

DOI: [10.52950/ES.2023.12.1.005](https://doi.org/10.52950/ES.2023.12.1.005)

CONSUMERS´ DECISION-MAKING UNDER SALOP´S MODEL: KEY STUDY ON STARBUCKS PRAGUE AND RICHMOND BUSINESS MODEL

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Abstract:

This study thesis analyses the Starbucks business model in Prague and Richmond from the location perspective, focusing on the company's consumers and their decision-making towards commuting to the stores. Using modified Salop's circle model, the transportation costs of the average Starbucks consumer in both cities are calculated, explained, and compared. It is revealed that the average Starbucks consumer in Richmond bears, on average, 1.255x higher transportation costs than the one in Prague and is willing to travel 2.54x higher distances to purchase the average Starbucks product. In addition, after analyzing transportation costs, the study offers a real-life applicable business proposal for where to place a new Starbucks store in both cities, based on several techniques often used in business consulting for solving case studies. The suggested most suitable location for the new store in Prague is the Prague main railway station. In contrast, the best location in Richmond is the intersection of West Broad Street E and North Lombardy Street, close to Virginia Commonwealth University. The study's main contribution is the inverting of Salop's circle model and emphasizing transportation costs as an endogenous variable. In general terms, this study may guide spatial optimization in business strategies, from circular economy applications to strategic managerial decisions in locations with different consumer sensitivity to transportation costs.

Keywords:

Salop's Model; Transportation Costs; Consumers´ Decision-Making; Business Strategy; Cost Optimization; Competition

JEL Classification: D12, D43, L22

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Citation:

OLDRICH KUCERA, BOZENA KADERABKOVA (2023). Consumers´ Decision-Making under Salop's Model: Key Study on Starbucks Prague and Richmond business model. *International Journal of Economic Sciences*, Vol. XII(1), pp. 85-115., [10.52950/ES.2023.12.1.005](https://doi.org/10.52950/ES.2023.12.1.005)

This research was founded by Prague University of Economics and Business, VŠE IGS F5/4/2023.

Introduction

Within a broader context of industrial organization theoretical approaches, this study provides an application of Salop's circular spatial model using authors' own field research data from sample cities presumably differing in store density, the density of competition on the market, and consumers' subjective losses from imperfect differentiation. Economic approach and empirical methods are used to provide a complex solution; in essence, a case study based on empirical field findings and publicly available data. Conclusions aim to provide real-life business recommendations focused on where to place a new Starbucks store. Among other goals, we will show that food and beverage market concentration results from competition between stores in a confined district in contrast to a grouping of stores or firms in clusters as described e.g., by Motamedi (2022) or Leogrande (2020).

Since Starbucks opened its first coffeehouse in 1971, the world economy has changed significantly. Nowadays, Starbucks runs more than 33 000 coffee stores in 80 countries, including the Czech Republic and, of course, the United States of America (Starbucks A, 2022; Starbucks B, 2022). Nevertheless, this would never happen without Starbucks innovating and expanding since one of the crucial reasons for Starbucks' success is its presence everywhere.

Therefore, this study aims to compare Starbucks' store-location strategy in two cities from different parts of the world. This will be shown in the example of Richmond and Prague Starbucks stores. The focus is primarily on the consumers-side of the company's business. Our results suggest some general guidelines on decision-making regarding where to place a new Starbucks store in each city and may be applied to retail stores expansion strategies under competition even outside the beverage-food industry.

It is expected that Prague consumers will bear higher total transportation costs since market competition in the food and beverages business is lower in Central Europe than in the United States East Coast region while the unit transportation costs are supposed to be lower in Prague as these consumers are traditionally used to lower differentiation availability. These assumptions correspond to findings proving that consumers with lower disposable income are more price-sensitive (Kaderabkova et al., 2019) and are keener to commute (Lukavec et al., 2017).

A similar difference applies to the average market saturation in both regions. The Central European region has recently undergone significant economic and social changes consisting of improved poverty status in many regions (Łuczak, 2022) and changes in consumers' behavior associated with increasing income (Rod, 2016). Stanimir (2020) proves that the change in everyday consumption and lower propensity to save is associated primarily with the young generation; thus the market for the coffee chain Starbucks is supposed to grow in the near future. At the same time, increasing inequality between regions has been observed in the CEE region (Hromada, 2022); thus higher concentration of coffee stores is likely in larger cities, in contrast to the US market where Starbucks coffee is a widely available product across the country.

Within this broader context of general market characteristics in the two regions and with the aim to compare transportation costs of Richmond and Prague Starbucks consumers, we will analyze the average Starbucks store prices, distances between the stores, and utility gained by the average consumer of consuming standardized Starbucks goods. Furthermore, we will transform and solve Salop's equation for transportation cost as an endogenous variable. Moreover, we will also examine

the average sales of each store in order to obtain more data to determine the best location for future Starbucks stores in both cities. Answering these empirical questions is, we believe, our main contribution to the state of the art in hot-drinks business comparison between Central Europe and the North American East coast from the consumer point of view as well as from the business consulting perspective.

1 Literature Review and Descriptive Statistics

Starbucks is the biggest coffeehouse chain in the world. Nowadays, it has more than 33 thousand stores across 80 countries. Almost half of the stores are in the US, whereas the Chinese market generates the most significant foreign revenues (Starbucks A, 2022; Starbucks China, 2022). After McDonald's, Starbucks is the world's second-biggest food-based franchise (McDonald's, 2022; Starbucks A, 2022). The company focuses mainly on offering high-quality coffee based on Italian tradition. These days, a significant portion of the company's profit is generated by selling ice or cold beverages as Starbucks keeps innovating and satisfying changing customer demands (Starbucks A, 2022).

1.1 Starbucks in Numbers

According to a proxy statement released for 2021, the consolidated revenue of Starbucks in 2021 reached 29.1 billion USD, when it grew by 21% from a year-over-year perspective. The company operated 33 833 stores worldwide, 4% more than in 2020. Consolidated EPS reached 3.54 USD, 354% more than the previous year. Starbucks also paid 2.1 billion USD to its shareholders as dividends, an increase of 10.5% compared to the amount paid in 2020. The company's stock price grew over the year by 31% to 112.92 USD per share. (Starbucks A, 2022)

The number of active users of the Starbucks loyalty rewards program grew by 28% a year to 24.8 million in the US and by 33% to 17.9 million in China, the second most crucial market for the company. Together with the increase in the number of stores by 4%, these signs indicated the company's sustained success. Although the COVID-19 crisis surely affected these numbers, it is impossible to deny the positive trend observed in previous years. (Starbucks A, 2022)

1.2 Hot Drinks Business Overview

Regarding numbers, the hot drinks business generated a revenue of 635 billion USD worldwide, while only coffee did around 65% of this amount (410 billion USD). Experts believe the hot drinks business has solid growth potential since their predictions expect 826 billion USD in worldwide revenue in 2025. The coffee business should be the fastest growing when it should reach revenue of 537 billion USD in 2025, experiencing a 30% increase. The highest per-capita revenue in this sector was realized in the Czech Republic with 1 289 USD; in the US hot drinks business, per-capita revenue was equal to 293 USD in 2021 but, according to predictions, should grow by 23% to 362 USD in 2025. (Lu, 2022; Report Linker, 2022)

Although Starbucks is undoubtedly the most significant hot drink/coffee shop company in the world, operates in over 80 markets, and owns many smaller hot drink brands, it cannot be seen as a complete monopoly (Starbucks A, 2022). Companies like Costa Coffee (Costa, 2022), McCafé (McDonald's, 2022), Dunkin Donuts (Lock, 2021), or Tim Hortons (Lock, 2022) can generate more than 1 billion USD in revenues annually and thus could be considered Starbucks real competitors.

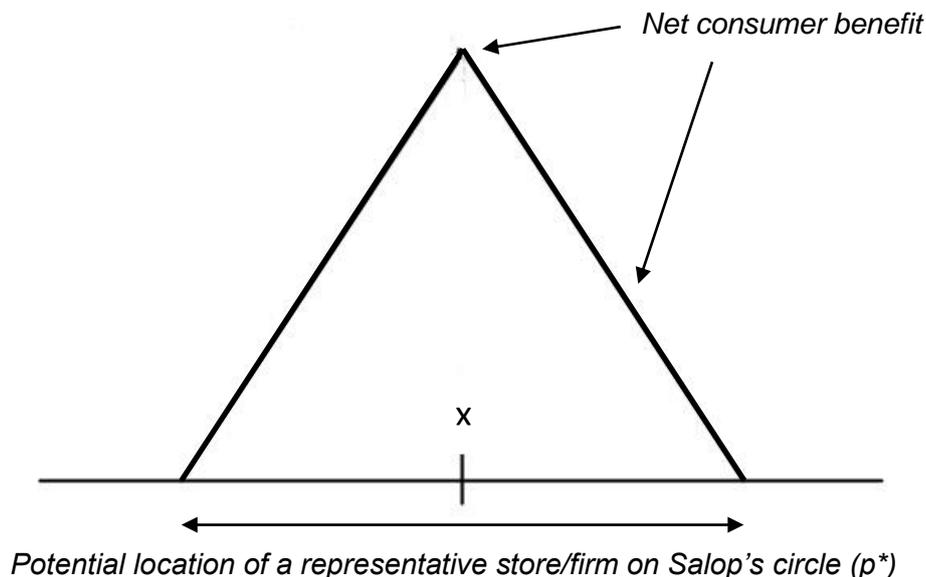
1.3 Salop's Circle Model

Basic Salop's model describes the situation when there are two monopolistically competitive stores with differentiated goods. These differences can be caused by the distance of each company from a consumer, not only by the quality of a good. It is so because increasing distance means increasing transportation costs, which implies that purchasing a more distant good of the same quality gains lower utility for the consumer than purchasing the same good that is closer. For this study, let us suppose that each store offers a good of the same quality, and the only difference between the stores is their distance from consumers (which is the situation of Starbucks stores). (Salop, 1979)

When it comes to consumers, they are trying to maximize their net benefit exactly as stores do. Each customer prefers the good that is cheaper and closer to their location, assuming the utility of each good is the same (imagine the same cup of coffee). It is so because customers' costs include the price of purchased goods and transportation costs. When the price of the good is the same in every store, and the good is homogenous, then the critical factor influencing the level of consumers' net benefit, and thus their decision-making, is the distance determining transportation costs. Generally, if the net benefit of buying a good is positive, then the good is purchased; if not, trade does not happen. (Salop, 1979; Perloff and Salop, 1985)

This situation is shown in **Figure 1** when the consumer (x) yields the highest net benefit of buying the good in the store, which has the same position on Salop's circle as this consumer. The further the store is from the consumer (x), the lower net benefit this consumer yields (see the diminishing sides of the isosceles triangle). From the point where two equal sides of this isosceles triangle cross the horizontal axis, the consumer is not willing to purchase the good; since the store is so far, the consumer's net benefit would be negative, implying that entering the deal would be irrational. (Salop, 1979; Perloff and Salop, 1985)

Figure 1: Consumer Benefit in Salop's Model



Source: Authors' own work

Under these conditions, three scenarios of the market situation can happen. The first one represents the situation when stores are so far from each other, relative to consumers' needs, that some consumers in Salop's circle do not consume any goods. This situation could be caused by high consumers' transportation costs or stores' high prices. Thus, the market is not saturated. Every producer has a local monopoly because his customers (those with net benefits from purchasing a good) cannot move to any competitor since their net benefit would be negative if they moved. (Salop, 1979; Perloff and Salop, 1985) However, Shumm (2022) shows that even if this situation is socially ineffective, it could be stable if the fixed costs of entering the industry are high enough. Existing stores with high marginal costs are not motivated to extend their production/sales and try to attract new customers or steal them from other companies. The only opportunity is the entry of a new competitor with lower costs.

The second scenario is exactly the reverse. There are so many stores on the market that customers can yield net benefits from purchasing a good from stores on both sides of Salop's circle. This scenario implies that existing stores must compete for these customers, which they can do only by lowering their prices and pushing their net benefits lower and lower, assuming the good is homogenous. This situation is called monopolistic competition since some fixed costs prevent an unlimited number of merchants from entering the industry, but existing ones compete. Consumers' transportation costs and prices charged by the stores are usually lower than in the first scenario. (Salop, 1979; Perloff and Salop, 1985)

In the third scenario, every consumer can purchase a good exactly and only in one store. He cannot visit another store since his net benefit would be negative because of the transportation costs. In other words, the store can sell its products to every customer willing to buy them, keeping the price as high as possible to generate the highest profit while leaving no blind spots on the market. (Salop, 1979; Perloff and Salop, 1985)

The third scenario is the situation Starbucks would like to achieve since it is the most effective one for its business. Starbucks also has the power to set the number of its stores, so there is no need to worry about more and more competing stores entering the market and destroying this convenient equilibrium. However, this business strategy can be sustainable only when there is strong evidence of behavioral concepts such as brand loyalty, brand love, or customer loyalty, that can protect Starbucks from losing its customers due to the competition. Otherwise, Starbucks would have to reduce its prices and face the competitors as described in the second scenario. Therefore, we must shortly analyze consumers' behavioral concepts to determine the right model that describes Starbucks' market situation which will be further used in the empirical part.

1.4 Customer Loyalty, Brand Loyalty, and Brand Love

According to Peek (2022), customer loyalty is focused on money. Companies cannot simply rely on customers' conviction that the brand is superior and offers better services but must motivate them to come back with different incentives. Hoffmann (2013) describes that this strategy includes various loyal and reward programs providing special discounts, pay-backs, or gamification elements. The main goal is to convince consumers to purchase repeatedly and be loyal to the company by showing them loyalty is in their best interest. The concept of customer loyalty is, therefore, less emotional and more driven by the selfishness of consumers.

One of the most successful customer loyalty programs of all time is the one by Starbucks. These days, the Starbucks loyalty program has around 25 million members and generates more than 50% of company sales (Starbucks A, 2022)

On the other hand, another key concept is the concept of brand loyalty which was thoroughly identified in 1952 by Dr. George H. Brown (Brown, 1953); however, some evidence was noticed in previous years by Banks (1950) who examined the relationships between preference and purchase of brands that were not strictly determined by the price but by other emotional factors. This concept was also proven in many papers and empirical studies in the following years. Tucker (1964) and then McConnell (1968) described the process of successful development of brand loyalty by merchants that helped them increase their profits and overcome competitors. Tucker (1964) and McConnell (1968) also revealed a situation called perception-based decision-making when the consumer believes that the brand he is loyal to offers higher quality and better customer services than any other competitor. The price is not so important here since the loyal customer is willing to pay more for his favorite brand, even if it provides the same good or service as any competitor. According to Kopp (2022), this concept is established by the consumer's emotional experience with a company and the impression the company made on him.

In the case of Starbucks, the certainty of high-quality coffee and other drinks, in combination with a cozy environment and friendly staff, convinced its consumers to be brand loyal. Moreover, even after 50 years of existence, Starbucks works hard to retain this standard and prevent its customers from fleeing to competitors. (Starbucks A, 2022)

Whereas Brand loyalty mainly drives a consumer's conviction that his chosen brand is the one that is superior to others (Brown, 1953), Batra, Aguvia, and Bagozzi show (2012) that brand love is more based on an emotional connection between the consumer and the brand he purchases. This concept was developed as an extensive brand loyalty caused by the self-identification of a consumer with his favorite brand. Halloran (2014) describes eight phases of brand love when he concludes that not only a consumer prefers his chosen brand even if its measurable aspects are the same as those of competitors, but he feels a strong positive connection to the brand and is willing to defend it.

Starbucks has a unique and powerful position in the hot drinks market. Not only it outnumbers all its coffee-house competitors, and it has a long brand tradition that customers learned to value. It also has one of the most successful customer-loyalty programs in the world, which helps the company ensure that its customers remain loyal and will very likely drive Starbucks revenues in the future. (Starbucks A, 2022)

Combining the market situation data with the findings regarding consumers' behavior concepts can help us to simplify Salop's model and the situation generally, neglect competition, and see Starbucks as a relative monopoly with a differentiated product. It will also make possible the application of the location strategy based on the market situation described above in scenario 3.

1.5 Store-Location Strategy

In his study about store-location strategy, William Applebaum stated 16 steps a company should undergo to determine how it should expand (Applebaum A, 1966). The first step should be defining the objective company wants to achieve. The following steps focus on analyzing the planned expansion area from many perspectives, including environmental and population aspects of the region's economic prosperity. Understanding future or current customers and their attitudes is crucial for progress. Other parts of Applebaum's analysis examine the competitors in the selected area, dealing with their market penetration, the potential for expansion, and last but not least, their weaknesses. (Applebaum A, 1966; Applebaum B, 1966)

After collecting information about these external factors, a company should look at its current regional position and summarize its successes and failures. This procedure should lead to identifying the underpenetrated areas and why it is so. After placing a potential space for future expansion, it is helpful to ask a hypothetical question if competitors could penetrate these areas, why or why not. The final steps focus on predicting future profits, return on investment or competition in the selected area. The company must be able to afford its expansion and not endanger its existence. After doing all these steps, Applebaum suggests preparing a written report which will conclude all the results and work as background for the final decision of the company's management. (Applebaum A, 1966; Applebaum B, 1966)

As stated by Applebaum (1966), environmental and geographical knowledge of the potential expansion areas is crucial for success. Moreover, the key variables used in Salop's model, such as the distance between stores, transportation costs, or consumers' utility are strongly relied on factors such as population, environment, or income. Therefore, we discuss next some relevant points from the economic geography of the two examined regions/cities to provide data-based conclusions in the empirical part.

1.6 Economic Geography

Since Prague is the capital of Czechia, we believe that Prague may be considered a good representative city of the CEE region for our purposes due to the above-average purchasing power of its inhabitants and attractivity for tourists in its central districts (Hromada, 2021). At the end of 2021 city had around 1.28 million inhabitants as the country's political and economic center (CSU, 2022). City enlargement is 496 km², implying a population density of 2 600 per square kilometer (Praha, 2022). The Prague metropolitan area (including parts of the Central Bohemian Region) had more than 2 million residents in 2020, almost 20% of the population of Czechia (Ourednicek et al., 2020). The real GDP per capita in Prague is more than 50 000 USD, making Prague the wealthiest region of Czechia (CSU, 2020). The city is divided into ten city Districts (Prague 1-10) and 112 cadastral territories (CSU A, 2021; CSU B, 2021). The historic city center of Prague is included in the UNESCO list of World Heritage Sites attracting millions of tourists from all over the world every year.

Richmond, located in the middle of the State of Virginia, in the United States of America, is Virginia's capital. According to the last U.S. Census data from 2021, the city had over 228 000 inhabitants making it the fourth most populous city in Virginia (Census, 2021). Richmond city area includes 162 km implying the city's population density is around 1 500 people per square kilometer (Census, 2022). However, the Richmond metropolitan area (further mentioned as RMA), also known as Greater Richmond, had more than 1.3 million inhabitants in 2022 (15% of Virginia's population), almost the same as Prague (Duffin, 2022). The real GDP per capita of the Richmond area was around 55 000 USD, according to data from 2017 (Open Data Network, 2017). In 2022 inner Richmond was divided into nine voter districts (Richmond A, 2022; Richmond B, 2022). The city is the main economic center of the Richmond metropolitan area and the political center of Virginia, which implies a steady supply of newcomers and fluctuation. Therefore, we believe Richmond can stand as a relevant representative of the US East Coast region and can be compared with Prague.

2 Methodology

2.1 Field Research

The field research was conducted by one of the authors who visited all Starbucks stores in the examined area to obtain critical values necessary for solving the key study. These values include prices of the Starbucks products in each store, opening hours, and statistics like the number of ordered items and customers during the author's visit. These data are further used to calculate other statistical values, such as expected sales per hour of each store or its price index. Whereas some field research data (price index) are used directly to construct the economic model, others serve as control values for logical verification of economic model construction and for interpreting its conclusion. Without real-life verification, the key study solution could not be valid.

2.2 Approximations

The approximation technique is often used when obtaining correct values and information is too difficult or impossible because of natural research limitations. This technique aims not to obtain the exact numbers and perfect model but to approximate a simpler model that is still valuable for research. This approach is usually used to make the calculation more manageable, with some degree of accuracy and the available information. (Hartline, 2012)

Thus, approximations are used across the whole empirical part of this work to save research costs, when possible, and make the calculations more straightforward. At the same time, obtaining some values (e.g., the average consumer's utility of one cup of coffee) would be complicated. Thus, solving this key study without approximations would be impossible.

2.3 Salop's Model and other Problem-Solving Methods

In order to calculate the transportation costs, the general form of Salop's model is adapted to the conditions and requirements of this real-life key study. In other words, Salop's model is simplified and edited since several approximations, which make this possible, are used. This is because not all the data necessary for proper usage of general Salop's model are available (e.g., the consumer's utility from consuming a cup of coffee could be only estimated since measuring it would not be efficient). Thus, Salop's model is used as a backbone of all the calculations; however, these may differ and include factors that Salop did not consider or vice versa. (Salop, 1979; Perloff and Salop, 1985)

However, Salop's model cannot answer all the critical key study questions alone. It is primarily used to evaluate consumers' decision-making and calculate/approximate transportation costs. Nevertheless, other methods must be used to define the best location for the new Starbucks store in every city. Therefore, several geometric, mathematical, statistical, or other computational methods are also present. In conclusion, the cornerstone of all the methodologies is general logic and real-life reflection.

3 Data

Demographic and other statistical data are obtained across reputable research agencies and think tanks, as well as from governmental or other publicly funded sources (Statista, US Census, CSU, etc.). A significant part of the business data and values needed for the successful solution of the key study is obtained directly from Starbucks (from its Annual Reports and Websites) or specialized

corporations dealing with the analysis of large enterprises (Statista, Investopedia, etc.). The geographic data is taken from the databases of world-renowned providers of navigation programs (Google). The rest of the data is obtained either by authors' field research or by an approximation based on logical induction, as is common in business consulting.

This study, especially the empirical part, was completed between June and December 2022. The authors' data collection in Prague happened between June and August. In late August, one of the authors moved to Richmond in the U.S. and realized data collection in this city. Since most official data collection is done annually and the key study was completed at the end of 2022, official data from 2022 were not accessible. Therefore, the majority of data was from the end of 2021 and, if not, from any part within the examined period. Finally, the solution of this key study applies to the end of 2022.

4 Analysis

Once the theoretical background and methods used to complete this study are introduced, it is time to present and describe the empirical research. In the first part of the empirical part (Analysis), the scope of the key study is determined, and especially the area examined in each city is narrowed. In the next part, an economic model inspired by Salop's model is derived, and his variables are explained. The third part is dedicated to obtaining all necessary values for the exogenous variables used in the modified Salop's model. The fourth part presents the calculation of transportation costs, interpretation of results, and comparison of both cities. The last empirical part focuses on finding the most suitable location for future Starbucks stores in both cities using all the information and data obtained in previous chapters.

4.1 Scope of The Key Study

Since the scope of the study is, by its nature, limited, it is essential to focus the effort on where it would make the greatest sense and where the answers can be found most efficiently. Thus, in this analysis, a simple general comparison will be used as a starting point, moving quickly to a more detailed analysis of the preselected area and specific Starbucks stores, which can help to solve this key study.

The number of Starbucks stores is similar in both cities (36 in Prague and 37 in RMA) (Google Maps, 2022), and Prague's population is also almost the same as RMA's population, around 1.3 million. (CSU, 2022; Duffin, 2022). Thus, at first sight, market saturation in both cities seems to be at a comparable level. However, this does not have to be necessarily correct. Considering only Richmond city and not its metropolitan area, the population falls to 226 000 (Census, 2021). The number of Starbucks stores present in this area falls to 12. However, two stores can be found on the very outskirts of the city in vote districts with significantly lower population density than central districts. Other ten stores are located in Richmond's city center, namely in vote districts 2, 5, and 6. (Richmond A, 2022; Richmond B, 2022; Google Maps, 2022)

A similar pattern can be observed in Prague. The highest density of Starbucks stores is in the city center, specifically in the historical part of Prague. However, this concentration of stores can be caused by something other than the highest population density in this area (CSU B, 2021). Nevertheless, since Prague is the cultural capital, we expect the highest density of people there during Starbucks opening hours (meaning people living elsewhere but commuting to the city center). There are 13 Starbucks stores in cadastral territories Staré Město and Nové Město. These

cadastral territories are, for many centuries, considered to be a hearth of Prague. (CSU B, 2021; Google Maps, 2022)

These similarities between both cities can be used as an advantage which helps to assume the *ceteris paribus* state of the world. Therefore, for future steps, only those 10 Starbucks stores located in the central vote districts of Richmond and those 13 Starbucks stores in Prague's central cadastral territories will be considered. It is essential to highlight that this simplification has its disadvantages. Still, the net benefit of it is significantly positive since it will narrow the scope of this thesis and make its goal viable. (CSU B, 2021; Richmond A, 2022; Richmond B, 2022; Google Maps, 2022)

4.2 Modification of Salop's Model and its Variables

As shown in the theoretical part, the market situation Starbucks wants to achieve is the one presented in the third scenario, when every consumer can purchase a good exactly and only in one store.

This scenario is shown in **Figure 2**, when (p_1) , (p_2) and (p_3) stand for individual Starbucks stores placed in the examined area as well as for price the individual store charges (represented by the price index of this store, that will be presented later). The marginal customer of each store is depicted as (\hat{x}_n) . It is critical to point out that this model is not necessarily symmetric since it represents a real-life situation. Therefore, the distance between (p_1) and (p_2) can differ from the distance between (p_2) and (p_3) . The same rationale applies to the distances between (\hat{x}_n) and (p_n) . Individual consumers are represented by (x) , whereas the sum of all consumers, so the number of customers of all these three stores together, is (L) . The highest net benefit yields the consumer with location (p_n) since he does not bear transportation costs. On the other hand, marginal consumer (\hat{x}_n) yields no net benefit. No consumers have a negative net benefit from consuming the good, so the market is saturated.

Considering the state of the world represented by **Figure 2**, the utility of a consumer from consuming an average Starbucks good (u_n) is equal to his distance from the closest Starbucks store (\hat{x}_n) times his transportation costs per unit of distance (c) plus the price of this standardized good (p_n) . This situation is represented by equation (3.1).

$$u_n = \hat{x}_n c + p_n \quad (3.1)$$

To find the distance (\hat{x}_n) from the marginal customer to the closest Starbucks store, equation (3.1) can be modified to (3.2). The distance (\hat{x}_n) is defined as the difference between the utility of marginal customer from consuming the standardized Starbucks good (u_n) and the price of this standardized good (p_n) , divided by transportation costs per unit of distance (c) .

$$\hat{x}_n = \frac{u_n - p_n}{c} \quad (3.2)$$

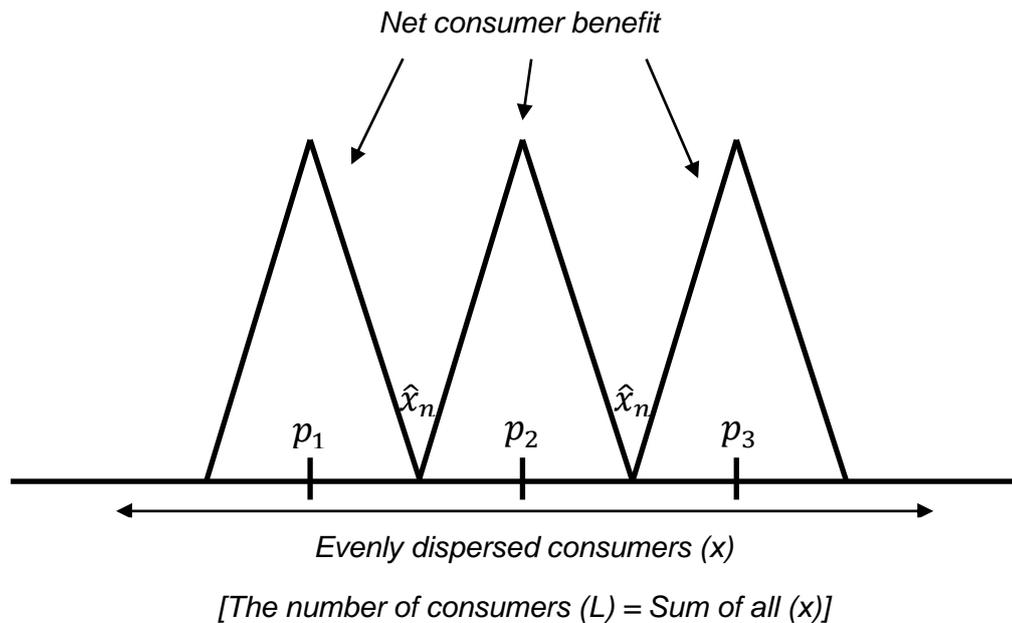
Similarly, the transportation costs per unit of distance (c) can be expressed as the difference between the utility of consuming standardized Starbucks good (u_n) minus price of this standardized

good (p_n), divided by the distance between the marginal consumer and the Starbucks store (\hat{x}_n). This modification is shown in equation (3.3).

$$c = \frac{u_n - p_n}{\hat{x}_n}$$

(3.3)

Figure 2: Assumed Market Structure of Starbucks



Source: Authors' own work

Since there is strong evidence of the importance of behavioral concepts such as brand loyalty, brand love, or customer loyalty for successful businesses, including Starbucks (McConnell, 1968; Batra, Aguvia, and Bagozzi, 2012; Hoffmann, 2013), Starbucks is assumed to have a strong monopoly, with homogenous products in each store. However, it is not critical to assume that each store sets the same prices since this is not necessarily true, and the actual prices can be easily found by visiting each store.

Salop's model can be used not only for analyzing a market with several monopolistically competing companies but also for a market where only one significant monopoly exists, and other competitors are neglected. (Salop, 1979, Perloff and Salop, 1985) Unfortunately, equation (3.3) cannot be used directly. It is because to do so; it would be necessary to obtain values for (u_n), (p_n) and (\hat{x}_n).

Nevertheless, according to the model (**Figure 2**), there is always one marginal consumer between two Starbucks stores in one of our cities, this finding can be used to move forward. Equation (3.3) which describes stores on both sides from the marginal customer, can be modified into equations (3.4) that describe these stores separately. Since both stores are assumed to be in the same city, (u_A) stands for utility gained by the consumer of consuming standardized Starbucks good in city A. Price index of the store on one side of the consumer is denoted as (p_1). In contrast, the price index of the store on the other side is represented by (p_2). The distance between marginal consumers

and the store with price index (p_1) is (\hat{x}_1), and between this same consumer and the store with price index (p_2) is (\hat{x}_2). These equations show that both of them are equal to (c), so they have to be identical.

$$c = \frac{u_A - p_1}{\hat{x}_1}; c = \frac{u_A - p_2}{\hat{x}_2} \quad (3.4)$$

Now, it is possible to modify equation (3.4) into equation (3.5) which uses both equations for stores from (3.4) to calculate the transportation costs of their mutual marginal consumer.

$$c = \frac{2u_A - p_1 - p_2}{\hat{x}_1 + \hat{x}_2} \quad (3.5)$$

It is not necessary to know the exact value of (\hat{x}_1) or (\hat{x}_2). The only value needed is the sum of these variables, thus ($\hat{x}_1 + \hat{x}_2$). One can see in **Figure 2** that this is equal to the distance between stores (p_1) and (p_2). This distance can be measured since it is known that stores do not move, so their locations can be easily found. For clarity, the distance is simplified into one variable (d), depicted in equation (3.6).

$$d = \hat{x}_1 + \hat{x}_2 \quad (3.6)$$

So, the last and final equation used to solve the first part of the key study is marked as equation (3.7) which combines equations (3.5) and (3.6).

$$c = \frac{2u_A - p_1 - p_2}{d} \quad (3.7)$$

4.3 Obtaining Values for the Exogenous Variables

In order to obtain values for the variable (p_n), which stands for the price of Starbucks' standardized good that yields utility (u_n), we have taken the prices of Starbucks' major products available in each of its stores. A simple arithmetic mean (price index) for each store can be calculated based on these prices. The goal of the field research was to visit each of the 13 chosen stores in Prague and the 10 in Richmond, so one day was reserved for research in every city. However, there were other reasons for the field investigation than getting to know the prices. Once there, the author decided to spend some time in each store and observe how the business is going. To have some tangible outcome, the author's time spent in each store, the number of customers that ordered an item during the author's stay in this store, and a total number of items ordered were recorded.

The general outcome of the field research focused on Starbucks pricing is shown in **Table 1**. Based on a price analysis of eight standard Starbucks products for each store, three **Price categories** for Starbucks stores in Prague and two for Starbucks stores in Richmond were found (1 standing for the category of Starbucks stores with the highest price average, and so on). Prices of Prague stores

were converted from CZK to USD using an exchange rate of 25 CZK = 1 USD. Although average prices in Richmond Starbucks stores are higher than those in Prague, the price difference is less significant than was expected. The bold numbers in the last row of the table (**Average product price**) represent the final values for the variable (p_n), which are used in the model, as stated before. The other outcomes of the field research are shown in **Tables 4, 5, 6 and 7** attached in **Appendix**. This data is later used in second part of this key study.

To obtain values for (d), let us connect all the predetermined stores in both cities with straight lines to construct a polygon with the largest area possible for each city (every store is numbered according to the legend in **Table 8**, see **Appendix**). These polygons are shown in **Figures 3 and 4**. They will further represent the areas examined in this key study to find the best location for future Starbucks stores, derive exogenous variables needed to construct equation (3.7), and compare the transportation costs (c) of consumers in both cities.

Once the polygons with the largest area possible were constructed, the next step is to construct five such circles for each city so that each circle has the largest total area possible. The center of this circle lies on the imaginary line connecting two of the Starbucks stores, so the distance between these two stores is equal to the circle's diameter. At the same time, no Starbucks store lies inside this circle. These circles show the location of five marginal consumers inside the predefined polygon, who must travel the longest distance to their closest Starbucks store. This situation is also shown in **Figures 3 and 4**.

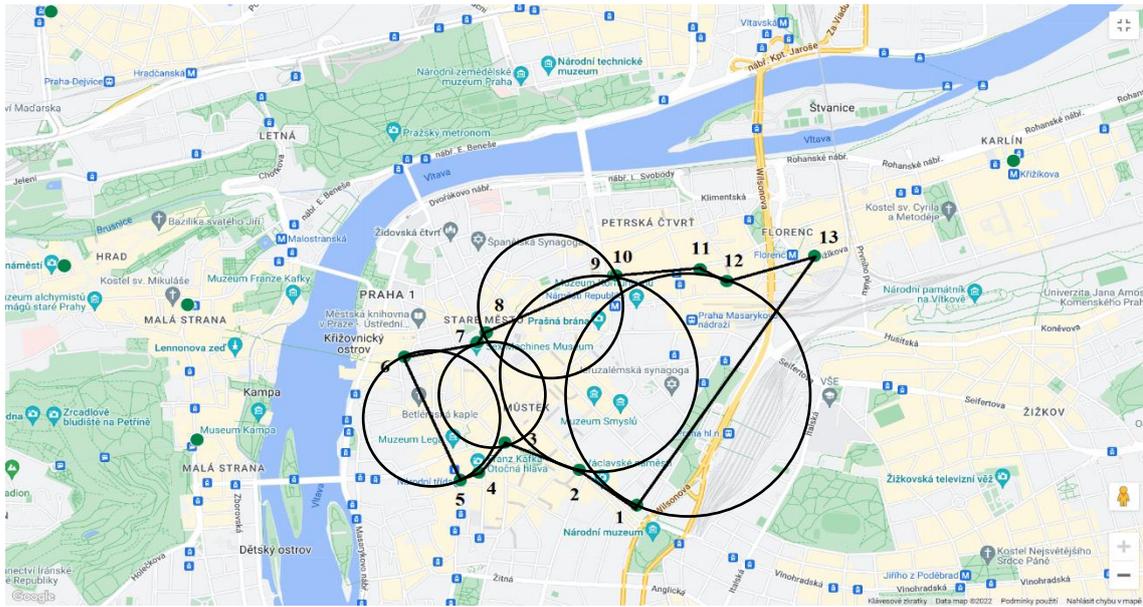
These five marginal consumers in each city will be further used to calculate and compare the transportation costs of a representative Starbucks consumer with location within the predefined areas (polygons). Therefore, the only values for (d) needed are those standing for the distance between two Starbucks stores that share these marginal consumers.

Table 1: Starbucks Prices in Prague (22. 7. 2022) and Richmond (14. 10. 2022)

Price category Prague	1	1	2	2	3	3	Price category Richmond	1	2
	Price (CZK)	Price (USD)	Price (CZK)	Price (USD)	Price (CZK)	Price (USD)		Menu	Price (USD)
<i>Cappuccino Tall</i>	95	3.8	95	3.8	85	3.4	<i>Cappuccino Tall</i>	4.75	4.65
<i>Caffe Laté Tall</i>	95	3.8	95	3.8	85	3.4	<i>Caffe Laté Tall</i>	4.75	4.65
<i>Brewed Coffee Tall</i>	75	3	69	2.76	59	2.36	<i>Brewed Coffee Tall</i>	3.25	2.95
<i>Caffe Americano Tall</i>	99	3.96	79	3.16	75	3	<i>Caffe Americano Tall</i>	3.75	3.45
<i>Caramel Macchiato Tall</i>	119	4.76	109	4.36	99	3.96	<i>Caramel Macchiato Tall</i>	5.25	5.25
<i>Iced Tea Tall</i>	119	4.76	109	4.36	99	3.96	<i>Iced Tea Tall</i>	3.95	3.95
<i>Caramel Frappuccino Tall</i>	139	5.56	129	5.16	119	4.76	<i>Caramel Frappuccino Tall</i>	5.75	5.75
Average product price p_n	105.86	4.23	97.86	3.91	88.71	3.55	Average product price p_n	4.49	4.38

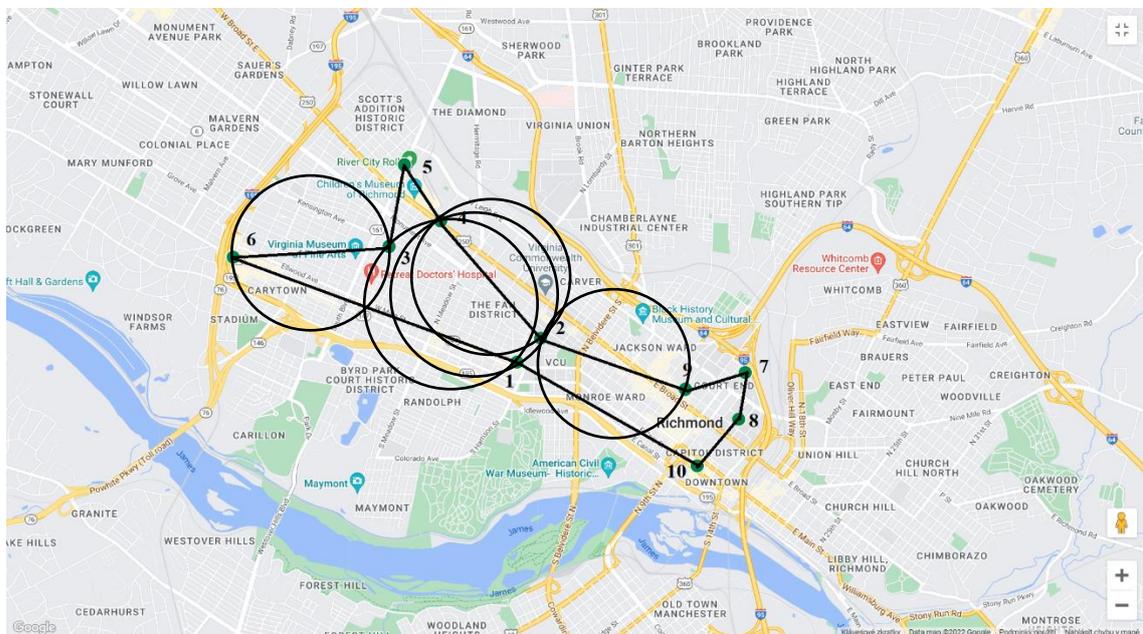
Source: Authors' own research

Figure 3: The Largest Circles Method Applied to Prague Starbucks Stores



Source: Google Maps, 2022; Authors' own work

Figure 4: The Largest Circles Method Applied to Richmond Starbucks Stores



Source: Google Maps, 2022; Authors' own work

Table 2: Values of (d) for Selected Pairs of Starbucks Stores

Prague		
Store A	Store B	Distance in meters between A and B (<i>d</i>)
1	12	1050
2	9	900
8	9	650
5	6	590
3	7	440
Richmond		
Store A	Store B	Distance in meters between A and B (<i>d</i>)
1	3	1780
1	4	1600
2	9	1590
3	6	1580
2	4	1580

Source: Google Maps, 2022

Based on our findings, a table showing the distances between the examined stores can be created. **Table 2** contains all the distances (*d*) that will be needed for future calculations of transportation costs (*c*) using equation (3.7). These values were obtained using Google Maps and its tool for measuring the distance between two points. (Google Maps, 2022)

Finally, the last step necessary to construct and solve the equation (3.7) is to derive or approximate the utility gained by the consumer of consuming standardized Starbucks good (u_n). To approximate the value of (u_p) (utility gained by the average Prague Starbucks consumer) and (u_R) (utility gained by the average Richmond Starbucks consumer) it is necessary to focus on consumer-side of the business and determine the ratio between the (u_p) and (u_R), assuming they both consume the same Starbucks product.

It is time to use the assumption made earlier that no Starbucks consumer has a negative net benefit of traveling to his closest Starbucks store and consuming a good there. Therefore, (u_p) cannot be smaller than 4.23 USD (the highest average price of one of the selected Prague Starbucks stores) and (u_R) cannot be smaller than 4.49 USD (the same rationale). The maximum conceivable value for (u_p) and (u_R) cannot be obtained so easily. However, an assumption can be made that this value can hardly be significantly higher than the price charged by Starbucks. It is so because

Starbucks pricing policy is one of the most sophisticated in the world and it would be naive to think that there is high consumer surplus even for the consumer who bears no transportation costs.

Assuming that the average consumer in Prague enjoys the same Starbucks good equally as the average Starbucks consumer in Richmond, their willingness to pay for this same good can be derived. For this purpose, their costs of living (namely food expenses) in the city where they live will be used. Data show that average food expenses in Richmond are 1.67x higher than in Prague (LivingCost, 2022). It means that the average Richmond consumer expects to pay 1.67x more for every food/beverage he consumes than the average Prague consumer. Based on this assumption, it can be concluded that (u_R) will be 1.67x higher than (u_P) . In equation (3.7), it is mathematically evident that to calculate (c) in each city having (u_P) and (u_R) fixed for every set of inputs, it is the ratio between (u_P) and (u_R) that significantly influences the final ratio between outputs (c) calculated from each equation. Therefore, knowing the ratio between (u_P) and (u_R) is more critical than having the exact values of those variables.

Thus, let us estimate the value of (u_P) to be 1.5x the lowest average price of any Starbucks store in Prague within the predefined area (3.55 USD), so (u_P) equals to 5.325 USD. Since it was proved that (u_R) is equal to 1.67x (u_P) , thus, (u_R) is estimated to be equal to 8.893 USD.

Once again, it is crucial to highlight that these values were approximated and estimated and, therefore, are not exact. Nevertheless, they are realistic enough to avoid bias in the future results and not significantly influence the comparison of transportation costs incurred by Richmond and Prague Starbucks consumers.

4.4 Calculation of Transportation Costs

In **Table 3**, all the data from the previous sections were summarized. Stores are numbered according to the legend provided in **Table 6** (see **Appendix**). The **Average product price of Store A** stands for (p_1) , and the **Average product price of Store B** for (p_2) ; these values are given in US dollars. **Distance between A and B** represents the value (d) that can be found in **Table 2** and is denoted in meters. The last exogenous variable is the **Utility of the consumer** in the city, considering (u_P) standing for Prague and (u_R) for Richmond. These values were approximated above. Once these data have been summarized in one table, it is time to put corresponding values in each column into equation (3.7).

Altogether, 10 equations are constructed. Results of all these equations are shown in a row of **Table 3** named **Transportation costs** and are given in US dollars per meter. Thus, transportation costs per meter for each city's five marginal consumers are calculated. The arithmetic mean of these values for each city is used to compare consumers in both cities. These means are shown in rows called **Average transportation costs** and are given in US dollars per meter.

Table 3: Transportation Costs of Prague and Richmond Starbucks Consumers

		Prague				
Store A (see Table 6)		1	2	8	5	3
Average product price of Store A (USD)		3.91	3.91	4.23	3.55	3.91
Store B (see Table 6)		12	9	9	6	7
Average product price of Store B (USD)		3.55	3.55	3.55	3.91	4.23
Distance between A and B (meters)		1050	900	650	590	440
Utility of the consumer (USD)		5.325	5.325	5.325	5.325	5.325
Transportation costs (USD/meter)		0.003038	0.003544	0.004415	0.005407	0.005705
Average transportation costs (USD/meter)		0.00442185				
		Richmond				
Store A (see Table 6)		1	1	2	3	2
Average product price of Store A (USD)		4.38	4.38	4.38	4.38	4.38
Store B (see Table 6)		4	3	9	6	4
Average product price of Store B (USD)		4.38	4.38	4.49	4.38	4.38
Distance between A and B (meters)		1600	1780	1590	1580	1580
Utility of the consumer (USD)		8.893	8.893	8.893	8.893	8.893
Transportation costs (USD/meter)		0.005641	0.005071	0.005608	0.005713	0.005713
Average transportation costs (USD/meter)		0.00554898				

Source: Google Maps, 2022; Authors' own research

4.5 Determining The Best Location for Future Starbucks Stores

For simplification, the considered area for placing a new store in each city will be reduced to the polygons derived in **Figures 3 and 4**. To find a solution, the information presented in the previous section of this key study will be used as well as the other data from the author's field research shown in **Tables 4-7** (see **Appendix**). The final decision will be based on a combining all the above-mentioned findings and calculations, using logical reasoning and fundamental economic theory. The most critical theoretical background will be Applebaum's store-location strategy. (Applebaum A, 1966; Applebaum B, 1966)

Since more than 1000 new Starbucks stores are currently built each year. From this perspective, one can conclude that the company has enough resources to build a new store in Richmond and Prague and that it corresponds to the company's long-run strategy. This study's goal is, therefore, realistic, and realizable. It was also found that Starbucks holds a relative monopolistic position in the hot drinks market, since the company strongly relies on customers' loyalty to the brand and the company itself.

The next step is to use the data from **Tables 4 and 6** (see **Appendix**), showing the district's population density in the polygons. The average population density in Prague is about 2.5x higher than in Richmond. However, let us compare the distances between the five representative Starbucks stores shown in **Table 2**. The Prague stores are approximately 2.5x closer to each other than the Stores in Richmond. The effect of higher population density is therefore compensated by higher store density.

Now, let us look at **Figures 3 and 4**. The circles created to calculate transportation costs also indicate areas where no Starbucks stores are present. Since the only condition is to build a new store within the predefined polygon, these circles can be helpful since they indicate the largest uncovered market areas. Thus, it is evident that according to this criterion, the best location for a future store in Prague is in the middle of the largest circle that has **stores 1 and 12** on its circumference or, alternatively, in the middle of the second largest circle that touches **stores 2 and 9**. **Table 4** (see **Appendix**) shows that the population density between **stores 1 and 12** is 1.2x higher than between **stores 2 and 9**. In addition, the distance between **stores 1 and 12** is 1.17x higher (**Table 3**), implying a larger uncaptured market area (see the largest circle in **Figure 3**). After adding the environmental perspective, one can see that location in the middle of the largest circle would also take advantage of its proximity to the Prague main train station, where is currently no Starbucks store present.

Repeating the same steps for Richmond, it can be concluded that all the representative circles are about the same size. However, the largest one can be found between **stores 1 and 3**. Using data from **Table 6** (see **Appendix**), Richmond vote districts can be compared. Based on this, the significantly highest population density can be found in the area between **stores 1, 2, 3, and 4**. Therefore, the other area can be excluded from the further examination since the distances between the stores in these areas are not bigger than the distance between the stores in the area bounded by **stores 1, 2, 3, and 4** (The Fan District). Since the largest of the three circles in the Fan District is the one between **stores 1 and 3** (highest distance; see **Table 3**), a preliminary conclusion can be made, saying that the middle of this circle is the most advantageous area for a new Richmond Starbucks store. However, from environmental perspective, there needs to be evident support for prioritizing this location before the location in the middle of circles constructed between **stores 1 and 4; and 2 and 4**. These two options could be better since the new store in the middle of these circles would be closer to the main road and the campus of Virginia Commonwealth University.

In Prague, it was shown that based on the location and population research, the areas with highest potential for Starbucks' future expansion are those between **stores 1 and 12; and 2 and 9**. In **Table 4** (see **Appendix**), it is presented that the average price charged by **store 1** is 3.91 USD and by **store 12** equals 3.55 USD. So, the marginal consumer does not stand right in the middle of the line connecting these two stores but is closer to **store 1**. However, the same applies to **stores 2 and 9**, where the first mentioned charges 3.91 USD, whereas the second one only 3.55 USD. So, in this case, the marginal consumer stands closer to **store 2**. Since **stores 1 and 2** are on the same side of the polygon, this price information does not change the preference for location between **stores 1 and 12**. However, it means that the future store should not necessarily be located in the middle of the circle constructed between **stores 1 and 12** (depending on the price charged by the future store).

Nevertheless, in **Table 5** (see **Appendix**), it was calculated that the expected sales per hour of **store 1** are 185.93 USD and of **store 12** are equal to 145.68 USD. On the other hand, the expected

sales per hour of **store 2** are higher than those of both previous stores (206.67 USD), but **store 9** is expected to generate only 85.17 USD. Moreover, it is necessary to mention that **store 9** shares a location with **store 10**, generating 195.71 USD per hour while charging price of 3.91 USD. This situation indicates higher market potential (based on expected sales) in the area between **stores 2 and 9**.

In Richmond, based on data in **Table 6** (see **Appendix**), it was discovered that all stores in the preselected area (**stores 1, 2, 3, and 4**) charge the same average price (4.38 USD). Therefore, this data cannot be used to favor any location. However, a conclusion can be made that the future Starbucks store should be in the middle of the circle between two current stores in the finally chosen area since the marginal customer of these two stores is also in the middle of the line connecting these two stores.

After comparing the expected sales of each store shown in **Table 7** (see **Appendix**), it is evident that the highest sales per hour are generated by **store 2** (282.92 USD). The lowest sales per hour can be observed for **store 3** (175.14 USD). **Stores 1 and 4** have almost identical expected sales per hour (236.44 USD and 239.87 USD). Based on the data and **Figure 4**, considering the size of the circles, two potential areas for Starbucks expansion that include **store 2** are relevant (the ones with the highest expected sales per hour). The first is between **stores 2 and 4**, whereas the second is between **stores 2 and 3**. However, since **store 3** has significantly lower expected sales than **store 2**, the highest market potential (based on expected sales) is between **stores 2 and 4**.

5 Findings

5.1 Interpretation of Transportation Costs Results

In **Table 3**, it is shown that the average transportation costs per meter borne by the average Starbucks consumer in Prague (\bar{c}_P) are equal to 0.00442185. After rounding, it can be concluded that the average Starbucks consumer in Prague within the predefined area must sacrifice 4.42 USD for every kilometer traveled to the Starbucks store to buy the average Starbucks good that yields utility (u_P). On the other hand, the average Starbucks consumer in Richmond (\bar{c}_R) within the predefined area bears average transportation costs of 0.00554898. It implies (after rounding) the sacrifice of 5.55 USD for every kilometer the consumer travels in order to purchase the average Starbucks good with utility (u_R).

Since the value for (u_P) was estimated to equal 5.325 USD, it implies that the average Prague Starbucks consumer is willing to travel at most 320 meters to purchase the average Starbucks good for 3.91 USD (most common (p_n) in Prague). If he does so, his net benefit of buying this good would be negative. Similarly, we can calculate the maximum traveled distance for the average Richmond consumer whose utility (u_R) from consuming the average Starbucks good that costs 4.38 USD (most common (p_n) in Richmond) equals to 8.893 USD. This consumer is not willing to undergo the journey longer than 813 meters to visit a Starbucks store. These maximum distances (\hat{x}_n) were calculated using the equation (3.8).

$$\hat{x}_n = \frac{u_n - p_n}{\bar{c}_n} \quad (3.8)$$

5.2 Comparison of Transportation Costs Results

Finally, the differences between (\bar{c}_P) and (\bar{c}_R) , as well as the rationale behind them, can be explained. As shown above, the average transportation costs per meter borne by the average Starbucks consumer in Richmond (\bar{c}_R) are 1.255x higher than those borne by the average consumer in Prague (\bar{c}_P) . On the other, the distance the average Richmond consumer is willing to undergo to gain positive or zero net benefit from consuming the average Starbucks product for the most common price in his city is 2.54 x higher than the distance average Prague consumer is willing to travel.

Although the distance traveled is one of the critical aspects that influence transportation costs, the other important ones are (u_n) and (p_n) , which is mathematically evident from equation (3.7). Therefore, even if the distance between stores is more than double in Richmond than in Prague, due to the significantly higher (u_n) of Richmond consumers, their transportation costs are ultimately higher than those of consumers in Prague.

The average hourly wage in Prague in the second quarter of 2021 was 10.25 USD (CSU C, 2021), whereas, in Richmond, it was 2.64x more, 27.10 USD (BLS, 2021). Assuming each worker works 180 hours/month, it was 4878 USD/month in Richmond and 1845 USD/month in Prague. It is evident that the average consumer in Richmond is significantly wealthier than the one in Prague; thus, he can afford to bear higher transportation costs. This explanation also makes sense from the opportunity costs perspective. Traveling to the store takes some time, and time is money. The more time the consumer travels, the higher his opportunity costs.

5.3 Evaluation of The Best Locations for Future Starbucks stores

Although it was proved that the area between **stores 2 and 9** offers high market potential (based on expected sales), the examination of population and environment shows that the most suitable location for future Starbucks store in Prague would be the area around (or in) Prague main train station. Once having a Starbucks store there, it is unnecessary to care about the transportation costs of the consumers since they have other incentives to go to the train station and not only to visit the Starbucks store. So, based on what was found out above, the utility of these consumers (u_p) is reduced mainly only by the price (p_n) , and their transportation costs (c) are minimal. In conclusion, the best location for a future Starbucks store in Prague, within the examined area (polygon in **Figure 3**), is the Prague main train station. The alternative solution can be the location at the intersection of streets Na Příkopě and Nekázanka (inside of the circle connecting **stores 2 and 9**).

Similarly, the best location for a future Starbucks store in Richmond based on population and environmental factors is between **stores 1, 2, 3, and 4**. Analysis of prices and expected sales of current stores proved that the most suitable area for generating future sales is in the middle of the line connecting **stores 2 and 4**. This conclusion would suggest building a new Starbucks store at the intersection of Monument Ave and North Allen Ave. However, considering the city environment and facilities, it would make greater sense to place the new store at the intersection of West Broad Street E and North Lombardy Street since the store would be easily accessible from the main street (W Broad St E). This location would also be close to Virginia Commonwealth University (**store 2** on the VCU campus had the highest expected sales per hour).

Conclusion

Starbucks is currently the biggest coffeehouse chain in the world and has substantive market dominance, especially in the United States. It is partly because of the significant consumer loyalty to the brand and company's services, as well as due to more than solid capitalization. Since the company's revenues reached 29.1 billion USD in 2021, the Seattle-based coffeehouse giant could open more than 1 000 new stores a year, keeping its expansions more than continual and Starbucks stores omnipresent.

After the scope of the study was reduced to each city's city center and the second half of 2022, Salop's model was modified to the equation that made the calculation of the average consumer transportation costs possible even with the limited data accessible. The average transportation costs for the Richmond consumer (0.00554898 USD/meter) were determined to be 1.255x higher than those of the average Prague consumer (0.00442185 USD/meter). At the same time, it was calculated that the average Richmond consumer is willing to travel 2.54x higher distances (813 m) than the average Prague consumer (320 m) to buy the average Starbucks good. Ultimately, it was concluded that the most suitable location for future Starbucks stores in Prague is the Prague main railway station. Similarly, the most suitable location in Richmond is the intersection of West Broad Street E and North Lombardy Street (on the main Richmond Road and close to Virginia Commonwealth University).

To conclude, we believe that the main contribution of this study is not only achieving a business-applicable solution for Starbucks company and comparing the transportation costs of Prague and Richmond Starbucks consumers. We also present methodological process of inverting Salop's model into the form that works with transportation costs as endogenous variable. The reason for the widespread use of data approximation is Salop's model itself, which assumes that transportation costs will be used as an exogenous variable. However, this study changed this, and transportation costs were the main endogenous and explained variable. This inversion of Salop's model and its usage to calculate transportation costs is inherently innovative since Salop's model is usually used as an instrument of industrial organizations' science for calculating price, profit, or the number of firms in the market. Therefore, this unusual application of Salop's model to the solution of a business consulting case study can also be considered a significant contribution provided by this study.

This research was funded by Prague University of Economics and Business, VŠE IGS F5/4/2023.

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Appendices

Table 4: Field Research in Prague Starbucks Stores (22. 7. 2022) - Part 1

Store name	Coordinates	City district	Population density (people per km ²)	Opening hours	Price category p ₂	Average product price (USD)
<i>Muzeum</i>	50.07996, 14.4299	Nové Město	7047.59	6:30-20:00	2	3.91
<i>Můstek</i>	50.0814, 14.4265	Nové Město	7047.59	7:00-20:00	2	3.91
<i>Jungmannova</i>	50.0827, 14.4224	Nové Město	7047.59	7:00-19:00	2	3.91
<i>Prague Quadrio</i>	50.0816, 14.4205	Nové Město	7047.59	7:30-21:00	2	3.91
<i>Spálená</i>	50.0810, 14.4198	Nové Město	7047.59	6:30-19:00	3	3.55
<i>Karlova 20</i>	50.0858, 14.4165	Staré Město	5848.84	9:00-20:00	2	3.91
<i>Staroměstské náměstí</i>	50.0865, 14.4207	Staré Město	5848.84	7:00-20:00	1	4.23
<i>Staroměstské náměstí - The Clock</i>	50.0868, 14.4212	Staré Město	5848.84	7:30-20:00	1	4.23
<i>Palladium Kiosek</i>	50.0893, 14.4298	Nové Město	7047.59	7:30-18:30	3	3.55
<i>Palladium</i>	50.0893, 14.4296	Nové Město	7047.59	6:30-20:00	2	3.91
<i>Palác Archa</i>	50.0896, 14.4340	Nové Město	7047.59	7:30-20:00	3	3.55
<i>Florentinum</i>	50.0888, 14.4352	Nové Město	7047.59	8:00-15:30	3	3.55
<i>Prague Florenc bus terminal</i>	50.0898, 14.4401	Nové Město	7047.59	8:00-18:00	3	3.55

Source: Google Maps, 2022; Authors' own research

Table 5: Field Research in Prague Starbucks Stores (22. 7. 2022) - Part 2

Store name	Visit time	Visit time (min)	Ordered items	Customers	Items per customer	Expected sales per hour (USD)
<i>Muzeum</i>	15:16-15:40	24	19	17	1.12	185.93
<i>Mústek</i>	15:45-16:10	25	22	16	1.38	206.67
<i>Jungmannova</i>	16:16-16:35	19	14	12	1.17	173.05
<i>Prague Quadrio</i>	16:40-16:55	15	13	12	1.08	203.54
<i>Spálená</i>	16:58-17:12	14	8	8	1.00	121.67
<i>Karlova 20</i>	17:20-17:40	20	17	15	1.13	199.63
<i>Staroměstské náměstí</i>	17:48-18:00	12	10	10	1.00	211.71
<i>Staroměstské náměstí - The Clock</i>	18:02-18:10	8	5	5	1.00	158.79
<i>Palladium Kiosk</i>	18:35-19:00	25	10	10	1.00	85.17
<i>Palladium</i>	18:18-18:30	12	10	7	1.43	195.71
<i>Palác Archa</i>	18:45-20:00	75	38	34	1.12	107.88
<i>Florentinum</i>	13:32-14:10	38	16	13	1.23	89.65
<i>Prague Florenc bus terminal</i>	14:21-15:30	69	49	45	1.09	151.20

Source: Google Maps, 2022; Authors' own research

Table 6: Field Research in Richmond Starbucks Stores (14. 10. 2022) - Part 1

Store name	Coordinates	Vote district	Population density (people per km ²)	Opening hours	Price category p _s	Average product price (USD)
<i>Main & Harrison - Pickup/VCU</i>	37.54598, -77.4560	2	3926.47	6:00-19:30	2	4.38
<i>VCU Cabell Library</i>	37.5483, -77.4536	2	3926.47	7:30-1:00	2	4.38
<i>North Robinson Rd.</i>	37.5566, -77.4708	2	3926.47	5:30-19:00	2	4.38
<i>The Fan - Broad and Strawberry</i>	37.5589, -77.4648	2	3926.47	5:30-20:30	2	4.38
<i>Arthur Ashe Blvd & Myers</i>	37.5643, -77.4689	2	3926.47	5:30-20:30	2	4.38
<i>Carrington</i>	37.5552, -77.4887	5	1687.77	5:30-19:00	2	4.38
<i>VCU Student Center</i>	37.5449, -77.4296	6	1415.68	7:30-18:00	2	4.38
<i>VCU MC Gateway Building</i>	37.5403, -77.4303	6	1415.68	6:00-22:00	2	4.38
<i>Richmond Marriott Lobby</i>	37.5428, -77.4367	6	1415.68	6:00-18:00	1	4.49
<i>Omni Hotel Richmond Lobby</i>	37.5357, -77.4352	6	1415.68	7:00-14:00	1	4.49

Source: Google Maps, 2022; Authors' own research

Table 7: Field Research in Richmond Starbucks Stores (14. 10. 2022) - Part 2

<i>Store name</i>	<i>Visit time</i>	<i>Visit time (min)</i>	<i>Ordered items</i>	<i>Customers</i>	<i>Items per customer</i>	<i>Expected sales per hour (USD)</i>
<i>Main & Harrison - Pickup/VCU</i>	14:02-14:22	20	18	18	1.00	236.44
<i>VCU Cabell Library</i>	14:29-14:42	13	14	13	1.08	282.92
<i>North Robinson Rd.</i>	15:02-15:20	18	12	12	1.00	175.14
<i>The Fan - Broad and Strawberry</i>	15:26-15:49	23	21	19	1.11	239.87
<i>Arthur Ashe Blvd & Myers</i>	16:08-16:33	25	17	17	1.00	178.65
<i>Carrytown</i>	16:50-17:12	22	23	22	1.05	274.66
<i>VCU Student Center</i>	12:10-12:36	26	10	9	1.11	101.04
<i>VCU MC Gateway Building</i>	12:47-13:02	15	5	5	1.00	87.57
<i>Richmond Marriott Lobby</i>	13:11-13:28	17	7	5	1.40	111.00
<i>Omni Hotel Richmond Lobby</i>	13:41-14:00	19	6	4	1.50	85.13

Source: Google Maps, 2022; Authors' own research

Table 8: Starbucks Stores in Figures 3 and 4 - Legend

Prague		Richmond	
Store name	Number	Store name	Number
<i>Múzeum</i>	1	<i>Main & Harrison - Pickup/VCU</i>	1
<i>Mústek</i>	2	<i>VCU Cabell Library</i>	2
<i>Jungmannova</i>	3	<i>North Robinson Rd.</i>	3
<i>Prague Quadrio</i>	4	<i>The Fan - Broad and Strawberry</i>	4
<i>Spálená</i>	5	<i>Arthur Ashe Blvd & Myers</i>	5
<i>Karlova 20</i>	6	<i>Carrytown</i>	6
<i>Staroměstské náměstí</i>	7	<i>VCU Student Center</i>	7
<i>Staroměstské náměstí - The Clock</i>	8	<i>VCU MC Gateway Building</i>	8
<i>Palladium Kiosek</i>	9	<i>Richmond Marriott Lobby</i>	9
<i>Palladium</i>	10	<i>Omni Hotel Richmond Lobby</i>	10
<i>Palác Archa</i>	11		
<i>Florentinum</i>	12		
<i>Prague Florenc bus terminal</i>	13		

Source: Google Maps, 2022