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ERASMUS SCHOOL OF ECONOMICS

Thesis Topic

Does the type of super-markets, their location and seasonal beer promotions influence total beer sales?

Author: Sophia Xafa (383563)

Email address: 383563sx@eur.nl

Supervisor: Drs. Bruno Jacobs

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Executive Summary

Companies nowadays hold rich amounts of data that could be a useful source to analyze their strategic actions and marketing decisions more successfully. Such data could offer a better understanding for the reasons of the actions that companies do and which factors are influencing them.

The marketing mix, and specifically promotions, is also used in companies' every day's activities and especially in the ones that are concerned with FMCG (fast moving consumer goods).

Based on this notion, our analysis was focused on sales data. One of the main objectives of this research is to better understand the breadth of promotional activities and sales actions. The other one is how the aforementioned (promotional activities and sales) are influenced by factors such as seasonality, retailers' prices, store type and their area demographics. The research of the analysis was conducted based on sales and promotional data from a Greek brewery which were aggregated in weekly basis. Most of the analyses were executed on SPSS and Excel.

Our results indicated that sales promotions and the super-market category influenced greatly total beer sales, whereas the area of the store and the retailers' pricing policies negatively affected them. Seasonality, on the other hand, did not give significant results for its effect.

Finally, in the last part, implications and future research and contribution of the study are also indicated.

Key words: *sales promotions, seasonality effect, super-market category, area demographics, retailers' and manufacturers' pricing policies*

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1. Introduction

Sales promotion is a sophisticated marketing technique that centers on business development. It competes with traditional media, advertising and sales force efforts so as to build sales and profits (Smith and Schultz, 2005). It is a scheduled method that helps describing sales promotion programs and activities based on proven and consistent planning models that include measurable outcomes against clear sales goals.

Previously, promotion managers had been centered on sourcing gadgets and logos. If these were distributed appropriately and not to any and everybody, sales promotion capabilities were not be used to the fullest. Currently, sales promotion is much more complicated, strategic and essential to all types of marketing organizations; its budgets continue to rise and change from other types of marketing activities. New concepts, ideas and approaches continue to develop in all kind of businesses around the world. According to Smith and Schultz (2005), sales promotion continues to develop and broaden while focusing on the notion of the most crucial part of any business nowadays: How to sell more and make more money. Sales promotion can be observed in many ways. For example, marketers can watch customers bring coupons to the store, see them wearing branded t-shirts, head to the exhibit and finally picking up the product.

Sales promotion manages to influence and impact consumers' behavior patterns so that people would do things that they might not have done in its absence. Such things could be purchasing things earlier than planned, going to stores they hadn't previously considered and in general, finding new ways of buying products and services. After all, that is the main element of sales promotion: to influence behavior.

Sales promotion is also known as promotional marketing and it is simply an extra way and mean through which sales are endorsed, by the use of sales motivations to price-off signs. Marketers actually started to understand that promotion is much more than just a sales function since promotional tactics are a useful marketing tool that helps to extend the brand image, to better target different consumer segments, to maintain strategic planning and promote sales. In actual fact, sales promotion is vital for every successful marketing plan given that it achieves objectives, such as continuity, multiple purchasing and sampling that are less attainable through other marketing techniques. Promotional marketing uses motivational practices which encourage programmed actions through sales, distribution, trade, end-user and the consumer segments.

Promotional marketing evokes direct action since promotional events make people feel happy with the product and they are more "energetic" in their buying actions. Each firm has its promotional objectives and targets, some of them indicatively can be:

- Increased distribution outlets
- Increased shelf space
- Increased in-store presence

- Expanded selling season
- Increased purchase frequency
- Increased usage occasions increased transaction size
- Trial

Seasonal promotions are also of great importance nowadays. They are part of the marketing mix activities and have inundated all aspects of our everyday lives.

By intuition and general knowledge, modern-trade sales are influenced by the promotional activities performed and also by seasonality. This effect is concerned with other factors as well. Some of them indicatively are: the super-market category and their area demographics. When discussing about the super-market type, we imply the nature of pricing policy each super-market chain follows and also area demographics-the general area where the aggregated amount of super-market chains are cited. The data we have obtained derive from Greece from a local known brewery.

Through this study we aim to investigate how seasonality along with promotional activities influence the total amount of beer sales. The analysis will be generalized also in demographical level of the super-markets alongside with the effects of pricing policies in order to have a better view of the way the market works and understand better the outcomes.

The thesis sequence will be formed as following: in the next section there will be a small introduction concerning the topic of our research and the problem statement and how our research is connected with the consumption in Greece. Furthermore, we will analyze what has already been researched in the field of sales promotions, seasonality and retailers' pricing policies and we will start describing the model and the methods that will be used for the analysis.

Additionally, we will inspect the database we have and will continue with the study's results and explanations. In closing, conclusions of the study will be inputted along with future research and study's implications will be mentioned in the later section of the thesis.

1.1 Problem Statement

Nowadays all shopping activities are tracked by companies that hold big data but what these companies lack is the way to extract information concerning this data. Such data deal with hundreds of thousands of participants and every variable possible. Consumers' habits change from one day to another and the quantity and frequency with which they buy products differs from one area to another. Big Data can be utilized as a useful tool to find hidden rules and patterns across different aspects of every business, which will provide managers with solutions for complex problems.

According to Julander (1992), technological improvements in information and communication, including big data, are being very quickly adopted by retailer stores. All these computerized checkouts in stores, yield feedback about brand profitability, goods movement and the effects of marketing activities like deals and in-store promotions. With the aid of these scanner data, new means of studying marketing behavior have been elicited and we can better comprehend these effects on consumers and create a shopping experience that will reflect this understanding. Therefore, this is also the reason for the creation of shopping baskets.

Shopping baskets arise due to consumer behavior of customers. During the 1980s, shopping was perceived as an "entertaining sport" from which prospective buyers received instant satisfaction (Betts and McGoldrick, 1995). Through this notion, retail sales have risen.

From this era till even now, a vast amount of matters has changed and consumers are becoming more constraint and conscious when deciding on buying products (Betts and McGoldrick, 1995). The economic crisis as well has hurt the majority of the households and their disposable income and individuals struggle to cope with this situation (Hardesty and Bearden, 2003).

According to von Hippel & Katz (2002), consumer needs change rapidly and the process through which firms try to understand consumer needs and serve the demands of each segment is constantly growing. As a result of consumers' continuously changing preferences and heterogeneity, sales forecasting and prediction is becoming even more difficult (Ogawa & Piller, 2006). So in order to better fulfill consumers' needs while firms needed to gain awareness and increase their profits, sales promotion was introduced in the market. Promotions gave consumers the power to buy bundled everyday products on discounted prices.

Therefore, firms have to rethink the relationship between attitude and behavior of their consumers (Boztug & Reutterer, 2008 and Bogaisky, 2014). One way firms can do this, is through the marketing mix and especially through sales and seasonal promotions. By understanding better the consumer and his purchasing intentions, firms can find the best way to approach them and provide them with better products and deals while at the same time increasing the market share and profits.

1.2 Research Problem Description and Motivation for Research

As described above, shopping basket analysis and sales data analysis are very important and appealing to retailers in brick and mortar stores. The reason of this importance is that through the aid of advanced technology, it is possible to gather information about customers and their buying choices. Market basket analysis discloses all the underlying patterns of buying behavior that cannot be that easily observed (Manchanda, Ansari and

Gupta, 1999). “Sales promotion” has wider applications since it encompasses all selling activities and service features that influence the selling of goods (Simons, 1951). Sales promotion though is more than that.

Based on previous academic research on sales promotions, it was found that only a few paid attention on sales promotions and seasonality and even less on regional analysis for retailers. Sales promotions and seasonality are tightly linked and intertwined between one another due to the timing of promotions when scheduled and the season that they are introduced in the market (Yi and Yoo, 2011). Some seasons are more profitable for some firms depending on their products and some others less. For instance in our analysis for beer sales, it is perceived that summer is a more profitable season for beer due to the good weather conditions. But consumers in every country and region have their own consumption patterns and habits depending on the climate.

Another reason though exists that can aid sales and promotions to gain success apart from seasonality. Retailers and manufacturers also play a determinant role on sales success (Mulhern and Leone, 1991). Manufacturers are important because they produce the product and distribute it to retailers and the latter ones because they are responsible in implying a desirable product placing. Finally, the last ones who are of great importance in this cycle are the consumers. Customers are the last and more crucial wheel of this procedure since they are the ones who actually buy the products. In order for all these to be aligned (promotions, seasonality, manufacturers, retailers and consumers), we need to find a way to better grasp consumers’ purchasing behaviors and patterns. In this way retailers and manufacturers are able to adjust and improve promotion settings, store settings and even advertising campaigns.

This topic is particularly interesting, especially for future marketers who want to learn more and understand about the managerial mechanisms with which promotions work along with seasonality depending on the region and the retailers’ chain and want to find a way to link these issues. Therefore in combining the above statements, the main goal and motivation of the study is to help manufacturers and businesses to understand consumers’ needs and help them provide them with better deals.

1.3 Managerial Relevance & Importance

All companies use the marketing mix in their everyday activities. From product placement and pricing techniques to promotional actions that ends up influencing the consumers.

Based on Julander (1992), manufacturers sell to two types of customers: the retailer and the final consumer. Therefore, in-store shopping behavior should be of interest to manufacturers in terms of consumer insights and behavior so as to understand in what context the product is purchased. For that reason, Point-of-sale (POS) scanning technologies have been introduced and via retailers, tremendous amounts of personally

identifiable POS data are collected. The linkage between household and purchasing activities with relevant data can be really valuable for managerial and targeting support.

Based on this notion, product pricing is very important because it has been investigated over the years and has a twofold significance. Firstly, it is really important in order to judge product performance (Jiang & Rosenbloom, 2005) and secondly as a measure for customers to consider the product's quality (Zeithaml, 1988). By understanding this, we see that in its own way sales promotion has become a vital tool for marketing and its importance is increasing significantly over the years. According to Kotler (2003), one of the purposes of a sales promotion is to elicit a direct impact on the purchase behavior of the firm's consumers.

Sales promotion aims to provide a short-term boost to sales and there are many ways to do that. A straightforward price cut is one option, whilst sales promotion looks for alternatives that are more cost-effective and cost less to be implemented while providing a bigger increase in sales. While applying sales promotions, most companies lose money and only a 17% of the sales campaigns are profitable. On the other hand, this is a new way to attract new customers, since many sales promotions attract brand switchers who are looking for a lower price and naturally abandon a brand when another one is on sale (Kotler, 2003).

Marketing and consumer behavior deal with factors that influence the purchase and use of products and services as it is availability, advertising, image and consumer characteristics. Consumers' behavior is governed by many factors such as their needs and wants, attitudes and expectations, what is already available in the market, their financial situation and finally their decision process (Berk & Ulengin, 2003).

There is a lot of previous research performed about sales and seasonal promotional activities but none of them was focused on the seasonal consumption of beer. Their center of attention was grocery consumption, the promotional activities in this domain, brand loyalty and customer preferences.

But in order to better understand seasonal promotions, consumption patterns and how these two can be connected, an example shall be illustrated.

Starbucks is a worldwide coffee company that is known for its high quality coffee that is being used in all of its beverages and the way in which the company pays attention to its customers.

Starbucks always does a great job of using the changing seasons to market their business. By limiting the ever-popular Pumpkin Spice Latte and a variety of Christmas themed drinks to seasonal availability, they effectively create a sense of scarcity which drives up demand. However, their most recent seasonal marketing effort, the Starbucks Magic Cup mobile application embraces the spirit of the holidays and leverages the power of mobile marketing. This app allows customers to send e-Gifts to friends and family, to collect

holiday-themed cups and view the current holiday specials (http://gr.starbucks.com/en-US/).

Consistent with the aforesaid factors that are of great managerial relevance (sales, promotions, seasonality, and retailers) and in order to better establish our understanding, we shall manage to apply and realize how they can be connected. The results of these analyses could be of great use for managers because they could be able to do better forecasting, cost-saving techniques in raw materials and manage to satisfy consumers' needs. The region of interest for our research is Greece. In the next section, we will analyze what are its beverage consumption patterns and how the situation in the country's market is during the recession that is being through so as to better align afterwards our analysis results.

1.4 Consumption Patterns in Greece

Alcohol drinking patterns vary between countries and cultures. This thesis topic will be more specified in beer consumption in Greece therefore a small preview of how the overall situation is during the last years will be very enlightening. Greece is a Mediterranean country where drinking is a social event. People drink moderate amounts of wine, beer, and spirits in a social setting and in lots of other special occasions as well as local holidays.

In 2009, when the recession in the domestic economy commenced, the Greek industrial world got a major impediment in employment, sales, gross production and investments. This was accompanied with a relative downfall in these numbers. As a consequence, the economic crisis has negatively affected beverage sales and beer ones, by displaying negative growth.

Yet beer was still the best performer during the crisis period given the fact that the losses were far more moderate in comparison to the rest of alcoholic drinks. Total volume sales declined by -6% in 2012, the mildest decline within total alcoholic drinks. Athenian Brewery, one of the major breweries in Athens, remains the leader with a value share of 52% in 2012, yet its value share declined. Both its flagship brands, Amstel and Heineken, lost market share the last three years. In terms of growth, the company's best performing brand in 2012 is Alfa Hellenic Beer which benefits from its low price and its domestic identity, because of more Greeks trying to support domestic brands.

In Greece, beer consumption and in general alcoholic consumption is associated with good weather conditions. That is the reason also, based on most beverages' sales, that they are increased accordingly when the weather is good and of course during this time tourism blossoms. Furthermore, sometimes no matter the weather conditions, large quantities of alcoholic beverages are being consumed during the weekends as well.

1.5 Expected Results

Through this thesis, we are trying to solve a managerial problem which is of great importance so that we can better understand how the managerial activities influence customers' behavior and purchasing patterns.

In the first part of our analysis, we will deal with seasonality and meditational effect of promotions on total sales. Seasonality has a crucial role in the analysis since retailers promotions on beer are performed on specific time series. For example, before Christmas, Easter and during the summer there are a lot of promotions in certain beer brands. In some of them, there exist even more promotions during the year since the brand itself is considered as cheaper brand compared to the ones that are considered more premium brands. Consequently, we expect that the results of beer sales to be highly significant with seasonality and promotions.

Furthermore, in the second part of our analysis we wanted to investigate whether an effect of super-market demographics (aggregated area data) and promotions exists on total sales. From this part of the study, we expect an influence of the aforementioned factors to be present and affect total sales. As far as the third part of the analysis is concerned, we desired to investigate a similar effect of the super-market category and promotional actions on total sales. Again in this part of the research, we will be expecting our outcomes to be consistent and influence total beer sales.

In the last part of our analysis, we want to examine what is the effect of pricing policies as a moderating variable on total sales. According to our insights and the general economic situation in Greece, we anticipate our results to be negatively affected by prices. In the upcoming section, we will get into more depth and inspect what has already been studied in existing literature as far as promotions, seasonality and retailers' activities are concerned.

2. Theoretical Framework

2.1 Literature Review

In this part of the thesis, we will describe what has already been researched and is known in the field of sales promotions, seasonality and retailers' policies.

2.1.1 Sales, Promotions and Consumer Behavior

Promotion is one of the key factors in the marketing mix that has a key role in market success for every company. It is used to ensure that consumers are aware of the products that an organization is offering. The promotional mix is the combination of the different channels that can be used to communicate the promotional message to the consumers (Weitz, Wensley, 2002).

From the early 1970s, price and sales promotions represented a big share of the marketing budget in most of the consumer packaged goods products (Lim, Currim and Andrews, 2005 and Dekimpe, & Hanssens, 1995). Promotions are one of the "below the line" marketing communications methods which during the 1980s grew twice as fast as advertising (Peattie and Peattie, 1995).

Sales promotion expenditures have grown substantially over the past 15 years in most U.S and Western European markets (Chiang, 1995). Especially for the fast moving consumer goods, sales promotions are of high importance since they represent a great deal of manufacturers' marketing budgets which can reach to 16% of their revenues (Pauwels, 2007, Walters and Rinne, 1986 and Canondale Associates 2001). Therefore, their importance in decision making has also grown in a relative sense that they account for an increasing percentage of the marketing budget of most packaged goods companies. In more traditional articles, sales promotions are regarded as a technique that brings out direct sales increase in the short-term or tries to maintain customer loyalty (Bawa & Shoemaker, 1987, 1989; Doob et al., 1969; Gupta, 1988).

In other articles, the main point of interest has been represented by the long-term effects, focusing on repurchase, switching, and brand loyalty, but failing to draw consistent results (Davis, Inman, & McAlister, 1992; Kalwani & Yim, 1992; Mela, Gupta, & Lehmann, 1997; Pauwels, Hanssens & Siddarth, 2002; Raghubir, Inman, & Grande, 2004; Srinivasan, 2002). Promotions' effect on a product's sales has been demonstrated but not researched intensively on market level and data (Blattberg and Neslin, 1989). But all in all sales promotion should not be considered just as a tool for sales increase.

According to Raju (1992), brand managers use sales promotions through programs in order to improve or stabilize brand performance. Sales promotions tend to be used more by weaker and smaller brands than stronger brands. Smaller brands have fewer funds to spend on advertising, and for a small cost they can get people to at least try their product.

However, promotions increase a brand's sales at the cost of other brands in the same product category. Nevertheless, we need to keep in mind some factors that can affect these results when consumers purchasing and end up in a common dilemma: what to purchase and in what quantity (Krishna, Currim and Shoemaker, 1991). Firstly is the magnitude of discounts, their frequency (Raju, 1992 and Assunqao and Meyer, 1990) and size between the deals (Krishna, Currim and Shoemaker, 1991). A deep discount can urge some consumers to switch to the promoted brand or induce others who considered the product category too expensive to make a purchase. This kind of behavior can provoke stockpiling or bring up an increase in consumption. This promotional effect of customers' on consumption derives from their ability to increase household stock levels (Ailawadi and Neslin, 1998). Higher inventory levels raise consumers' purchases in the product category because they give them higher flexibility in consuming the product without worrying about higher prices. But overall, big discounts can lead to a boost in category sales. Considering now the frequency of discounts, if a brand is promoted occasionally, consumers are likely to stock up for future consumption compared to a brand that is continuously on promotion (Lattin and Bucklin, 1989, Assuncao and Meyer, 1993 and Krishna, Currim and Shoemaker, 1991). In the product category, sales are not influenced as much. In the following figure (Figure 1), it is shown how the average purchasing patterns with promotions, normal, accelerated purchases and stockpiling actions are evolved through the time.

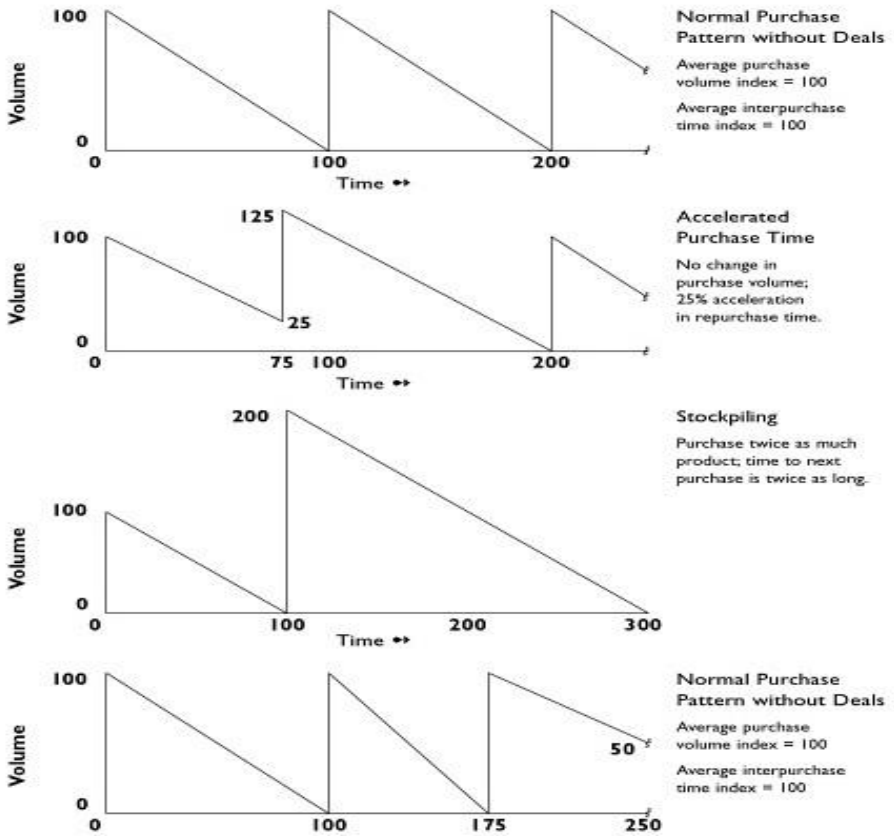

Figure 1: Purchasing patterns in existence of purchases without deals, on stockpiling and promotions (Smith and Schultz, 2005)

Moreover, Shultz (1998) declares that sales promotion generally works on a direct behavioral basis rather than affecting awareness or attitude. It is continuously said that most types of sales promotions affect the decision-making process and purchasing stages of the buying-process directly that is affected in the long-run since it leads to increased sales and profit (Kwok & Uncles, 2005). Since large budgets are allocated to promotions, it is really essential though to have a better understanding and knowledge on how consumers respond to those (Alba, Broniarczyk, 1994). Consistent with Chintagunta (2002) and Rothschild and Gaidis (1981) is suggested that a behavioral theory can be used to explain consumers' actions to promotions. When initiating a motivation to consumers, like a free sample for preliminary trial, repeated purchasing actions can occur and when this motivation evaporates then it is more doubtful for repeat purchases to happen and consumers may switch to other brands. This cognitive approach of consumers that triggers psychological processes aids them to better evaluate the promotional deal that is offered (Chintagunta, 2002). In accordance with this Dickson and Sawyer (1990) cited that customers obtain utility after buying a product at a good deal.

An interesting fact for consumer choices on product promotions and discounts, mentioned in Kahn and Raju (1991), is that the promotional offer is based on the brand in the product category. For repetitive buyers, promotions and offers have a greater impact than for the

ones that are not repurchasing the same brand and tend to seek for variety. In our case will deal only with branded products.

In line with Neslin, Henderson and Quelch (1985) (cited also in Lim, Currim and Andrews, 2005), it was discussed that promotions effect was also differed between the type of users (like heavy versus light users and loyal versus switchers). These differences in user styles are an important managerial part. They can be used as a type of recommendation systems for retailers and manufacturers in order to improve their forecasting performance by including information concerning consumer segments that each type of promotion attracts (Lim, Currim, and Andrews, 2005).

But this is not the only case where sales promotions can be utilized. Wakefield and Barnes (1997) noted that they can be also used for consumption in the leisure environment and service provision. Such cases may consist of guest appearances of team mascots, shows or contests which all lead in hedonic entertainment. The understanding though of what types of promotions magnetize consumers differs from one location to another. By focusing on promotional activities, retail managers can better comprehend their customers, make them realize their value and target their promotions. In leisure promotional activities, the ones more frequently used are price discounts, premiums or guest shows since they have as a goal to enhance the entertainment levels of their prospective customers, who need to be aware of the existence of the promotion.

Previous articles were mainly focused on grocery products and their promotional effect on consumption patterns (Gupta, 1988 & Dickson and Sawyer, 1990). An interesting finding as cited in Dickson and Sawyer (1990) is that shoppers do not spend a long time on selecting the products they are planning on buying thus not paying much of attention and checking the price of every item they pick, even if it is on sale or on promotion. One possible explanation of the phenomenon of consumers' low pricing knowledge is that they may remember the price at the point-of-purchase but not trying to remember it for the rest of their shopping experience.

Perceptions of promotional items have a crucial role in consumers' decision-making process along with skepticism and misconception (Hardesty and Bearden, 2003). When promotions are low, consumers are less likely to process the information concerning them more extensively since the discount has little monetary value as opposed to higher discounts due to levels of uncertainty (Hardesty and Bearden, 2003). For instance, just imagine if buyers had an accurate perception of a typical deal price of a 1 and a half liter of Coke, they would react differently in a discount that the price is less than the regular reduction (Dickson and Sawyer, 1990 & Lattin, Bucklin, 1989). This information on consumers' perceptions can be a useful tool for both manufacturers and retailers in settling on the product's discount while connecting consumers' prospects with pricing activities.

As the years passing by, the types of promotions have changed, evolved and differentiate in the role they play in consumers' choices. Steenkamp, Nijs et al. (2005) reported that the

market has improved in measuring the short-term effects and has started to understand the importance of long-term results due to the emergence of new products, improved distribution and advertising.

Consumers are exposed to the marketing mix nearly every day. Marketers need to understand the value of these sales promotions in order to meet their professional objectives. Best promotion offers and price identification by the consumers can provide the prospective buyers with better deals and can help the manufacturers increase the impact of promotions (Dickson, Sawyer, 1990).

In accordance with Laroche, Pons et al. (2003), previous research on sales promotions was focusing only on one type of promotional activities, coupons. Though there are many forms in which promotions can be seen in the market. Just a few to name are price-cuts, deals and premiums but all these are integrated in three major categories: consumer market-directed promotion, retailer directed promotion, and trade market-directed promotion (Rowley, 1998, Campbell, Diamond, 1990 & Weitz, Wensley, 2002).

Consumer promotions are promotions offered by manufacturer directly to consumers and include a variety of short-term promotional techniques designed for consumers to respond in a way (Blattberg and Neslin 1990). The most popular ones are linked to product purchasing. Such promotional activities have as a goal to enhance the product's purchase by either reducing the product's price or by adding more benefit to its existing price (e.g. in the package of six cans, you get two more for free). Consumer sales promotions include more types in them; for illustration purposes we are going to mention just a few such as coupons, promotional pricing, loyalty programs, sampling and free trial, premiums and demonstrations. According to Dickson and Sawyer (1990), the most efficient way to target a price-sensitive segment would be a coupon promotion activity.

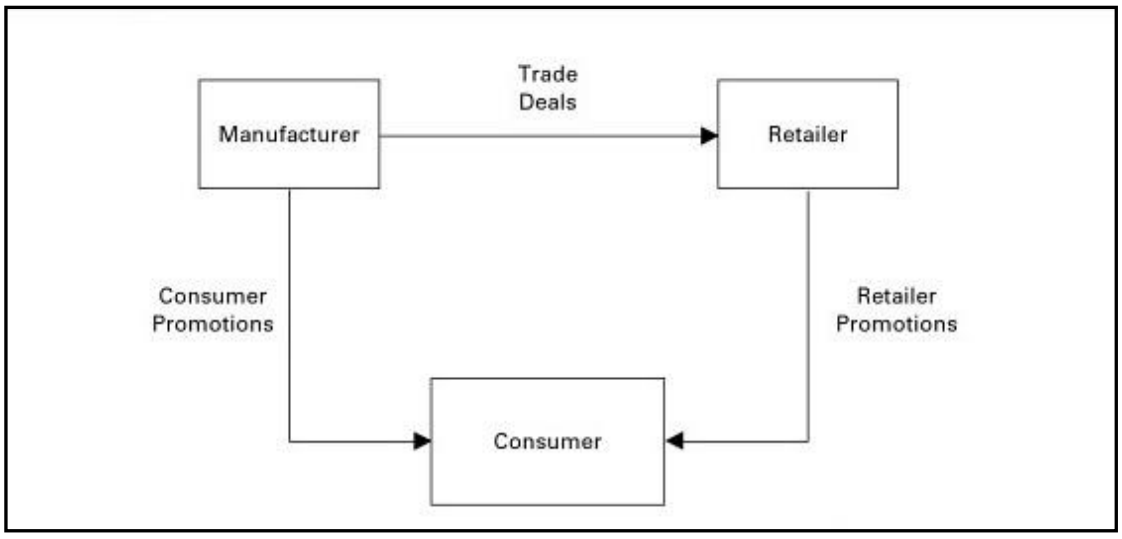

Figure 2: Types of Promotions

The second type of sales promotions is trade marketed promotion (Weitz, Wensley, 2002 and Laroche, Pons et al., 2003). The main objective of such promotions for marketing managers and manufacturers is to build relationships with channel partners. These promotions are designed as encouragement for retailers to instruct their employees to promote a specific brand over a competitor's one and they also include point-of-purchase displays, advertising support programs and promotional products.

Finally, the last type of promotions is the retailer directed promotions. Promotions of such type are activities by a retailer that aim at promoting awareness and sales of a company's products through merchandizing techniques (Weitz, Wensley, 2002 and Lattin, Bucklin 1989). On such promotions, retailers use principles of the marketing mix like the product, pricing, placing, and promotion and it is of great importance for small retailers so as to compete with larger stores. Promotions like that can be indicatively special displays and store features and usually come along with price discounts. Retailer promotions have a direct effect on consumers since they manage to draw their attention and therefore enhance the product's value (Lattin, Bucklin, 1989).

In this thesis, we are going to deal with price bundled products and more specifically of beer in either cans or glass bottles while being concentrated on consumer promotions. Based on Mulhern and Leone (1991) and Guiltinan (1987), this priced bundling strategy is when two or more products of the same type are sold for a single price. Previous research on retail price promotions has focused on using brand management strategies to increase the company's and retailers' market share as well as defending the ruling position in the market.

Stepping further and based on previous research according to Peattie and Peattie (1995) and Gilbert and Jackaria (2002) showed that there are two kinds of consumer promotions: the "value-increasing" and the "value-adding". The "value-increasing" promotions (offering x% extra product free) utilize the price-quantity equation of the product in order to increase the value and worth of the offering. The "value-adding" promotions which are often neglected by academic literature tend to leave the price-quantity equation of the offering stable and tend to offer something else in return along with the bundled product, like a free gift. In the upcoming section the long-term effects of promotional activities will be aligned.

2.1.2 Long-term Effect of Promotions

Over time, customers become more and more susceptible as a result of the increased promotions (Mela, Gupta and Lehmann, 1997). Promotions' short-term effects (e.g. weekly ones) are shown immediately on the sales or in products' share (Assuncao and Meyer, 1993).

But frequent discounting in the short-term that stimulates radical sales response, can shadow the difference among the deal and the baseline of the product. In this case, promotions miss their ability to increase sales because consumers are used to the deals since they are not such a special occasion (Lattin, Bucklin, 1989 and Assuncao and Meyer, 1993).

On the other hand, the long-term effects influence consumers' brand choice and behavior and endure over several years. Both loyal and non-loyal customers become more price-sensitive over the years since they are more exposed and trained to look for promotions through the increased familiarity and experience (Assuncao and Meyer, 1993 and Mela, Gupta and Lehmann, 1997).

2.1.3 Seasonality

According to Pauwels (2007), seasonality refers to how, when and what products are being purchased by consumers throughout the year. During these purchases, data experience regular and predictable changes which recur every calendar year. Any predictable change or pattern or repetitious behavior in demand for products in a time series that recurs or repeats over a one-year period can be said to be seasonal.

Seasonality differs from fluctuations in demand on certain behaviors and activities like pricing or promotionally driven demand which varies depending on such factors (Pauwels, 2007). Moreover, variations in seasonal demand are tightly linked to weather changes, holidays or specific events that occur in each area and influence not only what consumers buy but also how they feel during these different periods of year (Larson, 1997).

According to Yi and Yoo (2011), seasonal trends play an important role in people's purchasing decisions. More specifically, it is said that during spring and summer purchasing actions accelerate due to the many outdoor activities and the holiday season effects compared to fall and winter. For instance, warm beverages like coffee, tea and cocoa are very interesting examples of winter seasonality sales in colder weather while they sell much less in warmer periods of time. The same pattern happens also with yogurt and beer and marketers consider this when planning their promotion and production schedules. The recurring behavior though depends on the holiday, the product and the customer shopping behavior (Pauwels, 2007, Weitz and Wensley, 2002, Larson, 1997). But even though for specific types of products, demand can be a main factor of these ranges over time. For example, toys and electronic devices display great growth in demand before Thanksgiving while this increases all the way till Christmas.

However, weather patterns vary by region and this season-region interaction can be extremely important. Therefore, we have to realize how important these seasonal changing patterns in consumer behavior are for firms and for retailers as well.

But before trying to integrate seasonality into models, we need to realize the cause of these weather cycles (Nelson, Badura and Goldman, 1990 and Larson, 1997). In nature many seasonal patterns occur. Behaviors change according to day length, daylight, food accessibility and rain. These factors can activate hormonal changes that cause these behavioral switches. Consequently, effects such as weather and temperature, holidays, events, and economic variables can give us an explanation for the seasonal cycles in demand for some food products.

Totten (1991) (cited also in Fok, Franses, Paap, 2007 and Larson, 1997) examined two product brands that exhibit atypical issues of seasonality. One product was addressed to diet-conscious population and was influenced by the category's seasonal pattern, while the other one practiced counter-seasonal promotions. The latter brand's promotions were more successful due to less competition of retailers during off season and due to less category promotional diffusion. Hence, marketers can understand how sales change over time given the finding that seasonality can influence promotional activities.

Seasonality can also be seen in many time series, and it's more common than people might think. Companies that understand the seasonality of their business can better manage their inventories, staffing and other decisions to coincide with the expected seasonality. By realizing its crucial role in forecasting and planning, retailers manage to stay profitable even in bad economic time circles.

Radas and Shugan (1998) discussed some of the benefits of seasonal marketing. Firstly, it encourages people to buy more by inheriting marketing themes for each season, holiday or event which can boost the retailers' and company's sales in the short-term. Moreover, it can create for the consumers the sense of urgency for the product and the promotion by implying that they won't last longer than the season/event.

2.1.4 Retailers

Retailers have become a powerful tool in promotions of consumer goods over the years. According to Mulhern and Leone (1991), the sequence is that the product is produced by the manufacturer, travels to the retailers and they market the product to the final consumer in order to buy it. The power of manufacturers and retailers has changed and increased dramatically over the past few decades due to certain factors. Some of them are the unification of large retail institutions, the fragmentation of consumer markets (Zeithaml 1985), and the access in store scanner data. All of them have aided to reverse the traditional channel structures and increase retailers' power in the market.

Additionally, retailers nowadays are more interested in marketing activities and tools that will enhance their store's performance while they get benefited by them as well (Mulhern

and Leone, 1991). All in all, sales promotions are very beneficial for retailers for a variety of reasons. Promotions can elicit unintentional purchases and encourage consumers to buy non-promoted goods as well as increase the frequency of visits to the retailer store. Through the last one mentioned, consumers can stock while retailers decrease their inventory costs (Laroche, Pons, Zgolli, Cervellon and Kim, 2003).

Retailers use price promotions for three main reasons based on Mulhern and Leone (1991). First of all, because they want to generate customer traffic for the promoted products (Mulhern and Leone 1990; Walters and MacKenzie, 1988), secondly transfer a favorable store image for its prices (Nystrom, Tamsons, and Thams 1975) and finally influence the relative sales volumes to enhance store profitability.

There are differences in prices between more expensive and less expensive retailer stores and their pricing policies due to the promotional actions of both manufacturers and retailers (Alba, Broniarczyk, 1994). However, each retailer uses different tactics and has different pricing formats in general on its products. However, if retailers perform similar pricing strategies and promotions during the same period, consumers can get confused and therefore, have little incentive on deciding to which store they should go (Walters and Rinne, 1986) Referring to Neslin, Allenby, Ehrenberg et al. (1994), super-market managers' site that doing the pricing strategy right is very essential since it is a very complex and difficult procedure across a wide range of product categories.

Based on Bell and Lattin (1998) analysis on grocery stores, it was discussed that a store's pricing policy could have an effect on its profitability and its clients' mix as well as on the store's choice. Consumers' price expectations can influence a store's choice in addition to the store's pricing policy like EDLP or HILO (high-low price). The EDLP store performs an everyday low price for every product category and the HILO store (promotional store) charges sometimes regular prices or it has deep discounts (Dickson and Sawyer, 1990). Consequently, prices in EDLP stores are lower than the expected ones in a HILO store.

In the section concerning sales promotions were mentioned some types of users: heavy versus light users and loyal versus switchers (Lim, Currim and Andrews, 2005). These types of shoppers react in a different way in purchases. For instance, heavy or large shoppers (Bell and Lattin, 1998) have a higher probability on purchasing from any given category which makes them more price sensitive for store decisions compared to the small-light shoppers. In order to attract the latter segment, the EDLP stores, which in our case are certain types of super-markets, need to have their prices even lower than the average price of the of the HILO store. As a result to this, small-light shoppers prefer HILO stores even at higher average prices compared to large-heavy shoppers that prefer EDLP stores (Bell and Lattin, 1998).

Other reasons though may play a crucial role at these choices for consumers, such as previous store experience, store's advertisements, distance and price expectations (Bell and Lattin, 1998). In line with Blattberg, Briesch and Fox (1995) and the theory around

promotions and consumer choices, advertising can increase store traffic. Through this retailers are interested in the total effect of the store's profit rather than the profit from a specific brand or product (Blattberg and Neslin, 1989).

3. The Model

The model we will be dealing with is a simple linear regression accompanied with mediation and moderation effects. As mentioned in a previous section, the sales data for the analysis are obtained from a Greek brewery.

At this point, an important issue in shopping basket analysis is the way we are going to combine the data. The right level of aggregation and detail is critical for the researcher. Each time depending on the research question, there are different levels of aggregation such as per product category, per brand, per brand extension, per chronicle basis and so on.

The initial database was formed on daily basis with the data of beer promotions, beer total sales, the sales per super-market chain and per area, mentioning in each part the date when promotional activities commenced. Each part of this database was aggregated and merged afterwards, for the analysis purposes, in weekly basis based on the date that the promotions were initiated. This data merging in weekly basis was of extreme ease not only for the analysis purposes but also because managers themselves will be able to draw conclusions without any difficulty.

Furthermore, in order to get a better image of the retailers pricing policies, we have obtained a separate database with the prices of the promotional offers from the retailers' chains and the company's initial prices. This part of the analysis can be used as a proxy for the prices that both retailers and manufacturers use and could give us an explanation for consumers' preferences on a specific retailer. In this database, the data contain three different types of retailers' chain; more elaboration on that though will be given in section 3.3.

3.1 Conceptual Framework

The methods that we are going to utilize for our analysis are firstly, a linear regression model accompanied with mediation and moderation techniques. More specifically, the first part of the analysis examines the mediation effect of promotions on total sales and in the second one a linear regression to understand the effect of the super-market area demographics and promotions on total sales is performed. Moreover, the third part of the analysis consists of a linear regression through which we test the effect of the super-market category and promotions on sales. And finally, the fourth part of the analysis tests the moderation effect retailers' and manufacturers' pricing policies on sales depending the super-market type by performing two different linear regression analyses; one that examines just the effect of super-market type on sales and a second one that tests the effect when prices are included. More precisely, in section 4 the results are described for

each analysis. In this part of the study, the analysis will consist of a description of the techniques that will be used.

In the following graph the conceptual framework of the analysis is described.

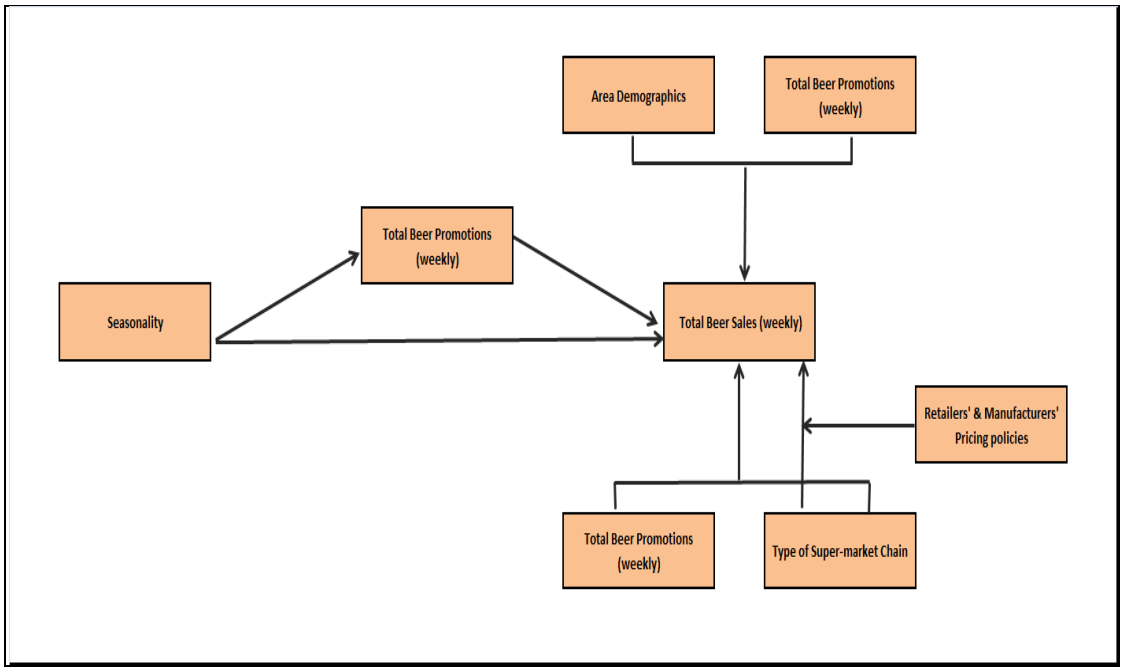

Figure 3: Conceptual framework of the research

3.2 Hypotheses

In order to answer our main question on whether or not the type of super-markets, their location and seasonal beer promotions influence beer sales, relevant hypotheses needed to be formulated. In figure 6 above, the conceptual framework of our research, in figure 3, is visualized along with the hypotheses.

As far as the first hypothesis is concerned sales promotions are used as a technique that elicits direct sales increase in the short-term and long-term (Bawa & Shoemaker, 1987, 1989; Gupta, 1988) since their effects are shown immediately on sales or in products' share (Assuncao and Meyer, 1993). Also, according to Larson (1997) and Pauwels (2007) total sales are also influenced by the seasonal demand and weather patterns that differ from one region to another even in the same country. Consequently, we predict that total sales are positively affected by promotions and negatively influenced by the region change in the country of our interest.

H1: Total beer sales are negatively influenced by the area demographics and positively affected by total beer promotions

As aforesaid, promotions are used in order to create total sales increase (Bawa & Shoemaker, 1987, 1989; Gupta, 1988; Assuncao and Meyer, 1993) and are generally used to create direct behavioral attitude (Shultz, 1998). On the other hand, seasonality is mostly related to how, when and what is purchased by consumers and influences the planning of sales and promotions (Weitz, Wensley, 2002).

The reason why total promotions variable is chosen to be the mediating variable instead of seasonality is firstly, because in our analysis we wanted to examine the effect, the reasons and the mechanisms of seasonality on sales and get more insight between the dependent (sales) and independent (seasonality) variable. Furthermore, the use of sales promotions as a mediating variable allows us to examine whether there are long-term consequences even when their impact in the short-term is positive. This aids us to determine the long-term outcomes of marketing actions and permits us to monitor the changes in a firm's marketing programs (Dekimpe and Hanssens, 1995; Sriram, and Kalwani, 2007) whereas seasonality mostly influences occasional people's purchasing decisions. Additionally, we did not have data that showed us such consumer purchasing decisions. Finally, the mediator is supposed to be a variable that will explain a relationship. In this thesis, we wanted to examine the main relationship of seasonality with total sales and understand what happens to that when promotions arise.

H2: Beer seasonal promotions are a mediator of the effect of seasonality on total beer sales
H2A: Seasonality significantly predicts total beer sales
H2B: Seasonality significantly predicts beer promotions
H2C: Beer promotions significantly predicts total beer sales
H2D: Seasonality and beer promotions significantly affect total beer sales

As far as the super-market type is concerned, all retailers are interested nowadays in including marketing activities in their stores. The reason for that is that their performance is positively influenced and such actions draw unintentional purchases from consumers (Mulhern and Leone, 1991; Laroche, Pons, Zgolli, Cervellon, and Kim, 2003). As a consequence to the aforementioned store traffic is generated for the promoted products and sales volume is increased. Additionally, super-market categories are explained as big, medium and small based on the pricing policies that they perform such as, EDLP or HILO (Bell and Lattin, 1998).

Consequently, we predict that each super-market category and beer promotions influence significantly total sales.

H3: S-M's type and beer promotions have a significant effect on beer sales
H3A: Big S-M types and beer promotions influence significantly beer sales
H3B: Medium S-M types and beer promotions influence significantly beer sales

H3C: Small S-M types and beer promotions influence significantly beer sales

Finally, we discussed that the super-market category is dependent on the way manufacturers' and retailers' apply their pricing policies (EDLP or HILO) (Bell and Lattin, 1998). Moreover, each retailer store uses different tactics and pricing designs each time period that affect total sales (Alba, Broniarczyk, 1994; Walters and Rinne, 1986).

Therefore, we hypothesize that the category of the store is moderated by the effect of manufacturers' and retailers' prices on total sales.

H4: The super-market category is moderated by the effect of manufacturers and retailers' pricing policies on total beer sales for Total Greece

3.3 The Methods

In this section the methods that will be used in the analysis are going to be described.

3.3.1 Mediation analysis

According to Iacobucci, (2008), mediation analysis is a sequence of statistical procedures that are used in order to examine whether a dataset exhibits mediational formation. Mediation analysis is increasingly appealing and important in the scientific world. The utility of mediation analysis derives from its ability to go beyond the merely descriptive to a more useful consideration of the relationships among the variables, while we get a more profound understanding when we realize the process that actually creates the effect (Preacher and Hayes, 2004).

Mediation analysis presents how a third variable affects the relationship between two others (Zhao, Lynch, Chen, 2010, Iacobucci, 2008 and Baron and Kenny, 1986). Elaborating in more depth, a mediating variable transmits the effect of an independent variable on a dependent one. Through this process, we want to understand whether the effect of the independent variable is direct or indirect via the mediator. The main analysis of mediation is constituted as following:

$$M = i_1 + aX + e_1 \quad \textbf{(1)}$$
$$Y = i_2 + c'X + e_2 \quad \textbf{(2)}$$
$$Y = i_3 + cX + bM + e_3 \quad \textbf{(3)}$$

Variable *M* is considered a mediator if:
(1) *X* significantly predicts *M*,
(2) *X* significantly predicts *Y*, and
(3) *M* significantly predicts *Y* controlling for *X*. In the following equations, ***i*** is an intercept coefficient, ***c*** gives us the direct effect and ***c'*** the total effect (Preacher and Hayes, 2004).

Based on Zhao, Lynch, Chen (2010), mediation effects (direct and indirect) can take several forms:

1. **Complementary mediation**: Mediated effect (a x b) and direct effect (c) both exist and are positioned at the same direction.
2. **Competitive mediation**: Mediated effect (a x b) and direct effect (c) both exist and are positioned in opposite way.
3. **Indirect-only mediation**: Mediated effect (a x b) exists, but not a direct effect.
4. **Direct-only non-mediation**: Direct effect (c) exists, but not an indirect effect.
5. **No-effect non-mediation**: Neither direct effect nor indirect effect exists.

This fact also concerning the direct and indirect effects of mediation analysis gives us the motivation to have a better knowledge of the mediation process itself. Usually mediating variables are behavioral, biological, psychological or social constructs (MacKinnon, Fairchild, Fritz, 2007) that transmit the outcome of one variable to another. Mediation analysis is one process that a researcher or a manager can explain a mechanism by which one variable influences another and understand the causality. These attitudinal types of mediating variables evoke intentions which engender behavioral reactions and through these we can understand how this information is transmitted in a response or how it is causally related to the outcome.

Therefore, we can understand that mediation analysis is a method that helps us increase the information we want to gain from a research study when mediating measures exist (MacKinnon, Fairchild, Fritz, 2007).

In our case, the mediating variable is total beer promotions (Figure 5) that transmit the effect of the independent variable, seasonality, to the dependent one, total beer sales.

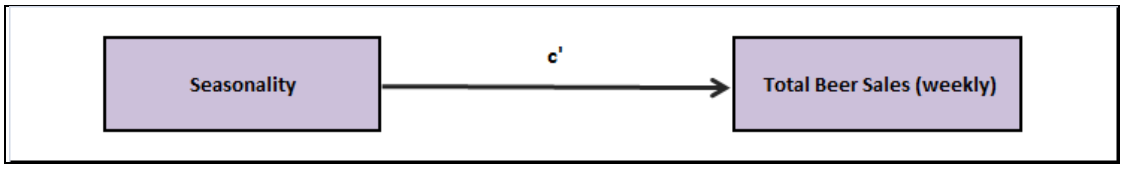

Figure 4: Total effect of mediation analysis

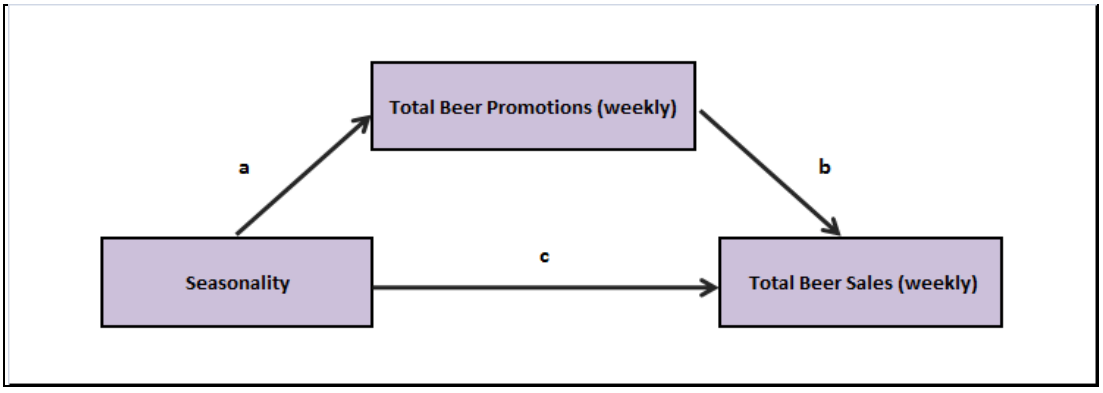

Figure 5: Direct and mediating effects of mediation analysis

3.3.2 Moderation analysis

A moderator is a variable that specifies conditions under which a given predictor is related to an outcome (Baron and Kenny, 1986). The moderator explains when the dependent and independent variables are related. Generally, the moderator is a qualitative variable (like, sex, race, and class) or a quantitative variable (like reward levels) which influence the relation between an independent or predictor variable and a dependent variable. Furthermore, the moderation effect within a co-relational framework can also take place when the co-relation's direction may change and the moderating variable suggests the causal effect among the dependent and independent variables (Zhao, Lynch, Chen, 2010). This statistical analysis of moderation involves an interaction effect, with which when introducing a moderating variable the magnitude of the relationship between the dependent and independent variable is changed. A moderation effect could be:

a. **Enhancing:** where an increase of the moderator would boost the effect of the predictor (independent variable) on the outcome (dependent variable).
b. **Buffering:** where an increase in the moderator would decrease the effect of the predictor (independent variable) on the outcome (dependent variable).
c. **Antagonistic:** where an increase of the moderator would reverse the effect of the predictor (independent variable) on the outcome (dependent variable).

The way to measure and test these outcomes rely vastly on type of measurement of the independent variable and the moderator. In our analysis, the independent variable is the type of super-market chains; the dependent variable is the total (weekly) beer sales and the moderator that will explain when these two variables are connected is the retailers' and manufacturers' pricing policies. The retailers' and manufacturers' prices that we have are only for Total Greece along with the total sales.

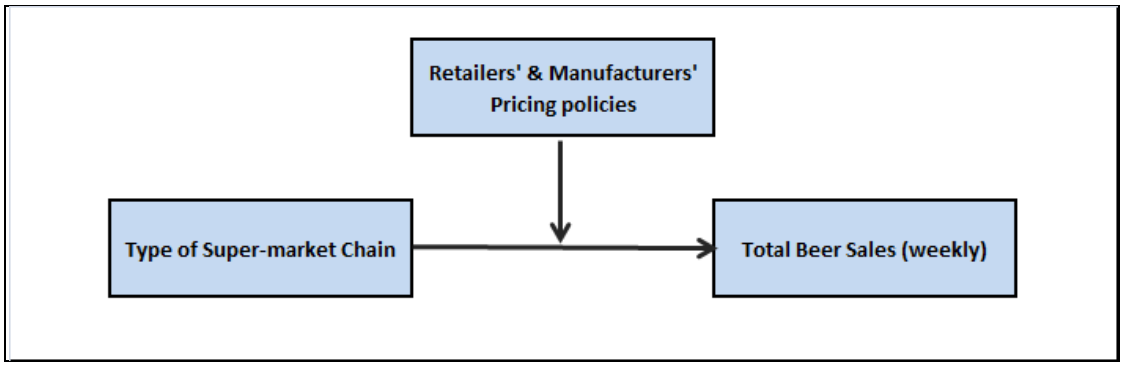

Figure 6: Graphic description of moderation analysis

3.3.3 Regression analysis

In order to have a better understanding of the mediation and moderation effects, we will also going to use a multiple linear regression analysis. In line with Janssens (2008), the regression analysis is a technique that is used in order to understand the causality among the dependent variable (which is measured either as interval or scale variable) and one or more independent ones (measured also either as interval or scale). The linear regression model is expressed as following:

$$Y = B_0 + B_1*X_1 + B_2*X_2 + \dots + B_n*X_n + \varepsilon$$

Where in this equation: Y is the dependent variable, X_i the independent variables, B_i the parameter that needs to be estimated (the coefficients) and finally, ε which is the disturbance term. Through regression analysis, we want to estimate the parameters for B_i in a way that the best possible fit is obtained among the actual and the predicted values for the dependent variable (Janssens, 2008). The most common way to achieve this is the "Least squares method'.

3.3.4 One-way ANOVA analysis of variance as a test of difference

Through One-way ANOVA analysis, we want to better understand the effect of regions on total beer sales and on total promotions and for which regions the average sales differ significantly from one another (Janssens, 2008). Also, the same analysis of variance as a test of difference is performed for the different super-market types that we have in order to test the effect of super-market category on total sales and promotions. Those processes are repeated for each year of our database. Lastly, these analyses are used in order to be able to better comprehend in more depth the influence of the area and super-market type on total sales and promotions.

3.4 Dataset description

3.4.1 Total Beer Weekly Sales

We are going to utilize net unit weekly beer sales based on store sales data (Van Heerde, Leeflang and Wittink, 2004). Beer weekly sales are going to be our dependent variable throughout the entire analysis. The data are obtained from a Greek Brewery with all the weekly promotional offers in all counties and regions since 2010-2013.

For the analysis, we have three different Excel sheets. The first sheet contains total sales and promotions per week for the years aforementioned for all counties and super-markets

for Total Greece. The second sheet has the same format as the first one with total sales and promotions but it has information for each super-market category on weekly basis for the years given (hyper, large, small, superettes). The last sheet also contains total sales and promotions per week from 2010 till 2013 for the area demographics per county (Attica, Thessaloniki, Macedonia-Thrace, Central Greece, Peloponnese, Crete) as given and discriminated from the Greek company.

Finally, this variable will be a continuous variable and the type of measurement will be ordinal. The variable is measured in Liters and for the ease of the analysis and explanation of results has been transformed from millions to thousands.

3.4.2 Super-Market Type

The variable, super-market category, is going to be a nominal variable that will contain super-market types that exist all over Greece. More specifically, the types we are going to deal with are hypermarkets, large super-markets, small super-markets, and superettes. These super-market types are distinguished by their promotional techniques and pricing policies (ELDP or HILO) that they perform. In our dataset, we are aware of the beer weekly sales that each super-market type achieved through the years 2010 till 2013.

In the hypotheses mentioned above we are distinguishing the super-market categories as big, medium and small. The “big” super-market types are the hypermarkets. In order to get into more depth to that, hypermarkets are described as a hyper-store/superstore that have as a goal to satisfy all customers’ needs in one shop. Large and small super-market types can be described as medium super-market categories. Large super-markets are smaller than hypermarkets but still hold a majority of offerings whereas small super-markets are in between a large super-market and a mini-market.

On the other hand, as “small” super-market types, we can indicate the superettes. This super-market category can be described as mostly compact food markets, convenience stores or as they called otherwise “mini-marts”.

3.4.3 Super-Market Demographics

Super-market demographics are a nominal variable. This variable is included in the beer weekly sales per super-market chain along with weekly promotional sales. In super-market demographics variable, we have already aggregated the data (total beer sales and total beer promotions) per super-market type altogether and generalized it by the area that are located. The areas that are included in the dataset are Attica, Thessaloniki, Macedonia-Thrace, Central Greece, Peloponnese and Crete.

In the upcoming section, we will manage to analyze more extensively and through diagrams the sales percentages by region and by each period of time.

3.4.4 Beer Promotions

This variable will contain information of all the beer brands that were on promotion over the given years. This variable will be continuous and ordinal. Beer promotions will be the mediation effect in this thesis since we want to understand what their effect on seasonality and weekly beer sales is in general. The variable is measured in Liters and has been transformed from millions to thousands.

3.4.5 Seasonality

In this analysis, seasonality will be an interval variable. As mentioned before, we have aggregated our data from daily basis to weekly basis since it was mentioned when promotions enter the market each week. Since we will know the weekly total sales and the weekly promotions given, we can "calculate" seasonality per month and per yearly quarter in order to better understand its effect. We will interpret the weeks that promotions are launched in the market per year as 1 for the first week till 52 for the last week and this numerical analysis and ordering will continue for the rest years we have.

3.4.6 Retailers' and Manufacturers' pricing policies

This part is a different dataset that includes the products' prices given by the manufacturers and the retailers for the same time period. In this database, we have the average prices of retailers and manufacturers from all the products of the brewery only for the area of Total Greece per super-market category. During these years the prices have not shown significant differences on average levels since in 2010 the average price was 2,0157, in 2011 was 2,0057 and in 2012 and 2013 prices have been stable in 1,9102 on average (Appendix, Table 9).

This variable is the moderating variable in the fourth part of the analysis and it is described as an ordinal. All average prices are in Euros (€).

3.4.7 Descriptive Statistics

In the following tables the descriptive statistics of each of these sheets are analyzed. On the first row of each table, the variables for each year of the analysis are described. The last line of the first row (**valid N (listwise)**) describes the number of non-missing values. The

other columns show the number of valid observations for each variable (**N**) and the minimum (**Minimum**) and maximum (**Maximum**) value of each of them has. Moreover, the average (**Mean**) across the observations is presented and finally in the last column, standard deviation (**Std. Deviation**) shows the square root of the variance and measures the spread of the observations. The larger the standard deviation is the more spread out the observations are.

To begin with in all the analyses total sales exclude total promotions in order to better test their effect throughout the thesis. On Table 1, the descriptive statistics of the first sheet with the sales and promotions for Total Greece are displayed. In the first column (**N**), the variables that are used each year in the analysis are mentioned, which are total sales and total promotions. Since those data are on weekly basis for each year, **N** indicates the number of weeks in the year (52 weeks). **Valid N (listwise)** describes the number of non-missing values which in our case is none since the number of the values we have throughout the whole analysis is the same. Moreover, in the next column we can observe the minimum number of in each year's values. For instance, the year that we exhibit the minimum total sales and promotions throughout the years are in 2012 with 219,777 liters and 69,009 liters bought respectively. In the next column, we have the maximum value of each one of the variables in our dataset and experiencing the greater ones in 2013, with 2.411,97 liters of total sales and 1.765,99 liters of total promotions bought.

Furthermore, the next column illustrates the average (**Mean**) of each year's values. For total sales in 2010 the mean is 715,127 liters, in 2011 it slightly drops to 624,829 and even more in 2012 by reaching 675,403 liters. Contrary to the previous years, in 2013 a small increase is exhibited (from 675,403 to 760,783 liters). For each year, promotions follows a similar path: a significant drop of total bought promotions from 2010 till 2012 (from 346,312 in 2010, to 267,054 in 2011 and 362,605 in 2012) and a raise in 2013 (474,125 liters bought). Finally, the last column with the standard deviation (**Std. Deviation**) indicates that total sales and promotions are spread around the average (standard deviation is small).

	N	Minimum	Maximum	Mean	Std. Deviation
Total sales 2010	**52**	275,636	1.480,61	**715,127**	368,572
Total promotions 2010	**52**	94,349	955,619	**346,312**	223,775
Total sales 2011	**52**	267,042	1.351,23	**624,829**	313,94
Total promotions 2011	**52**	83,724	751,234	**267,054**	173,34
Total sales 2012	**52**	**219,777**	1.486,82	**675,403**	378,705
Total promotions 2012	**52**	**69,009**	986,256	**362,605**	251,899
Total sales 2013	**52**	249,189	**2.411,97**	**760,783**	469,778
Total promotions 2013	**52**	101,881	**1.765,99**	**474,125**	365,855
Valid N (listwise)	52				

Table 1: Descriptive statistics for total weekly sales and promotions in Total Greece

To continue, on Table 2 the descriptive statistics for the second sheet of our dataset are shown for all super-market categories. The first column (**N**) indicates the sum of the weeks per year in each super-market category (52*4=208, where the number 4 is the four super-market categories). Moreover, in the next column the minimum value of total sales and promotions lies in the year 2012, where total sales reached 9,485 liters and total promotions 3,993 liters. In the following column the greatest amount of total sales and promotions is on the year 2013. Total sales increased to 1.078,48 and total promotions to 833,21 liters.

The next column shows the mean (**Mean**) for each year. As described on Table 1, total sales and promotions exhibit a significant drop in the 2011 and slowly both raise from the year 2012 and onwards (total average sales in 2010 were 178,781, in 2011 156,205, in 2012 168,85 and in 2013 were 190,196 liters; total average promotions in 2010 were 86,578, in 2011 66,763, in 2012 90,651 and in 2013, 118,531 liters). The last column with the standard deviation (**Std. Deviation**) shows that both total sales and promotions are spread around the average.

	N	Minimum	Maximum	Mean	Std. Deviation
Total sales 2010	**208**	12,260	666,725	**178,781**	163,422
Total promotions 2010	**208**	5,382	455,686	**86,578**	93,355
Total sales 2011	**208**	12,595	592,991	**156,205**	137,603
Total promotions 2011	**208**	5,525	353,051	**66,763**	71,062
Total sales 2012	**208**	**9,485**	682,312	**168,85**	164,559
Total promotions 2012	**208**	**3,993**	475,469	**90,651**	103,1
Total sales 2013	**208**	11,139	**1.078,48**	**190,196**	197,22
Total promotions 2013	**208**	5,420	**833,21**	**118,531**	143,755
Valid N (listwise)	208				

Table 2: Descriptive statistics for total weekly sales and promotions for the super-market categories

Lastly, Table 3 demonstrates the descriptive statistics (**N, Minimum, Maximum, Mean and Std. Deviation**) for total weekly sales and promotions for the area demographics. Column (**N**) shows the number of values that are used in the analysis. For the purpose of this part of the analysis the values in sum are 312 ((6 areas)*(52 weeks in each area)= 312) since we have six different areas-counties (Attica, Thessaloniki, Macedonia-Thrace, Central Greece, Peloponnese, Crete) as given from the company.

	N	Minimum	Maximum	Mean	Std. Deviation
Total sales 2010	**312**	10,000	663,000	**118,708**	123,453
Total promotions 2010	**312**	3,000	434,000	**57,244**	68,436
Total sales 2011	**312**	9,000	546,000	**103,619**	107,155
Total promotions 2011	**312**	**2,000**	346,000	**44,026**	53,663
Total sales 2012	**312**	**7,000**	660,000	**112,061**	120,484
Total promotions 2012	**312**	**2,000**	443,000	**59,904**	73,807
Total sales 2013	**312**	9,000	**986,000**	**126,295**	142,047
Total promotions 2013	**312**	3,000	**745,000**	**78,522**	102,444
Valid N (listwise)	312				

Table 3: Descriptive statistics for total weekly sales and promotions for all area demographics

The minimum value in this sheet also exists in the year 2012 for both total sales (7,000 liters) and promotions (2,000 liters) whereas the maximum value is on year 2013 with total weekly sales 986,000 liters and total weekly promotions 745,000 liters. In the next column, the average is displayed. As aforesaid in the previous statistics, from 2011 there exists a decline in both total sales and promotions (103,619 liters and 44,026 liters respectively) and a raise from 2012 till 2013 (in 2013 total sales reached 126,95 liters and total promotions 78,522 liters). Finally, standard deviation (**Std. Deviation**) is spread closer to the average.

The reason why we are experiencing such results is because 2012 was the worst year since the economic crisis started and 2013 showed an increase due to slight improvement in the Greek economy and augmentation of average total promotions. In the upcoming section, we will discuss in more depth the way we analyzed the data and worked with them.

4. Data and Results Interpretation

4.1 First Part of the Analysis: Mediation

Until recently, the causal steps approach was dominant in the practice of statistical mediation. Nowadays, more and more researchers are shifting their approaches towards the testing of components of indirect effect. This approach utilizes the relative indirect effects of the use of the asymmetric bootstrap confidence interval (Hayes, 2013). Adjustments are offered to produce the bias corrected and accelerated bootstrap. The reason why this method is preferred is because it does not make the assumption of normality on the sample distribution of the indirect effect.

More specifically the procedure is as follows: the bootstrap method for an indirect effect is repeatedly constructed by taking samples of *n* size (where *n* is the size of the original sample) and replacing them by cases from the data. Furthermore, it estimates all the coefficients in the mediation model for each bootstrap sample (Preacher and Hayes, 2004).

Mediation analyses were tested using the above mentioned method with biased-correlated confidence estimates (Preacher and Hayes, 2004). Through the macro commands of this program for SPSS, we are able to estimate the coefficients in a multiple mediation process via the generation of bootstrap multiple intervals for indirect effects of the independent variable (seasonality) on the dependent one (total beer sales) by using one or more mediators in the model. In our analysis, we will use only one mediator which is represented by total beer promotions. Statistical inference for the total and direct effects of the independent variables is noncontroversial. In the present study for all the years given, the 95% confidence interval of the indirect effects was obtained with 5000 bootstrap re-samples. The following figure will present an example, help us give explanations and clarify our results with the methods used.

Dependent, Independent, and Proposed Mediator Variables:					
Dependent Variable = Total weekly beer sales					
Independent Variable = Seasonality (weeks for the year 2010)					
Mediator = Total weekly beer promotions					
Sample size	52				
IV to Mediators (a paths)					
	Coeff	*SE*	*t*	*P*	
Seasonality (for the year 2010)	**1,425**	2,079	0,686	**0,496**	
Direct Effects of Mediators on DV (b paths)					
	Coeff	*SE*	*t*	*P*	
Total weekly beer promotions	**1,622**	0,036	45,233	**0**	
Total Effect of IV on DV (c' path)					
	Coeff	*SE*	*t*	*P*	
Seasonality (weeks for the year 2010)	**3,127**	3,411	0,917	**0,364**	
Direct Effect of IV on DV (c path)					
	Coeff	*SE*	*t*	*P*	
Seasonality (weeks for the year 2010)	**0,816**	0,529	1,541	**0,13**	
Model Summary for DV Model					
R-sq	*Adj R-sq*	*F*	*df1*	*df2*	*P*
0,977	0,976	1.040,62	2	49	**0**
Bias Corrected Confidence Intervals					
	Lower	*Upper*			
Total	**-4,058**	**8,792**			
Total weekly beer promotions	**-4,058**	**8,792**			
Level of Confidence for Confidence Intervals:					95
Number of Bootstrap Resamples:					5.000,00

Table 4: Results from mediation analysis for the year 2010 (DV: Total weekly sales, IV: Seasonality, MED: Total weekly promotions)

Multiple regression analyses were conducted to assess each component of the proposed mediation model. As we can see from Table 4 for the first part of the analysis for the year 2010, the effect of our independent variable (seasonality) to the mediator (total weekly promotions) is not significant since the probability is greater than 0.05 (a-path). On the other hand, the effect of total weekly promotions on the dependent variable (total weekly sales) is noteworthy since an increase in total promotions lead to a raise in total weekly sales by 1.622 (b-path, B=1,622, t=45,2332, p=,0002).To follow up, the total effect of seasonality on total sales is insignificant (c'-path). The latter effect is without the mediator being in the model. Finally, in the analysis the direct effect of seasonality on total sales including the mediation effect (c-path) is also unimportant.

From this point of view, we can realize that introducing the mediator (total promotions) in the model, the significance of c-path is reduced (effect of seasonality on total sales without the promotions effect).

Furthermore, Table 4 tests also the results of mediation analyses from the bootstrapping method that we executed for the indirect effect (a x b). With this approach we can reassure whether or not a mediation effect exists (Preacher and Hayes, 2004). For that we have to check the lower and upper bound of the confidence interval and see if the number 0 is between them. The program that we have used to check the mediation effect, calculates itself the upper and lower confidence interval through the mediation process. In our case, we can see that the number zero is among the confidence intervals (from -4.058 till 8.792); therefore we realize there is no mediation and direct effect on total promotions.

In 2011 (Table 5, See Appendix Part I), the effect of the independent variable (seasonality) on the mediator (total weekly promotions) is also not significant since the probability is greater than 0.05 (a-path). In contrast, the effect of total weekly promotions on the dependent variable (total weekly sales) is noteworthy since an increase in total promotions lead to a raise in total weekly sales by 1.743 (b-path, B=1.743, t=24,823, p=,000). The total effect of seasonality on total sales is insignificant as well (c'-path). Finally, in the analysis the direct effect of seasonality on total sales including the mediation effect (c-path) is also unimportant.

From this point of view, we can conclude that by introducing the mediator in the model, the significance of c-path is reduced (effect of seasonality on total sales without the promotions effect).

Moreover, on Table 5 (See Appendix Part I), the bootstrapping method was executed for the indirect effect. By checking the lower and upper intervals, we can see that the number zero is among the confidence intervals (from -5.335 till 4.679); therefore we concur there is no mediation and direct effect on total promotions.

For the year 2012 (Table 6, See Appendix Part I), the effect of seasonality on total promotions is significant (a-path). This result means that as the weeks come by the total weekly promotions will be increased by 2.875 (B=2.875, t=1.242, p=0.022). Furthermore, the effect of the mediator (total weekly promotions) on the dependent variable (total sales) is also significant (b-path) because a raise in total promotions can pilot an augment in total sales by 1.484 (B=1.484, t=57.873, p=0.000). On the contrary, seasonality's effect on total sales by excluding the mediation part is insignificant (c-path) as well as the effect of seasonality on sales including the mediation effect (c'-path). Therefore, from this part we can understand by including the mediator, the c-path significance is reduced.

Additionally, by checking the results from the bootstrapping method with the lower and upper intervals, we can comprehend that zero is among the confidence intervals (from -2.566 till 10.810). Consequently, we understand that that there is no mediation and no direct effect on total promotions.

For the year 2013 (Table 7, See Appendix Part I), the effect of seasonality on total promotions is insignificant (a-path). Furthermore, the effect of the mediator (total weekly promotions) on the dependent variable (total sales) is significant (b-path) because a raise in

total promotions can cause an increase in total sales by 1.280 (B=1.280, t=90.168, p=0.000). Additionally, seasonality's effect on total sales by excluding the mediation part is insignificant (c'-path) as well as the effect of seasonality on sales including the mediation effect (c-path).

Additionally, by checking the results from the bootstrapping method with the lower and upper intervals, we can comprehend that zero is among the confidence intervals (from -3.857 till 11.116). Consequently, we understand that that there is no mediation and no direct effect on total promotions.

4.2 Second Part of the Analysis: Super-Market Area Effect

In this part of the analysis, we have indicated the region names in our dataset from 1 till 6 (Attica=1, Thessaloniki=2, Macedonia-Thrace=3, Central Greece=4, Peloponnese=5 and Crete=6 respectively). With One-Way ANOVA, we want to determine the effect of the regions on total beer sales and on total promotions and understand for which regions the average sales differ significantly from one another (Janssens, 2008). This process will be repeated for each of the given years that we have in the database.

For each analysis, we are going to have some specific tables both for total weekly sales study and total weekly promotions: a descriptive statistics table, a homogeneity table for the variances, an ANOVA table and a multiple comparisons table. The descriptive statistics table has on the first column the area, in the second column the number of weeks for each year per area and in the last column the average mean for each region. To continue, the homogeneity table for the variances shows us whether or not there is a significant difference between the variances (sig.< 0.05) and afterwards the ANOVA table indicates us if indeed the regions have an effect on sales or promotions. Finally, the multiple comparisons table points in the first column one of the areas and in the second column the rest. Afterwards, the third column with the significance rate points out with which regions the area in the first column has significant differences. For each year, the study closes with a regression analysis. In more depth, the results are displayed as follows.

For 2010, from Table 8, Attica seems to stimulate total sales the best (average number of sales: 326.846), followed by Central Greece with total average sales 116.904. The least impact of region on sales has Crete with total average sales 32.423. Furthermore, Table 9 shows that regionality has a significant effect on sales for the year 2010 (Sig. =0.000<0.05) though we can have a better perception of this effect from Table 10.

Total weekly sales for 2010	N	Mean
1 (Attica)	52	326,846
2 (Thessaloniki)	52	79,346
3 (Macedonia-Thrace)	52	92,231
4 (Central Greece)	52	116,904
5 (Peloponnese)	52	64,5
6 (Crete)	52	32,423
Total	312	118,708

Table 8: Average from Descriptive Statistics by One-Way ANOVA (for Total weekly sales in 2010)

ANOVA for Total sales 2010	Sig.
	0

Table 9: ANOVA Test for Total weekly sales for area demographics (2010)

Table 10 examines a two-by-two test in combination with the mean scores and that help us understand that in our case for 2010, Attica causes significant differences in average sales compared to the rest of the regions. Therefore we can conclude that the effect of area demographics on total sales is greater in Attica region. In the following section we are going to test the same effect for total promotions in order to better realize in which areas the influence is greater.

Multiple Comparisons			
Dependent Variable: Total weekly sales 2010			
(I) region 1	(J) region 1	Mean Difference (I-J)	Sig.
1 (Attica)	2 (Thessaloniki)	247,500*	0
	3 (Macedonia-Thrace)	234,615*	0
	4 (Central Greece)	209,942*	0
	5 (Peloponnese)	262,346*	0
	6 (Crete)	294,423*	0

Table 10: Multiple Comparisons- Post-Hoc Tests for Total sales (2010)

In the same line with the analysis above, we see that Attica has the best average total promotions with 163.481 and is followed by Central Greece with 55.269 (Table 11). From Table 12, we can identify that area demographics play an important role in total promotions for the year 2010 (Sig.=0,000<0,05).

Total promotions 2010	N	Mean
1 (Attica)	52	163,481
2 (Thessaloniki)	52	36,327
3 (Macedonia-Thrace)	52	45,077
4 (Central Greece)	52	55,269
5 (Peloponnese)	52	28,654
6 (Crete)	52	14,654
Total	312	57,244

Table 11: Average from Descriptive Statistics by One-Way ANOVA (for Total weekly promotions in 2010)

ANOVA for Total promotions 2010	Sig.
	0

Table 12: ANOVA Test for total weekly promotions for area demographics (2010)

Moreover, in Table 13, we can see that the greater effect of regionality on total sales promotions occurs in Attica region, which is consistent with findings in the section above. In order to reassure our results we also did a linear regression analysis between the variables that concern total sales, total promotions and seasonality in order to check the effect of last two on total sales. The results for this analysis are shown in the Tables 14 to 15.

Multiple Comparisons			
Dependent Variable: Total weekly promotions 2010			
(I) region 1	(J) region 1	Mean Difference (I-J)	Sig.
1 (Attica)	2 (Thessaloniki)	127,154	0
	3 (Macedonia-Thrace)	118,404	0
	4 (Central Greece)	108,212	0
	5 (Peloponnese)	134,827	0
	6 (Crete)	148,827	0

Table 13: Multiple Comparisons- Post-Hoc Tests for Total promotions (2010)

From Table 14, we can understand that 98.1% of the dependent variables are explained in the model by the independent ones (area demographics and total promotions). Additionally, the significance rate in the Coefficients table (Table 15) differ considerably from zero and therefore, an increase in total promotions will boost total sales by 1.705

thousands of liters while a change in the region will decrease sales by 5.763 thousands of liters.

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,990[a]	0,981	0,981	17,153

Table 14: Model Summary (from Linear Regression 2010)

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	41,304	3,154		13,096	0
	total promo 2010	1,705	0,017	0,945	100,896	0
	region 1	-5,763	0,676	-0,08	-8,526	0

Table 15: Coefficients Table (from Linear Regression 2010)

In the same logic, we continue our analysis with the year 2011 and the influence of area demographics on total sales. From Table 16 (See Appendix Part II), Attica and Central Greece have the greatest average of total sales with 285.385 and 104.788 respectively. In Table 17 (See Appendix Part II), we can identify that the magnitude of area demographics plays an important role in total promotions for the year 2011 (sig.=0.000<0.05).

Additionally, in Table 18 (See Appendix Part II), we can see that the greater effect of area demographics on total sales promotions is in Attica compared to the rest areas. The section will follow with the effect of regionality on total promotions by performing again One-Way ANOVA analysis.

By following the same logic for the total promotions for the year 2011, we can see that also Attica and central Greece have the greatest average sales with 126.827 and 41.692 respectively (Table 19, See Appendix Part II). Likewise, Table 20 with ANOVA analysis indicates that there is a significant effect of regionality in total promotions (sig. =0.000<0.05). Finally, from Table 21 (See Appendix Part II) with post-hoc tests, we can understand that Attica region has a significant effect on total promotions for the year 2011.

In order to have more accurate results, we conducted also for the year 2011 a linear regression analysis. From Table 22 (See Appendix Part II), it is described that 94.9% of the dependent variables (total sales) are explained by the independent variables (area demographics and total promotions). Moreover, Table 23 (See Appendix Part II) indicates that area demographics and total promotions influence significantly total sales. This means

that if the promotions will be increased, total sales will be raised by 1.836 thousands of liters and if there will be a change in the region, total sales will be decreased by 5.890 thousands of liters.

Our analysis continues with the year 2012. From Table 24 (See Appendix Part II) and the ANOVA descriptive statistics, we can understand that Attica (308.808) and Central Greece (107.558) again have the greatest average sales. ANOVA tests on Table 25 (See Appendix Part II) indicates that area demographics have a significant effect on total sales.

Moreover on Table 26 (See Appendix Part II), it is suggested that Attica has a significant impact on total sales. Our research will continue with the same analysis for total promotions.

In the following Tables (27 to 29, See Appendix Part II) are illustrated the results from the One-Way ANOVA analysis for total promotions and area demographics for the year 2012. In line with the previous results Attica (170.288) and Central Greece (58.538) have the greatest averages for total promotions(Table 27, See Appendix Part II). As indicated on Table 28 (See Appendix Part II), there is a significant effect of area demographics on total promotions. Moreover, on Table 29 (See Appendix Part II), it is visible that Attica is the region that is significantly affected by the area demographics and this effect is shown on total promotions.

Accordingly to what we tested before and in order to check our previous results, we performed a linear regression analysis. From the following results in Tables 30 and 31 (See Appendix Part II), we understand that 98.6% of the dependent variables are clarified by the independent ones (area demographics and total promotions) while regionality and total promotions are influencing total sales. The latter one suggests that if total promotions are increased then total sales will be raised by 1.547 thousands of liters, while if a change in region exist, total sales will be decreased by 5.817 thousands of liters (Table 31).

As of the year 2013, we also performed the One-Way ANOVA analysis, the results of which are shown in the Tables 32 to 34 (See Appendix Part II). Once again the greatest average for total sales is held by Attica followed by Central Greece with 347.692 and 123.173 respectively (table 32). From Table 33, it is explained that total sales are influenced by the area demographics.

Moreover, in Table 34, it is described that Attica region significantly affects total sales for the year 2013. Our analysis will continue with One-Way ANOVA for total promotions.

As far as total promotions are concerned for the year 2013, the same pattern exists as for total sales in 2013. The greatest average in total promotions is held by Attica with 222.846, followed by Central Greece with 77.596 (Table 35, See Appendix Part II). It is indicated as well that regionality has an effect on total promotions (Table 36, See Appendix Part II). Finally from Table 37 (See Appendix Part II), it is shown that total sales are once again influenced by area demographics and especially by Attica.

In order to reassure our results from the Tables 32 till 37, we have also performed a linear regression analysis. Table 38 (See Appendix Part II) points out that 99.2% of the dependent variables (total sales) are described by the independent ones (regionality and total promotions). The coefficients, extracted on Table 39 (See Appendix Part II), demonstrate that region and total promotions significantly affect total sales (the dependent variable). More specifically, this suggests that a raise in total promotions will increase as well total sales by 1.316 thousands of liters and a change in the area will decrease total sales by 7.533 thousands of liters.

4.3 Third Part of the Analysis: Super-Market Category Effect

In this part of the analysis, we are going to deal with the effect that the type of supermarket (hypermarket, large super-market, small super-market, superettes) and total beer promotions have on total beer sales. As mentioned in the second section of the analysis, we have used instead of the names of super-market types, numbers from one till four for our ease of analysis. Therefore, hypermarkets are noted as number 1, large super-markets as 2, small ones as 3 and finally superettes are noted as number 4.

This unit will follow the same path and description as the previous one (part 4.2) in the analysis. For each year, One-Way ANOVA analysis will be performed for total sales and total promotions and will be followed by a linear regression analysis. With this we will be able to discover which super-market categories have a greater effect on total beer sales.

For the year 2010, the One-Way ANOVA test for total sales showed that the type of super-market with the greatest mean were small super-markets with average total sales of 311.442 followed by large super-markets with 275.327 average sales (Table 40). On Table 41 is indicated that indeed there is a significant effect of the super-market type on total sales (sig.=0.000<0.05). Post-Hoc tests for total sales (Table 42) demonstrate that hypermarkets differ among the other three super-market types.

Total weekly sales for 2010	N	Mean
1 (Hypermarkets)	52	31,096
2 (Large super-markets)	52	275,327
3 (Small super-markets)	52	311,442
4 (Superettes)	52	95,250
Total	208	178,279

Table 40: Average from Descriptive Statistics by One-Way ANOVA (Total weekly sales 2010)

ANOVA for Total sales 2010	Sig.
	0

Table 41: ANOVA Test for total weekly sales and s-m category (2010)

Multiple Comparisons			
Dependent Variable: Total weekly sales 2010			
(I) type of S-M	(J) type of S-M	Mean Difference (I-J)	Sig.
1 (Hypermarkets)	2 (Large super-markets)	-244,231	0
	3 (Small super-markets)	-280,346	0
	4 (Superettes)	-64,154	0

Table 42: Multiple Comparisons- Post-Hoc Tests (for total weekly sales 2010)

Total weekly promotions for 2010	N	Mean
1 (Hypermarkets)	52	19,154
2 (Large super-markets)	52	148,346
3 (Small super-markets)	52	147,885
4 (Superettes)	52	28,962
Total	208	86,087

Table 43: Average from Descriptive Statistics by One-Way ANOVA (Total weekly promotions 2010)

ANOVA for Total promotions 2010	Sig.
	0

Table 44: ANOVA Test for total weekly promotions and s-m category (2010)

Multiple Comparisons			
Dependent Variable: Total weekly promotions 2010			
(I) type of S-M	(J) type of S-M	Mean Difference (I-J)	Sig.
1 (Hypermarkets)	2 (Large super-markets)	-129,192	0
	3 (Small super-markets)	-128,731	0
	4 (Superettes)	-9,808	0,891

Table 45: Multiple Comparisons- Post-Hoc Tests (for total weekly promotions 2010)

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,990[a]	0,979	0,979	23,663

Table 46: Model Summary (Linear Regression 2010)

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-13,843	4,253		-3,255	0,001
	Type of S-M	17,9	1,468	0,123	12,19	0
	Total Promotions 2010	1,712	0,018	0,978	97,092	0

Table 47: Coefficients (Linear Regression 2010)

To continue, we performed the same analysis for total promotions. The greatest average promotional sales were achieved as before from large (148.346) and small (147.885) super-markets (Table 43). Furthermore, the super-market type had an effect on total promotions (Tables 44) and from Table 45 with the Post-Hoc tests, it is shown that hyper-markets differ significantly from large and small markets. The next step we executed was a linear regression analysis to test the effect of total promotions and super-market form on total beer sales. The results are indicated on Tables 46 to 47. It is shown that 97.9% of the dependent variables (total beer sales) are explained by the independent ones (total promotions and super-market type) (Table 46) as well as total sales are positively influenced by the type of super-market and total promotions (Table 47). Therefore from Table 47 is suggested that if there is a change in the super-market type and in promotions, total beer sales will be increased by 17,900 (thousands of liters) and 1.712 (thousands of liters) respectively.

Our analysis in this section will continue in the same way for the year 2011. From One-Way ANOVA analysis, it was found that large and small super-markets have the greatest mean for total sales, with 233.038 and 270.462 respectively (Table 48, See Appendix Part III). From Table 49 (See Appendix Part III), from the ANOVA test, it is indicated a noteworthy effect of the type of super-markets on total sales. Additionally, Table 50 (See Appendix Part III) notes significant differences of hypermarkets with superettes, large and small super-markets.

On the same analysis for total promotions in 2011, it was pointed out that also large (113.481) and small (112.330) super-market classes had the greatest average (Table 51, See Appendix Part III). Table 52 with ANOVA analysis, shows that it exists a remarkable relation among super-market type and total promotions. Moreover, Table 52 (See Appendix Part III) indicates that for total promotions hypermarkets differ significantly from large and small markets. To continue the analysis for 2011 a regression analysis was performed.

The results from the regression analysis designate that 94.8% of the dependent variables are clarified by the independent ones (Table 53, See Appendix Part III) and it appears that the kind of super-market and promotions have an effect on total sales (Table 54, See Appendix Part III). More specifically, this suggests that a change in the super-market type

will increase total sales by 19.178 (thousands of liters) and an increase in promotions will positively affect them by 1.849 (thousands of liters) (Table 55, See Appendix Part III).

In line with the previous analyses, the ANOVA results from the year 2012 for total sales are displayed in Tables 56 to 58 of the Appendix. The results from the descriptive statistics displayed on Table 56 show that small super-markets have the maximum average with 295.577, followed by large super-markets with 267.481. A level of influence exists between super-market type and total sales (Tables 57, See Appendix Part III). From the multiple comparisons tests on Table 58 (See Appendix Part III), hypermarkets differ significantly from large and small super-markets .

By doing the same analysis for total promotions, we tried to understand the effect of the type of super-market on them; we received the results in the Tables 59 till 61 (See Appendix Part III). During this year, the promotions seem to have increased from the previous year but not considerable differences are shown among the super-market types in terms of results. Small super-market types hold the greatest mean with 156.404 promotional sales and are followed by large super-markets with 156.192 (Table 59). Additionally, Table 60 indicates that there is present an important effect of the type of super-market on total promotions.

Finally, from Table 61, significant differences are present in hypermarkets with large and small super-market types. A linear regression analysis was performed in order to test the influence of the super-market type and total weekly promotions on total weekly sales.

From the linear regression analysis, there is an indication that 98.5% of the dependent variables were explained by the independent (type of super-market and total promotions) (Table 62, See Appendix Part III). Moreover, Table 63 (See Appendix Part III) shows that the type of super-markets (sig.=0.000<0.05) and total promotions (sig.=0.000<0.05) positively affected total sales. This fact proposes that if promotions increase then sales will be increased by 1.573 (thousands of liters) whereas if the type of super-market changes, total sales will rise by 13.553 (thousands of liters).

Our research in this part will continue with the study of 2013. The results of the One-Way ANOVA indicate that there is a significant effect of the super-market category on total sales (Table 65, See Appendix Part III). The main average is held by the small super-markets, as it is exhibited on Table 64 (See Appendix Part III), with total sales of 339.827 followed by large super-markets with 300.577. Additionally, during this year as it is indicated on Table 66 (See Appendix Part III), hypermarkets differ significantly with large and small super-market categories compared to superettes where no significant variations are exhibited.

For total promotions with the same analysis, it comes into view that there is also an important effect of the super-market category on total promotions (Table 68, See Appendix Part III). Furthermore, small super-market types seize the maximum average of sales with 208.365 and followed by large markets with 201.000 mean promotional sales (Table 67,

See Appendix Part III). Yet again from Table 69, hypermarkets vary with small and large super-markets.

In the last part of this analysis, a linear regression was executed, the results of which are shown in the Appendix on Tables 70 and 71. From our model and on Table 70, it is found that 98.8% of the dependent variables (total sales) are explained by the independent ones (total promotions and super-market category). Additionally, Table 71 shows that the kind of super-market positively affects total promotions since an alteration in the category will raise total sales by 12.430 (thousands of liters). Apart from this effect, total sales are influenced as well by total promotions. This indicates that an increase in promotions will boost sales by 1.356 (thousands of liters).

4.4 Fourth Part of the Analysis: Pricing Policies' Effect

In the fourth part of our analysis, we will expand our research in order to understand whether or not there is an effect of the super-market type on total beer sales and how this effect is affected by the pricing policies of manufacturers and retailers. The prices we have obtained are the combined average prices of retailers and manufacturers.

To begin with we formatted on SPSS, each of the four super-market types in a dummy variable with the function recode into different dummy variables. To continue, firstly, we performed a linear regression analysis to test the effect of the super-market category (independent variable) on total beer sales (dependent variable).

The results of the regression are shown on Table 72. It is indicated that the type of super-market in some categories has a significant effect on total beer sales. More specifically, large super-market types have a significant effect on total beer sales (sig.=0<0.05), which means that if the super-market type change to large then total beer sales will be increased by 244,231 (thousands of liters). Furthermore, superettes (sig.=0<0.05) and hyper (sig.=0<0.05) markets have also a significant impact on total beer sales. In particularly, if the super-market type change to superettes then total beer sales will be decreased by 180,077 (thousands of liters) and if the category changes to hyper markets total beer sales will be decreased as well by 244,231 (thousands of liters). On the other hand, small super-market types do not have a significant effect on total sales(sig.=0,107<0.05).

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	275,327	15,752		17,479	0
	Small	36,115	22,276	0,096	1,621	0,107
	Large	244,231	22,276	0,649	10,964	0
	Superettes	-180,077	22,276	-0,478	-8,084	0
	Hyper	-244,231	22,276	-0,649	-10,964	0

Table 72: Coefficients between the type of super-market and total weekly sales -before prices as an interaction effect (Linear Regression 2010)

To continue, Table 73 shows the interaction effect of prices is included. It was indicated that large, superettes and hyper markets have a significant effect on total sales (sig.=0<0.05). This means that a change in the super-market category (hypermarkets, large, superettes) will increase sales by 324,405 (thousands of liters) in the case of large markets, and will decrease sales by 157,17 (thousands of liters) and by 324,405 (thousands of liters) in the case of superettes and hyper markets respectively. Also, in this analysis, small super-market categories do not have a noteworthy effect on total beer sales (sig.=0,073>0.05) whereas an alteration in retailers and manufacturers pricing policies (sig.=0<0.05) will decrease sales by 148,895 (thousands of liters) (Table 73).

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	510,123	27,468		18,572	0
	Small	33,252	18,453	0,088	1,802	0,073
	Large	324,405	20,213	0,862	16,049	0
	Superettes	-157,17	18,601	-0,417	-8,449	0
	Hyper	-324,405	20,213	-0,862	-16,049	0
	Prices 2010	-148,895	15,328	-0,456	-9,714	0

Table 73: Coefficients between the type of super-market and total weekly sales –after including prices as an interaction effect (Linear Regression 2010)

For the year 2011, we also wanted to check first the influence of the market category, independently and later together with the average prices by the manufacturers and retailers (Tables 74 and 75, See Appendix Part IV).

It is designated on Table 74 (See Appendix Part IV) that the market category significantly influences total beer sales when it affects alone total sales. More specifically, hyper markets have significant results (sig.=0<0.05), which also means that a change in the super-

market category will decrease total sales by 206,077 (thousands of liters) whereas a change into a large super-market category (sig.=0<0.05) will increase total sales by 206,077 (thousands of liters). Also, a change into small (sig.=0,047<0.05) super-markets and superettes (sig.=0<0.05) will increase total sales by 37,423 (thousands of liters) and decrease them by 140,615 (thousands of liters) respectively for each category. On the other hand, Table 75 (See Appendix Part IV) shows that total sales are influenced when including the moderating variable (average prices) (sig.=0<0.05) and the super-market type as well. That is because when the prices are included for the specific year, total beer sales will be decreased by 109,748 (thousands of liters). When the super-market type changes including the price effect, sales are increased by 265,172 (thousands of liters) for the large markets (sig.=0<0.05) and 35,313 (thousands of liters) for the small markets (sig.=0,031<0.05). For the two other categories (hyper and superettes) which are significant (sig.=0<0.05) total beer sales will be decreased by 265,172 (thousands of liters) for the hyper markets and 123,731 (thousands of liters) for the superettes.

Moreover, we continued our research with the year 2012. A linear regression analysis was conducted, as for the previous years in order to test the effects of the type of super-market and the prices, the results of which are shown on Tables 76 and 77 (See Appendix Part IV). From Table 76 (See Appendix Part IV), it is examined that for the year 2012 when the super-market category is changed, the results for total sales are significant for hyper (sig.=0<0.05), large (sig.=0<0.05) and superettes (sig.=0<0.05) compared to small markets (sig.=0,227>0.05). This means that when the super-market category is alternated, total sales in the case of hyper markets and superettes will be decreased by 238,096 (thousands of liters) and 186,538 (thousands of liters) respectively and in the case of large markets, total sales will be increased by 238,096 (thousands of liters). Alternatively, when the moderation effect of average prices is included as shown on Table 77 (See Appendix Part IV), some super-market categories (hyper, large and superettes) have a noteworthy effect (sig.=0<0.05) on total sales as opposed to small markets (sig.=0,457>0.05). When the category is hyper markets and superettes, total beer sales will be decreased by 263,18 (thousands of liters) and 153,737 (thousands of liters) correspondingly. On the other hand, when the super-market type will change into large, total sales will boost by 263,18 (thousands of liters). Pricing policies on the contrary have the tendency to diminish total beer sales by 100,335 (thousands of liters) (sig.=0<0.05).

The last part of our analysis will conclude with the year 2013. The results from the regression analysis on Table 78 (See Appendix Part IV) reveal that the type of super-market cause a significant effect on hyper, large markets and superettes on total beer sales when we do not have the interaction effect for the year 2013. More extensively, when the super-market type changes into hyper (sig.=0<0.05) or superettes (sig.=0<0.05), total beer sales will be decreased by 268,827 (thousands of liters) and 213,865 (thousands of liters) respectively. When the category changes into large market, total sales will be increased by 268,827 (thousands of liters) whereas small super-market types do not have an important effect on total sales (sig.=0,174>0.05).

In the moderation analysis though on Table 79 (See Appendix Part IV), super-market category and manufacturers and retailers policies significantly affect total sales. More specifically, a change in the super-market category will diminish sales by 302,183 (thousands of liters) (sig.=0<0.05) in the case of hyper markets and 170,245 (thousands of liters) (sig.=0<0.05) for superettes compared to large markets that will augment beer sales by 302,183 (thousands of liters) (sig.=0<0.05). Small super-market types do not have a noteworthy effect on total beer sales (sig.=0,383>0.05). As opposed to a change in prices which will decrease sales by 133,426 (thousands of liters) (sig.=0<0.05).

4.5 Findings

In our dataset, we observe a similar pattern among the years of our analyses. During the studied years, there is one or two weeks either in mid-April or mid-May in which a high raise is present in sales. This outline stops after this period and continuous afterwards from the beginning of June and lasts till mid-September. Although we saw these fluctuations in the data, during the mediation analysis we did not expect such results in this part.

The mediation analysis was not supported **(H2)** since our results indicated that seasonality does not have a significant influence on total sales **(H2a)** and on beer promotions **(H2b)**. It was also pointed out that there is no effect on total beer sales when the mediating variable (total promotions) is also a component of the analysis **(H2d)**. However, the aforementioned variable when influences independently total sales **(H2c)**, a significant effect exists. A possible explanation for these results could be that the inclusion of promotional activities during specific seasons might not have a significant effect because they were incorporated in order to maintain the brands in the market and keep constant the company's total market share. This finding is consistent with the literature since sales promotions should not be considered as just a tool for sales increase and could be used for improving brand performance (Raju, 1992) as well as the focus on short-term promotions effect is shown immediately on total sales (Assuncao and Meyer, 1993).

On the contrary, the seasonality effect that we expected to be present could be dependent on other factors such as fluctuations to weather temperatures during the studied years accompanied with a change in consumers' preferences for beverages in Greece (Pauwels, 2007, Weitz, Wensley, 2002, Larson, 1997).

In the second part of our analysis, we tested the effect of the region and total promotions on total beer sales, therefore hypothesis 1 **(H1)** was supported. Our outcomes designated that there is a significant effect of the super-markets' region on total sales and on total beer promotions. More specifically, the analyses for all the studied years (2010-2013) indicated that the area demographics for super-markets influenced negatively total beer sales since an alteration in the area rapidly decreased total sales. Nevertheless, an increase in promotional activities will raise as well total beer sales.

Moreover, it was uncovered from the research that the areas gathering the greater quantities of sales in promotions and total transactions where Attica region and Central Greece, while differing significantly from the rest ones. This outcome is reasonable because it is dependent on the population distribution since those areas are more densely populated.

During the third part of our study, we tested whether the super-market category and total promotions had an effect on total sales **(H3)**. In general, the hypothesis confirmed that the aforementioned effect exists in all super-market categories. From the Tables in Appendix for part 3 of analysis, we can conclude from our results that since the super-market type influences positively when changes total sales, hypotheses **H3a**, **H3b** and **H3c** are supported. This notion is also backed up by Mulhern and Leone (1990) and Walters and MacKenzie (1988) that retailers are struggling to create store traffic through the usage of promotional activities and boost its abundance.

In particular, hypermarkets and superettes demonstrated lower average quantity of total sales and promotions that were purchased by exhibiting significant differences with the rest two kinds of super-markets. On the contrary, large and small super-market types displayed the greater average of total sales and promotions sold during the given time period of our research. From these results we can realize that the medium to small types of super-markets have greater sales which by speculation might be due to different profit margins and pricing policies.

In the last part of our study, we wanted to research the moderating effect of pricing policies of manufacturers and retailers on total sales based on the super-market type. Therefore, hypothesis 4 **(H4)** is partially accepted when pricing policies are part of the model. More specifically, this fact is accurate for the years 2010, 2012 and 2013 and for the following super-market categories: hyper, large and superettes. One possible explanation for this effect could be that during 2011 the crisis occurred and the super-market types that were mostly hurt were the small ones because they didn't provide many offerings and all in one stores. It is indicated that the prices negatively influence total sales. From our dataset, during 2010 and 2011 the prices are fairly higher than the ones in the years 2012 and 2013 that are rather lower but have remained almost the same with few changes. A probable justification for this fact is the increased taxation in raw materials and competition between brewing companies in Greece in the studied period.

	HYPOTHESES	GENERAL CONCLUSION
H1:	**Total beer sales are negatively influenced by the area demographics and positively affected by total beer promotions**	**Accepted**

H2:	**Beer seasonal promotions are a mediator of the effect of seasonality on total beer sales**	**Rejected**
H2A:	**Seasonality significantly predicts total beer sales**	**Rejected**
H2B:	**Seasonality significantly predicts beer promotions**	**Rejected**
H2C:	**Beer promotions significantly predicts total beer sales**	**Accepted**
H2D:	**Seasonality and beer promotions significantly affect total beer sales**	**Rejected**
H3:	**S-M's type and beer promotions have a significant effect on beer sales**	**Accepted**
H3A:	**Big S-M types and beer promotions influence significantly beer sales**	**Accepted**
H3B:	**Medium S-M types and beer promotions influence significantly beer sales**	**Accepted**
H3C:	**Small S-M types and beer promotions influence significantly beer sales**	**Accepted**
H4:	**The super-market category is moderated by the effect of manufacturers and retailers' pricing policies on total beer sales for Total Greece**	**Partially Accepted for some years (2010,2012,2013) and types (hyper,large,superettes)**

Table 97: Overview supported and not supported hypotheses

5. Conclusion

Our research was concerned with the general understanding of promotions, seasonality effect and super-market demographics on total sales. Through this study, we were aiming to gain perspective on the way that all the aforesaid aspects are combined and influence each other.

Current literature was mostly concerned with specific promotional activities that influenced short-term prosperity like coupons and rarely illustrated other promotional methods (Bawa & Shoemaker, 1987, 1989; Doob et al., 1969; Gupta, 1988; Steenkamp, Nijs, et al., 2005). Moreover, studies were focused mostly on grocery stores pricing and promotional techniques while excluding the fact that manufacturers and retailers are co-operating with one another for the creation of a promotion depending on the type of super-market and its pricing policy (Gupta, 1988; Dickson and Sawyer, 1990; Bell and Lattin, 1998). Consistent with the results from our research, it was shown that promotional activities are internally linked to sales success since they have a positive influence upon them.

Another factor that we dealt with was seasonality. In some previous studies on seasonal patterns, it was indicated that sales and promotional fluctuations were dependent on weather changes and holidays' purchasing activities (Larson, 1997; Yi and Yoo, 2011). However, according to Totten (1991), Fok, Franses, Paap, (2007) and Larson, (1997), in some cases unusual issues of seasonality were exhibited especially with products that addressed to specific consumer segments.

In our analysis, which was concerned with Greek consumption behavior, we expected our results to be aligned with seasonality effect. Surprisingly, through the mediation analysis, the outcome proved to be inconsistent with the seasonal patterns for the studied years.

Moreover, another variable which was included in our study was the retailers' super-market category based on the pricing policies (EDLP or HILO) that were executed (Bell and Lattin, 1998; Dickson and Sawyer, 1990) as well as the generalized store demographics.

In the field of store and area demographics, little research has been performed concerning their effect on total sales. As said by Mulhern and Leone (1991), retailers use promotional activities in order to enhance store traffic and profitability, which was also dependent on the type of buyer (Lim, Currim and Andrews, 2005).

From our study, unfortunately, we couldn't obtain the buyer profiles in order to have an image about the average consumer, but our results concerning the effect of the super-market type on total sales, promotions and store profitability were supported by the theory. For the area demographics, the analyses indicated that specific areas were more profitable and influenced more total sales and promotions.

The final variable which was used in our study was represented by the average prices of the products by retailers and manufacturers. The prices were used as a moderator in the research based on the store type and its policy (EDLP or HILO) (Bell and Lattin, 1998; Dickson and Sawyer, 1990). The results indicated that prices had a negative effect on total sales.

5.1 Contributions

The findings from this research could be valuable for managerial mostly purposes. The company could use the data in order to improve its forecasting and supply chain actions as well as to better understand to which area it is better to distribute more promotions and which brands should be promoted more often.

5.2 Limitations and Future Research

By reviewing the analyses and conclusions of the research, we can formulate managerial and scientific implications and limitations. Firstly, our database contained sales data and information concerning the market for the years 2010 till 2013. Because of this issue maybe some of the results that we received cannot be generalized for the years before the recession.

For future research, a larger database could be very useful from managerial point of view since better insight about consumer purchasing patterns before recession could be found.

Furthermore, our research was only specified in Greece and the data of the analysis were given in the way the company keeps them in their database, especially referring to the super-market are demographics. Consequently, some of the domestic areas could be excluded or were aggregated in a general context and there might have been a loss of specific area data that could be a useful insight in our research. Moreover and concerning future research, it will be very enlightening to have same datasets and perform similar analyses from different European countries and understand if indeed the seasonality effect does not exist there as well or it exists in specific cultures. Concerning also future research on seasonality, it would be helpful to examine the average profiles of consumers for products that were on promotions as well as analyze the weather patterns and better understand their effects on seasons.

Additionally, as far as the average retailers' and manufacturers' pricing policies are concerned, it would a valuable tool for future investigation to examine each of them separately and their effects on total sales.

What's more, our dataset was limited only to one Greek brewery sales and have excluded competition sales data, which could have given a different point of view in the entire

analysis process and results. Lastly and for prospective studies, competitor brewery companies could be included and it would be of extreme interest to find out how completion performs and understand its effect of promotions.

6. Literature Review

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I. Appendix- Database demographics

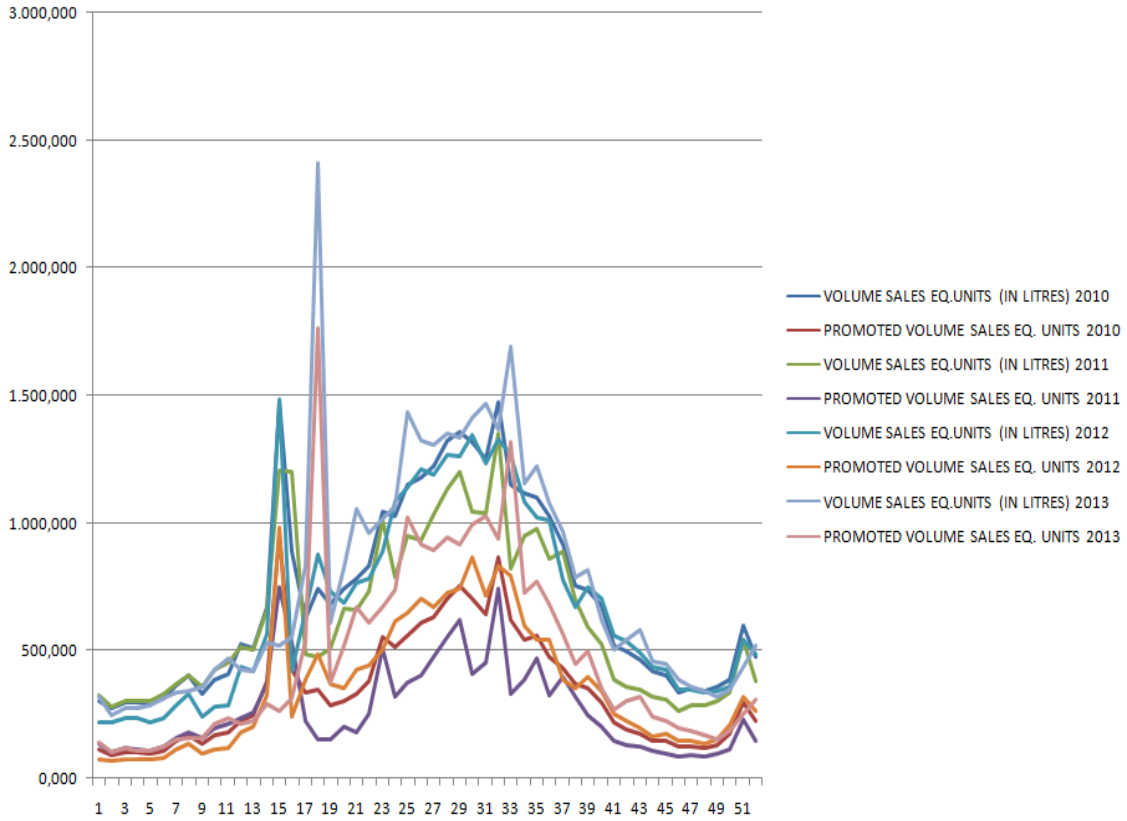

Figure 6: Graph of total weekly sales and promotions for Total Greece (2010-2013)

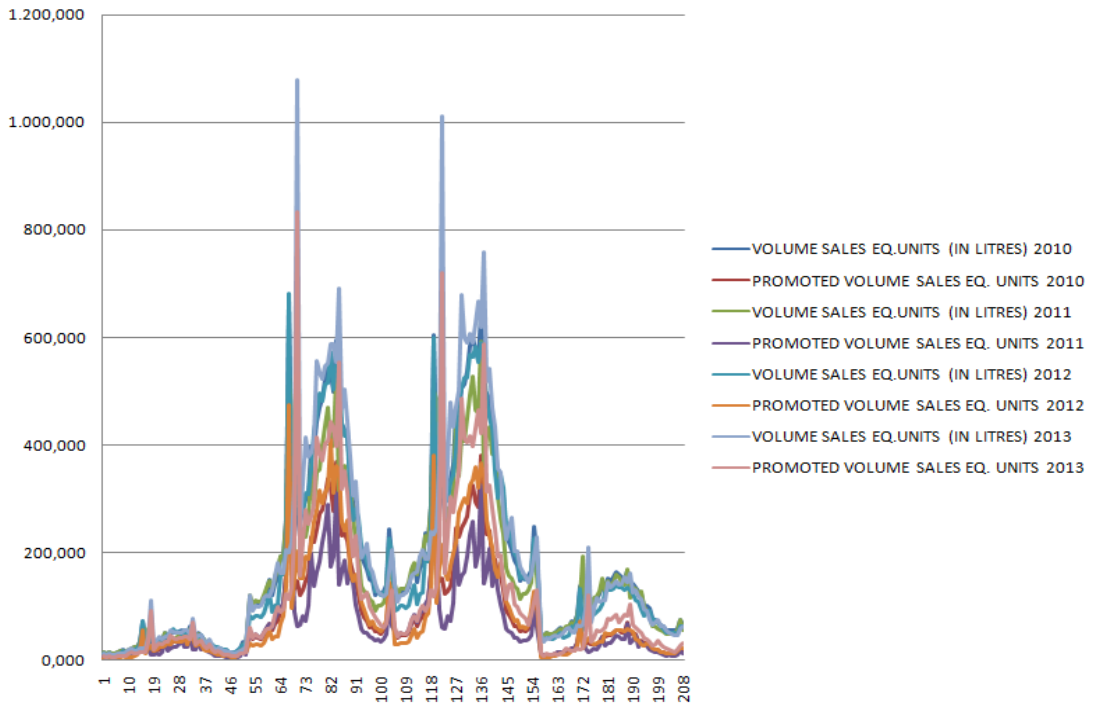

Figure 7: Total weekly sales and promotions for all super-market categories (2010-2013)

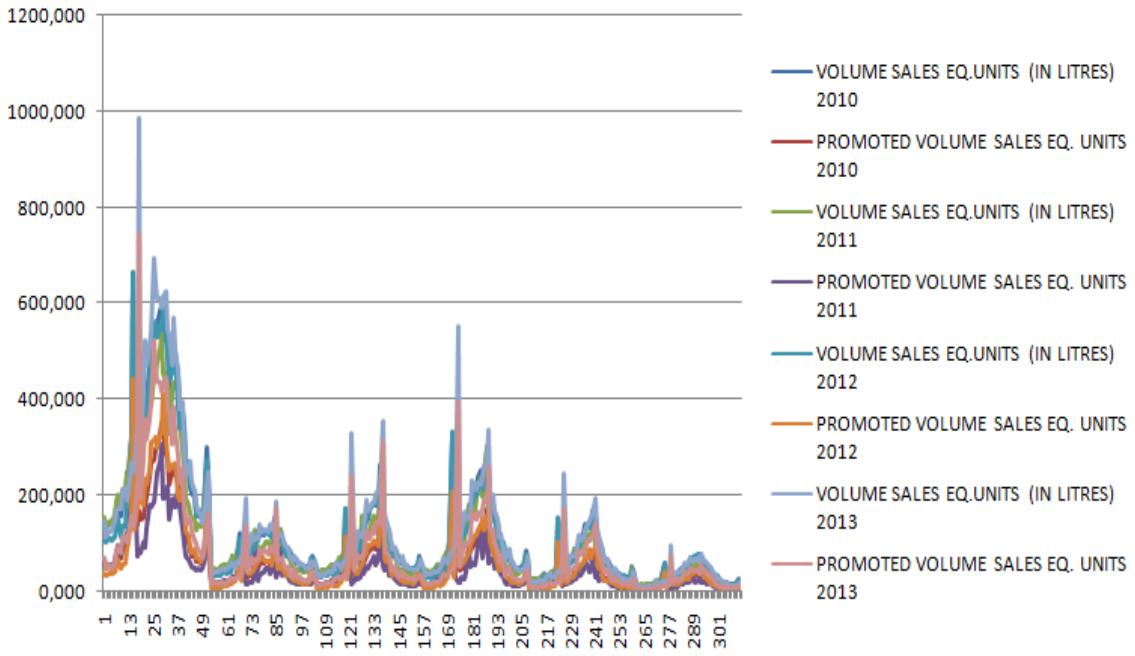

Figure 8: Total weekly sales and promotions for all area demographics (2010-2013)

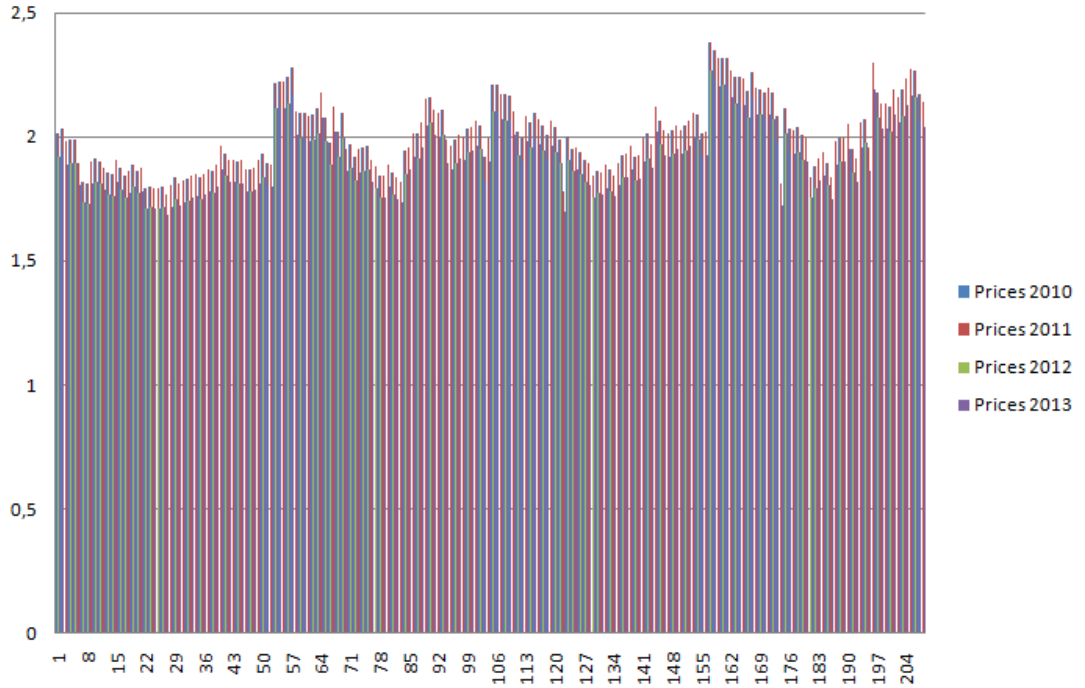

Figure 9: Total weekly prices by retailers and manufacturers (2010-2013)

II. Appendix Part I

Dependent, Independent, and Proposed Mediator Variables:					
Dependent Variable = Total weekly beer sales					
Independent Variable = Seasonality (weeks for the year 2011)					
Mediator = Total weekly beer promotions					
Sample size	52				
IV to Mediators (a paths)					
	Coeff	*SE*	*t*	*P*	
Seasonality (for the year 2011)	**-0,028**	1,617	-0,176	**0,861**	
Direct Effects of Mediators on DV (b paths)					
	Coeff	*SE*	*t*	*P*	
Total weekly beer promotions	**1,743**	0,07	24,827	**0**	
Total Effect of IV on DV (c' path)					
	Coeff	*SE*	*t*	*P*	
Seasonality (weeks for the year 2011)	**0,627**	2,928	0,214	**0,831**	
Direct Effect of IV on DV (c path)					
	Coeff	*SE*	*t*	*P*	
Seasonality (weeks for the year 2011)	**1,123**	0,803	1,399	**0,168**	
Model Summary for DV Model					
R-sq	*Adj R-sq*	*F*	*df1*	*df2*	*P*
0,977	0,923	308,49	2	49	**0**
Bias Corrected Confidence Intervals					
	Lower	*Upper*			
Total	**-5,335**	**4,679**			
Total weekly beer promotions	**-5,335**	**4,679**			
Level of Confidence for Confidence Intervals:					95
Number of Bootstrap Resamples:					5.000,00

Table 5: Results from mediation analysis for the year 2011 (DV: Total weekly sales, IV: Seasonality, MED: Total weekly promotions)

Dependent, Independent, and Proposed Mediator Variables:					
Dependent Variable = Total weekly beer sales					
Independent Variable = Seasonality (weeks for the year 2012)					
Mediator = Total weekly beer promotions					
Sample size	52				
IV to Mediators (a paths)					
	Coeff	*SE*	*t*	*P*	
Seasonality (for the year 2012)	**2,875**	2,315	1,242	**0,022**	
Direct Effects of Mediators on DV (b paths)					
	Coeff	*SE*	*t*	*P*	
Total weekly beer promotions	**1,484**	0,026	57,873	**0**	
Total Effect of IV on DV (c' path)					
	Coeff	*SE*	*t*	*P*	
Seasonality (weeks for the year 2012)	**5,057**	3,461	1,461	**0,15**	
Direct Effect of IV on DV (c path)					
	Coeff	*SE*	*t*	*P*	
Seasonality (weeks for the year 2012)	**0,791**	0,426	1,855	**0,07**	
Model Summary for DV Model					
R-sq	*Adj R-sq*	*F*	*df1*	*df2*	*P*
0,977	0,986	1.747,22	2	49	**0**
Bias Corrected Confidence Intervals					
	Lower	*Upper*			
Total	**-2,566**	**10,81**			
Total weekly beer promotions	**-2,566**	**10,81**			
Level of Confidence for Confidence Intervals:					95
Number of Bootstrap Resamples:					5.000,00

Table 6: Results from mediation analysis for the year 2012 (DV: Total weekly sales, IV: Seasonality, MED: Total weekly promotions)

Dependent, Independent, and Proposed Mediator Variables:					
Dependent Variable = Total weekly beer sales					
Independent Variable = Seasonality (weeks for the year 2013)					
Mediator = Total weekly beer promotions					
Sample size	52				
IV to Mediators (a paths)					
	Coeff	*SE*	*t*	*P*	
Seasonality (for the year 2013)	**2,98**	3,388	0,88	**0,383**	
Direct Effects of Mediators on DV (b paths)					
	Coeff	*SE*	*t*	*P*	
Total weekly beer promotions	**1,28**	0,014	90,128	**0**	
Total Effect of IV on DV (c' path)					
	Coeff	*SE*	*t*	*P*	
Seasonality (weeks for the year 2013)	**3,904**	4,349	0,898	**0,794**	
Direct Effect of IV on DV (c path)					
	Coeff	*SE*	*t*	*P*	
Seasonality (weeks for the year 2013)	**0,09**	0,343	0,263	**0,794**	
Model Summary for DV Model					
R-sq	*Adj R-sq*	*F*	*df1*	*df2*	*P*
0,994	0,994	4.131,04	2	49	**0**
Bias Corrected Confidence Intervals					
	Lower	*Upper*			
Total	**-3,857**	**11,116**			
Total weekly beer promotions	**-3,857**	**11,116**			
Level of Confidence for Confidence Intervals:					95
Number of Bootstrap Resamples:					5.000,00

Table 7: Results from mediation analysis for the year 2013 (DV: Total weekly sales, IV: Seasonality, MED: Total weekly promotions)

III. Appendix Part II

Total weekly sales for 2011	N	Mean
1 (Attica)	52	285,385
2 (Thessaloniki)	52	68,423
3 (Macedonia-Thrace)	52	79,058
4 (Central Greece)	52	104,788
5 (Peloponnese)	52	57,404
6 (Crete)	52	26,654
Total	312	103,619

Table 16: Average from Descriptive Statistics by One-Way ANOVA (for Total weekly sales in 2011)

ANOVA for Total sales 2011	Sig.
	0

Table 17: ANOVA Test for Total weekly sales for area demographics (2011)

Multiple Comparisons			
Dependent Variable: Total weekly sales 2011			
(I) region 1	(J) region 1	Mean Difference (I-J)	Sig.
1 (Attica)	2 (Thessaloniki)	216,962	0
	3 (Macedonia-Thrace)	206,327	0
	4 (Central Greece)	180,596	0
	5 (Peloponnese)	227,981	0
	6 (Crete)	258,731	0

Table 18: Multiple Comparisons- Post-Hoc Tests (Total weekly sales 2011)

Total weekly promotions for 2011	N	Mean
1 (Attica)	52	126,827
2 (Thessaloniki)	52	28,538
3 (Macedonia-Thrace)	52	35,058
4 (Central Greece)	52	41,692
5 (Peloponnese)	52	21,615
6 (Crete)	52	10,423
Total	312	44,026

Table 19: Average from Descriptive Statistics by One-Way ANOVA (for Total weekly promotions 2011)

ANOVA for Total promotions 2011	Sig.
	0

Table 20: ANOVA Test for total weekly promotions for area demographics (2011)

Multiple Comparisons			
Dependent Variable: Total weekly promotions 2011			
(I) region 1	(J) region 1	Mean Difference (I-J)	Sig.
1 (Attica)	2 (Thessaloniki)	98,288	0
	3 (Macedonia-Thrace)	91,769	0
	4 (Central Greece)	85,135	0
	5 (Peloponnese)	105,212	0
	6 (Crete)	116,404	0

Table 21: Multiple Comparisons- Post-Hoc Tests (for Total weekly promotions in 2011)

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1,000	,974[a]	0,949	0,948	24,368

Table 22: Model Summary (for Linear Regression 2011)

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	43,381	4,472		9,701	0
	Region	-5,89	0,962	-0,094	-6,123	0
	Total promotions 2011	1,836	0,031	0,92	59,894	0

Table 23: Coefficients table (for Linear Regression 2011)

Total weekly sales for 2012	N	Mean
1 (Attica)	52	308,808
2 (Thessaloniki)	52	75,538
3 (Macedonia-Thrace)	52	88,462
4 (Central Greece)	52	107,558
5 (Peloponnese)	52	59,827
6 (Crete)	52	32,173
Total	312	112,061

Table 24: Average from Descriptive Statistics by One-Way ANOVA (for Total weekly sales 2012)

ANOVA for Total sales 2012	Sig.
	0

Table 25: ANOVA Test for Total weekly sales (2012)

Multiple Comparisons			
Dependent Variable: Total weekly sales 2012			
(I) region 1	(J) region 1	Mean Difference (I-J)	Sig.
1 (Attica)	2 (Thessaloniki)	233,269	0
	3 (Macedonia-Thrace)	220,346	0
	4 (Central Greece)	201,250	0
	5 (Peloponnese)	248,981	0
	6 (Crete)	276,635	0

Table 26: Multiple Comparisons- Post-Hoc Tests (Total weekly sales 2012)

Total weekly promotions for 2012	N	Mean
1 (Attica)	52	170,288
2	52	37,442
3 (Macedonia-Thrace)	52	46,731
4 (Central Greece)	52	58,538
5	52	30,327
6 (Crete)	52	16,096
Total	312	59,904

Table 27: Average from Descriptive Statistics by One-Way ANOVA (Total weekly promotions 2012)

ANOVA for Total promotions 2012	Sig.
	0

Table 28: ANOVA Test for total weekly promotions and area demographics (2012)

Multiple Comparisons			
Dependent Variable: Total weekly promotions 2012			
(I) region 1	(J) region 1	Mean Difference (I-J)	Sig.
1 (Attica)	2 (Thessaloniki)	132,846	0
	3 (Macedonia-Thrace)	123,558	0
	4 (Central Greece)	111,750	0
	5 (Peloponnese)	139,962	0
	6 (Crete)	154,192	0

Table 29: Multiple Comparisons- Post-Hoc Tests (Total weekly promotions 2012)

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,993[a]	0,986	0,986	14,25572

Table 30: Model Summary (Linear Regression 2012)

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	39,734	2,55		15,582	0
	Region	-5,817	0,552	-0,083	-10,537	0
	Total promotions 2012	1,547	0,013	0,948	120,938	0

Table 31: Coefficients (Linear Regression 2012)

Total weekly sales for 2013	N	Mean
1 (Attica)	52	347,692
2 (Thessaloniki)	52	84,462
3 (Macedonia-Thrace)	52	101,115
4 (Central Greece)	52	123,173
5 (Peloponnese)	52	66,673
6 (Crete)	52	34,654
Total	312	126,295

Table 32: Average from Descriptive Statistics by One-Way ANOVA (Total weekly sales 2013)

ANOVA for Total sales 2013	Sig.
	0

Table 33: ANOVA Test for total weekly sales and area demographics (2013)

Multiple Comparisons			
Dependent Variable: Total weekly sales 2013			
(I) region 1	(J) region 1	Mean Difference (I-J)	Sig.
1 (Attica)	2 (Thessaloniki)	263,231	0
	3 (Macedonia-Thrace)	246,577	0
	4 (Central Greece)	224,519	0
	5 (Peloponnese)	281,019	0
	6 (Crete)	313,038	0

Table 34: Multiple Comparisons- Post-Hoc Tests (Total sales 2013)

Total weekly promotions for 2013	N	Mean
1 (Attica)	52	222,846
2 (Thessaloniki)	52	47,096
3 (Macedonia-Thrace)	52	61,519
4 (Central Greece)	52	77,596
5 (Peloponnese)	52	41,846
6 (Crete)	52	20,231
Total	312	78,522

Table 35: Average from Descriptive Statistics by One-Way ANOVA (Total weekly promotions 2013)

ANOVA for Total promotions 2013	Sig.
	0

Table 36: ANOVA Test for total weekly promotions and area demographics (2013)

Multiple Comparisons			
Dependent Variable: Total weekly promotions 2013			
(I) region 1	(J) region 1	Mean Difference (I-J)	Sig.
1 (Attica)	2 (Thessaloniki)	175,750	0
	3 (Macedonia-Thrace)	161,327	0
	4 (Central Greece)	145,250	0
	5 (Peloponnese)	181,000	0
	6 (Crete)	202,615	0

Table 37: Multiple Comparisons- Post-Hoc Tests (Total weekly promotions 2013)

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,996[a]	0,992	0,992	12,49738

Table 38: Model Summary (Linear Regression 2013)

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	49,317	2,15		22,942	0
	Region	-7,533	0,473	-0,091	-15,919	0
	Total promotions 2013	1,316	0,008	0,949	166,572	0

Table 39: Coefficients (Linear Regression 2013)

IV. Appendix Part III

Total weekly sales for 2011	N	Mean
1 (Hypermarkets)	52	26,962
2 (Large super-markets)	52	233,038
3 (Small super-markets)	52	270,462
4 (Superettes)	52	92,423
Total	208	155,721

Table 48: Average from Descriptive Statistics by One-Way ANOVA (Total weekly sales 2011)

ANOVA for Total sales 2011	Sig.
	0

Table 49: ANOVA Test for total weekly sales and s-m category (2011)

Multiple Comparisons			
Dependent Variable: Total weekly sales 2011			
(I) type of S-M	(J) type of S-M	Mean Difference (I-J)	Sig.
1 (Hypermarkets)	2 (Large super-markets)	-206,077	0
	3 (Small super-markets)	-243,500	0
	4 (Superettes)	-65,462	0

Table 50: Multiple Comparisons- Post-Hoc Tests for total weekly sales (2011)

Total weekly promotions for 2011	N	Mean
1 (Hypermarkets)	52	15,673
2 (Large super-markets)	52	113,481
3 (Small super-markets)	52	112,327
4 (Superettes)	52	23,635
Total	208	66,279

Table 51: Average from Descriptive Statistics by One-Way ANOVA (Total weekly promotions 2011)

ANOVA for Total promotions 2011	Sig.
	0

Table 52: ANOVA Test for total weekly promotions and s-m category (2011)

Multiple Comparisons			
Dependent Variable: Total weekly promotions 2011			
(I) type of S-M	(J) type of S-M	Mean Difference (I-J)	Sig.
1 (Hypermarkets)	2 (Large super-markets)	-97,808	0
	3 (Small super-markets)	-96,654	0
	4 (Superettes)	-7,962	0,875

Table 53: Multiple Comparisons- Post-Hoc Tests for total weekly promotions (2011)

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,973[a]	0,948	0,947	31,64

Table 54: Model Summary (Linear Regression 2011)

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-14,782	5,692		-2,597	0,01
	Type of S-M	19,178	1,963	0,156	9,767	0
	Total Promotions 2011	1,849	0,031	0,955	59,729	0

Table 55: Coefficients (Linear Regression 2011)

Total weekly sales for 2012	N	Mean
1 (Hypermarkets)	52	29,385
2 (Large super-markets)	52	267,481
3 (Small super-markets)	52	295,577
4 (Superettes)	52	80,942
Total	208	168,346

Table 56: Average from Descriptive Statistics by One-Way ANOVA (Total weekly sales 2012)

ANOVA for Total sales 2012	Sig.
	0

Table 57: ANOVA Test for total weekly sales and s-m category (2012)

Multiple Comparisons			
Dependent Variable: Total weekly sales 2012			
(I) type of S-M	(J) type of S-M	Mean Difference (I-J)	Sig.
1 (Hypermarkets)	2 (Large super-markets)	-238,096	0
	3 (Small super-markets)	-266,192	0
	4 (Superettes)	-51,558	0,12

Table 58: Multiple Comparisons- Post-Hoc Tests (for total weekly sales 2012)

Total weekly promotions for 2012	N	Mean
1 (Hypermarkets)	52	19,077
2 (Large super-markets)	52	156,192
3 (Small super-markets)	52	156,404
4 (Superettes)	52	29,019
Total	208	90,173

Table 59: Average from Descriptive Statistics by One-Way ANOVA (Total weekly promotions 2012)

ANOVA for Total promotions 2012	Sig.
	0

Table 60: ANOVA Test for total weekly promotions and s-m category (2012)

Multiple Comparisons			
Dependent Variable: Total weekly promotions 2012			
(I) type of S-M	(J) type of S-M	Mean Difference (I-J)	Sig.
1 (Hypermarkets)	2 (Large super-markets)	-137,115	0
	3 (Small super-markets)	-137,327	0
	4 (Superettes)	-9,942	0,919

Table 61: Multiple Comparisons- Post-Hoc Tests (for total weekly promotions 2012)

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,992[a]	0,985	0,985	20,379

Table 62: Model Summary (Linear Regression 2012)

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-7,357	3,643		-2,019	0,045
	Type of S-M	13,553	1,265	0,092	10,718	0
	Total Promotions 2012	1,573	0,014	0,985	114,372	0

Table 63: Coefficients (Linear Regression 2012)

Total weekly sales for 2013	N	Mean
1 (Hypermarkets)	52	31,750
2 (Large super-markets)	52	300,577
3 (Small super-markets)	52	339,827
4 (Superettes)	52	86,712
Total	208	189,716

Table 64: Average from Descriptive Statistics by One-Way ANOVA (Total weekly sales 2013)

ANOVA for Total sales 2013	Sig.
	0

Table 65: ANOVA Test for total weekly sales and s-m category (2013)

Multiple Comparisons			
Dependent Variable: Total weekly sales 2013			
(I) type of S-M	(J) type of S-M	Mean Difference	Sig.
1 (Hypermarkets)	2 (Large super-markets)	-268,827	0
	3 (Small super-markets)	-308,077	0
	4 (Superettes)	-54,962	0,227

Table 66: Multiple Comparisons- Post-Hoc Tests (for total weekly sales 2013)

Total weekly promotions for 2013	N	Mean
1 (Hypermarkets)	52	22,808
2 (Large super-markets)	52	201,000
3 (Small super-markets)	52	208,365
4 (Superettes)	52	39,981
Total	208	118,038

Table 67: Average from Descriptive Statistics by One-Way ANOVA (Total weekly promotions 2013)

ANOVA for Total promotions 2013	Sig.
	0

Table 68: ANOVA Test for total weekly promotions and s-m category (2013)

Multiple Comparisons			
Dependent Variable: Total weekly promotions 2013			
(I) type of S-M	(J) type of S-M	Mean Difference	Sig.
1 (Hypermarkets)	2 (Large super-markets)	-178,192	0
	3 (Small super-markets)	-185,558	0
	4 (Superettes)	-17,173	0,872

Table 69: Multiple Comparisons- Post-Hoc Tests (for total weekly promotions 2013)

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,994[a]	0,988	0,988	21,756

Table 70: Model Summary (Linear Regression 2013)

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1,391	3,852		-0,361	0,718
	Type of S-M	12,43	1,351	0,071	9,203	0
	Total Promotions 2013	1,356	0,011	0,988	128,752	0

Table 71: Coefficients (Linear Regression 2013)

V. Appendix Part IV

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	233,038	13,216		17,633	0
	Hyper	-206,077	18,691	-0,65	-11,026	0
	Large	206,077	18,691	0,65	11,026	0
	Small	37,423	18,691	0,118	2,002	0,047
	Superettes	-140,615	18,691	-0,444	-7,523	0

Table 74: Coefficients between the type of super-market and total weekly sales - before prices as an interaction effect (Linear Regression 2011)

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	406,102	24,238		16,755	0
	Hyper	-265,172	17,836	-0,837	-14,867	0
	Large	265,172	17,836	0,837	14,867	0
	Small	35,313	16,284	0,111	2,169	0,031
	Superettes	-123,731	16,414	-0,39	-7,538	0
	Prices 2011	-109,748	13,526	-0,399	-8,114	0

Table 75: Coefficients between the type of super-market and total weekly sales –after including prices as an interaction effect (Linear Regression 2011)

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	267,481	16,392		16,318	0
	Hyper	-238,096	23,182	-0,628	-10,271	0
	Large	238,096	23,182	0,628	10,271	0
	Small	28,096	23,182	0,074	1,212	0,227
	Superettes	-186,538	23,182	-0,492	-8,047	0

Table 76: Coefficients between the type of super-market and total weekly sales - before prices as an interaction effect (Linear Regression 2012)

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	392,9	30,58		12,848	0
	Hyper	-263,18	22,658	-0,694	-11,615	0
	Large	263,18	22,658	0,694	11,615	0
	Small	16,519	22,172	0,044	0,745	0,457
	Superettes	-153,737	23,088	-0,406	-6,659	0
	Prices 2012	-100,335	21,049	-0,261	-4,767	0

Table 77: Coefficients between the type of super-market and total weekly sales –after including prices as an interaction effect (Linear Regression 2012)

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	300,577	20,347		14,772	0
	Hyper	-268,827	28,775	-0,592	-9,342	0
	Large	268,827	28,775	0,592	9,342	0
	Small	39,25	28,775	0,086	1,364	0,174
	Superettes	-213,865	28,775	-0,471	-7,432	0

Table 78: Coefficients between the type of super-market and total weekly sales - before prices as an interaction effect (Linear Regression 2013)

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	467,359	37,644		12,415	0
	Hyper	-302,183	27,891	-0,665	-10,834	0
	Large	302,183	27,891	0,665	10,834	0
	Small	23,855	27,293	0,052	0,874	0,383
	Superettes	-170,245	28,421	-0,375	-5,99	0
	Prices 2013	-133,426	25,912	-0,29	-5,149	0

Table 79: Coefficients between the type of super-market and total weekly sales –after including prices as an interaction effect (Linear Regression 2013)