updated weather report on the website. The report may include connecting ideas of what to do at certain temperatures to attract end customers.

\section*{6.3. PENCILS}

The Deputy CEO explains that 80\% of their accommodation comes from B2B and 10\% from distribution channels, i.e. the end users. His answer to what the greatest lack in their marketing is today is: \textit{Penetration}. This statement insinuates that the main focus of this section lies within expanding the communication with the B2E field. To investigate how to reach out to a wider customer base and how to sell the rooms they do not today, a detailed analysis of StayAt’s market opportunities is studied with \textit{PENCILS}.

\textit{Publications}

When studying StayAt’s current publication strategy it is clear that it may be improved. A website and Facebook pages are used to some extent, and financial statements are made public but nothing else is performed.

The company is greater and more active than the market is aware of, see Social Investments for further discussion. This may be an important factor to why they do not obtain the great success in their marketing towards the end users, the private individuals. First of all, the website can be developed in several matters. Today, there is no general description of the company, its business model, vision, mission and goals despite the fact that they have a thoroughly articulated such. These factors are presented to their contracted customers when selling but it never quite reaches the end users. Therefore, this may be developed so that it is available and easily accessed for all customer segments, and the brand is better articulated in the B2E sector. In addition, the website could post every event, news happening and action made at the company in order to keep a continuous update.
The Facebook pages are divided by locations. This may cause an impression that the three facilities are not completely connected, which weakens the brand since an alignment between the hotels is the goal. At their Facebook page they may also post daily updates of upcoming events and plans.

Further, there is definitely room for promotion on additional platforms than used today. Today, social media is a significant part of company's marketing strategy (Kaplan 2011). Well established brands such as Volvo, Nike and Coca-Cola have discovered this way of exploiting. Already in 2007, the mobile marketing revenue totals US$2.773 million (Mishra and Gupta 2012). If StayAt were to follow these examples a breakthrough may come to the B2E market. It has proven to be effective to keep an active profile at every digital media. In addition to mentioned website and Facebook page, important events and news at the company may be posted on Instagram, LinkedIn and via E-mail Newsletters. It is important to continually keep these updates equivalent and synchronised.

Events
Weekly events are performed in the reception lobbies to promote familiarity among the customers. The events are directed to all people staying at the hotel. The news is spread mouth to mouth and by putting information notes inside the facilities, no public advertising is performed. This results in attendance of mostly Long Term guests, id est mainly the B2B customers. The marketing may be developed since events could be a good tool for marketing and attracting new customers.

Evidently the hotels’ overall focus is to consciously elevate their Long Term guests, mainly consisting of Asian consultants, and the same strategy influences their events. A cricket team is initiated in order to build a sense of community and the enquiries for this come from the Asian guests. (Mikrut 2015) The Deputy CEO expresses a need for more diversity among the guests. The hotel is currently situated in a lock in effect (Kuhn 1962) created by mainly targeting customers from Asia. If the economic growth in this geographical area decreases, the hotels customer base will also be severely reduced (Regeringskansliet 2016). There are room for further events in the hotel budget (Schwalm 2016), which may be used in order to increase the diversity.

An example of this is arranging for the guests to visit nearby fairs, to go bowling or sing karaoke, nothing extravagant. The events held outside the hotel facilities could entail a smaller fee so that it would not be a large financial burden. Another example may be to organise non-prestigious creative competitions such as publication of an Instagram picture tagging StayAt. This is great publicity to a large diversity for the company as well as a fun happening and an opportunity to win for the guests.
News
In the beginning of 2016 a new playroom at the hotel in Kista is inaugurated, the news is spread mouth by mouth to in-house guests. The Deputy CEO expresses that emailing information to individual core customers occur but it is commonly delayed or disregarded.

As innovative processes are implemented and completed, there are no updates towards the public to tell the news. There are platforms available, well-functioning and designed in a modern manner. These are not used and the question Why is instantly raised. As mentioned under Publications, if the hotel were to publish updates of their ongoing plans and finished goals, a wider understanding of the hotel value might be increased by the public.

Community Relations
At the time of the interview the only existing sponsoring is to the cricket community in Sweden. Other initiatives executed are scholarships regarding innovations within hospitality services at the University of Lund. An expressed desire of StayAt’s is to develop this area in the near future.

StayAt’s competitor, Scandic Hotel, has a separate section on their website dedicated to sponsoring (Scandic 2016). The impression is seriousness and commitment to the society. If StayAt implements the same technique, an idea is to clearly state the purpose of the sponsoring decisions and to make sure that their core values are reflected in their choice. Hilton Hotel is also a good example regarding sponsoring, at their website they offer an opportunity to apply for financial support (Hilton Worldwide 2016). This suggests an economic confidence and an impression of security and innovation.

Identity Media
Today StayAt use Google AdWords to mediate their identity, their main hits come from the website (Frisell 2016). As mentioned in section 1.1, the intention is to illuminate the experience of the stay and not the hardware. Further, to enlighten their establishment an extension of the logotype may be introduced where it is presented how long the StayAt brand has existed on the market. Since the variable Months on Market played a significant role in the Occupancy equation, this seems to be an appropriate action.
Lobbying

There is one main actor that businesses in the hotel branch may exploit to influence decision makers. This organisation is called Visita (Nandorf 2016). StayAt has a delimited vote with Visita due to the lack of penetration power. As mentioned in section 6.1, the branch has not yet developed enough to become an important actor in the relevant forums.

One cannot put enough importance to the issue of StayAt’s brand within the B2E field. There are sufficient paths that can be taken, Visita is not the only opportunity StayAt has regarding lobbying. An approach is the commercial and industrial life in Sweden, or to directly approach the end user. The dilemma is to find an entrance to create significant influence.

Social Investments

For StayAt, social investments are mainly managed in a close perspective by taking good care of the guests they receive. As mentioned in section 1.1, most of StayAt’s customers are international and new to the country. Therefore, creating a homely environment for them is a substantial part of the company’s social investments. This promotes diversity and a multicultural society. Further, StayAt work on Corporate Social Responsibility (CSR). An example of this is their involvement in an accommodation project with UNHCR dedicated the current refugees in Europe. This was not a planned process, only an action the company saw necessary. (Schwalm 2016) When engaging in a matter this important and up to date, it is essential that the company goes public with it, see Publications. It is crucial partly because it may evoke others to act the same way, and partly because the goodwill of StayAt is strengthened. Additional CSR work may be executed in order to align with core values. An example is engaging in support of homeless and refugees.
7. Recommendations

Develop Strategy

In section 6.2 under Price, the conclusion of the discussion is not determined in this study. The decision needs to be evaluated by the management of StayAt. The dilemma raised is whether to enlighten the result of the regression analysis and decrease their Daily and Extended rates to attract concerned customers or if the margins are to be prioritised. A suggested approach is to consider the low price elasticity for the Long Term segment and increase the concerned rate. This would compensate for the decrease in profit when lowering the Daily and Extended rate.

When analysing the Public Relations of StayAt’s in section 6.3 Lobbying, the discussion circuits the influence the company has in the hotel branch. It may be advisable for StayAt to redirect their main focus from Visita to another actor within their field of business to get their voices heard. Which actors to consider is not included due to the feasibility of this thesis but the recommendation is to rethink the strategy regarding engagement in different unions.

Digitalisation

A crucial opportunity for StayAt is further using digitalisation. One advice is to make additional use of the digital channels used today, id est Facebook and the website. Further, it would be beneficial to establish the company at more medias such as Instagram, LinkedIn and sending E-mail Newsletters to attract B2E customers.

Visualise Brand

StayAt may profit significantly from visualising their well formulated brand to the B2E field. In order for the public to access their core values and incentive, business model, vision, mission and goals should be printed on the website. Also, a historical background may be presented here to capture the essence of StayAt. This will create a platform where their USP is thoroughly illustrated. To further build a profound brand, StayAt may extend their logotype with “Established in 2010”. The Facebook pages should be transformed into one common for StayAt and further alignment in the physical facilities is necessary to clarify the trade mark.
**Publications**

The main recommendation is to make all essential information available to the end customer. Everything that is accomplished and implemented is advised to be published on the digital channels. The importance lies in the synchronisation and equivalence of the updates, on should consider to have a regulation policy regarding what to publish to make it professional.

To further include the end customer in the organisation, a newsletter may be implemented where upcoming events, weather reports and happenings in the proximity is mentioned. If the recommendation is operated, a thought is to include connecting ideas of what to do at certain moments. *Timings* are further mentioned below.

To trigger end customers to participate in organised events, a recommendation is to formulate publicity driven competitions or non-prestigious events. Examples of such are discussed in section 6.3. The idea is to let the customers spread the word about StayAt using social media.

**CSR initiatives**

Sponsoring and enter partnership with additional actors may be a considerable effort to make. When choosing these, the company may want to prioritise the actors reflecting StayAt’s core values. To further develop, the company may consider introducing additional CSR engagement related to their customer base and vision. These could be supporting street children in Asia or help coordinating refugees.

**Exploit Resources**

StayAt has great competence within the company, a recommendation is therefore to make use of this. To let the employees interact and be included in discussions to raise innovative incitements. Another unexploited resource is the customer satisfaction; it is recommended to take advantage of the data provided. Ensure all opinions are studied and analyse whether to make changes to adjust for the results. The proximity to malls, cinemas and similar common spaces should be enlightened. A recommendation is to create cooperation with local entrepreneurs to get discounted offers to the guests.
Timing

To prevent threats and enhance opportunities it should be considered *when* to take certain actions in terms of marketing. In this case, several of the variables from the regression analysis may be used. Enlightening activities during different weathers and putting greater effort on marketing towards businesses during low season are two examples of this. Another important aspect is to consider *where* to take these actions, not only on which platforms but also if it should be promoted internally and externally.
8. Criticism

Criticism is raised towards the model 4P’s, it is stated as old fashioned and conservative. The marketing professor Robert Lauterborn and his cowriters Don E. Schultz and Stanley I. Tannenbaum’s introduce 4C’s as a compliment to rather put focus on the client instead of the product. The notion is thoroughly described in the book The New Marketing Paradigm: Integrated Marketing Communications. The 4C’s are Consumer, Cost, Convenience, Communication. The decision is made to still use the 4P’s due to reliable sources still recommending the method. (Lauterborn, Schultz and Tannenbaum 1994). An awareness of the criticism is present as the analysis is performed, resulting in a flexible usage of the model. Choosing 4P’s mainly bases on the depth of the model, it provides companies with a complete understanding of their products and how to market them.

Concerning the SWOT analysis, criticism is raised towards its objectiveness. Opinions brought up mean that the analysis is mainly based on subjective observations. On the contrary, it is said that this is insignificant since the process of this study is more important than its results. This is also applied to the case of this thesis since its weight is lied on the 4P’s and the SWOT acts mainly as a foundation for this. (The Economist 2009) In this paper, SWOT is chosen because of the width of the model, it includes both internal and external perspectives. Compared to Porter’s Five Forces for instance, which only examines external factors (Porter 1979), this is presumably the SWOT model’s largest advantage. To further argue for using SWOT analysis and dismissing Porter’s Five Forces specifically, the Five Forces are known to be more applicable within product oriented companies and in not value creating ones. (Schilling 2013)

Criticism regarding the SWOT being too generic is raised by a variety of professors, the analyse is said to be long and costly but not compelling or valuable (Martin 2014). Although, the generic view is interesting in this thesis, and so the model being too wide is rather a positive factor when investigating the occupancy for StayAt. This assumption is strengthened by a wide range of practitioners working with strategic analyses. The tool is referred to as a key to obtain a comprehensive overview of the organisation concepts (Dietrich 2015).

Lastly, an objective criticism is raised towards the recommendations in section 7. StayAt may advisably consider the time investment needed in the strategy implementation. The innovative approach will bring both structural reformations and changes in priorities. When observing the StayAt brand as a product, it is realised that the new marketing strategy may initially be tedious. If
the company obtain early adopters who spread their idea, the customer base will increase continuously resulting in an improved occupancy. To visualise the process, an adaptor category model is shown in the figure below. (Rogers 1983) The conclusion of this is that the postulated recommendations will not yield results immediately but are intended to lead StayAt towards the B2E field and an improved occupancy.
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10. Appendix

10.1. List of Tables

Table 1

<table>
<thead>
<tr>
<th>Category Models</th>
<th>y</th>
<th>Occupancy (%)</th>
<th>x₁</th>
<th>Price (kr)</th>
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<th>x₃</th>
<th>Weather</th>
<th>x₄</th>
<th>Months on Market</th>
<th>x₅</th>
<th>Stockholm</th>
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Table 2

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<td><strong>Long Term</strong></td>
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10.2 List of Plots

Plot 1

Normal Q-Q Plot

Plot 2

Normal Q-Q Plot

Plot 3

Normal Q-Q Plot
Plot 4

Normal Q-Q Plot

Standardized Residuals vs Theoretical Quantiles