

# The Effect of Advertisements on Consumer Behavior

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**Abstract.** With the world's technology evolving day by day, and the complex economy affecting the purchasing behaviors of consumers in various ways, businesses are focusing on their marketing and advertising more than ever. There are various ways of advertising, each business often has to decide which ones they would use, and how much money they would spend on it. This essay examines the key factors that affect consumer behavior, especially when it comes to advertisements. A linear regression analysis was performed with the existing data from Ankit Kumar. Where 200 unique identifiers were provided with their budgets allocated for advertisements through TV, Radio, and Newspaper and their sales in that time. By comparing advertisement of differing forms and how their benefits and correlations in sales, these various means of advertisements' effectiveness can be compared against one another. This allows businesses to make well informed and smart decisions during their marketing and promotions.

**Keywords:** Economy, Purchasing Power, Consumer behavior, Advertisement.

## 1. Introduction

In today's ever-growing economy, more and more innovative goods are being brought into the market, and gdp as a whole has been growing since centuries ago. With new technologies and the shift into a media and AI dominant world, products and brands are getting more and more exposure and advertisement opportunities. That said, you'd think that consumers are making more purchases and are keener to spend their money. However, in the recent years, consumers have been cutting down on their overall spendings and being more selective with their purchases. This is mainly due to concerns over inflation, and a weak economy worldwide. Therefore, in times where opportunities for advertisements are vast, but consumers spending patterns are decreasing, it makes promoting and marketing products even more critical to the success of a business.

Advertisements are a key part in every business, and make up a huge proportion of their expenditures. They are crucial to the success of a product or service. Nowadays, the ways to advertise is limitless, from TV to the radio, and even the newspapers. With the new age of technology and media, more and more opportunities are available to companies to showcase their goods and services. As the economy grows, and people become richer and richer, the growing demand of goods are being met by growing competitions in supply markets. Along with the competitive markets, many companies would even undertake large costs to bring more exposure to their products, all in hopes of differentiating their products and reaching more consumers. That said, some methods of advertising can be more impactful and effective than others. Therefore, it is important to know what advertisement means can lead to better results in sales, and why they are advantageous to other options.

This paper will first delve into the current state of the economy, its outlook, and future trends. Then, by exploring the current consumption and income of the consumer population, it allows for a better analysis on consumer behavior and corresponding marketing strategies. This paper will especially focus on the impact of advertisements on consumer behavior. By conducting a linear regression analysis on different advertisement's effects on sales, clearer trends and correlations may be studied between various advertisement means and product sales. This allows firms to find results and trends that can better maximize the efficiency of its advertisements and better allocate its marketing budgets.

The layout of this paper is as follows: How the current economy is and how it is affecting consumer spendings, 2. The factors that influence consumer behaviors, how does different advertisement means stack up against one another.

## 2. The Current state of the global economy

In the past years, the world economy has been growing at a steady pace in many different countries. With increased wages and standards of living, the consumer's purchasing power has increased as well. People are making more and more purchases, more and more innovative goods are brought in the market, and money in general is flowing quickly in the world. GDP in the US continues to grow following the pandemic, which had shaken the economy quite a bit in 2020. According to The White House, the United States' economy has defied the expectations of many forecasters in 2023 [1]. The Blue-Chip Economic Forecast measured real economic growth December 2022, and the private consensus was negative 0.1% for the year. However, as of December 2023, the most recent Blue-Chip estimate for growth in 2023 is positive 2.6% and takes into account all data that has been made available thus far [1]. The economy's robust growth is driven by increased real wages, steady job growth, and increased consumer spending.

Interestingly, GDP and other economic data hasn't always been widely available and accurate. The idea of a National account and GDP was first introduced by Simon Kuznets and his colleagues in the 1930s, during the Great Depression [2]. Back then, policymakers didn't have a clear and comprehensive image of the economy. Measures of National income and output didn't exist at the time. Therefore, the Great Depression emphasized the importance of having accurate economic data and lead to the creation of these accounts.

Although GDP provides a clear indication of how the economy is doing, any investigation of wellbeing naturally starts with measures of gross domestic product (GDP) per capita [2]. It can be used to assess economic well-being, or people's control over produced goods and services. According to World development indicators, the US gdp per capita has been increasing steadily over the past 50 years [3]. This economic growth is greatly attributed to the technological advancements and digital communications.

Digital communication's development has had a significant impact on modern society, influencing everything from macroeconomic patterns to individual behavior. New technologies have had a profoundly transformational effect on many aspects of life, with important consequences for economic growth. With the development of digital communication technology, information has been exchanged more quickly and effectively, which has affected productivity and economic activity. In the research done by Yvonne Oshawa, et al, they analyzed various technological breakthroughs that had boosted economic growth in the world [4]. One of which was the expansion of broadband Internet in the early 21st century. It significantly improved Internet accessibility and speeds, which fueled the growth of cloud computing, streaming services, and the Internet of Things (IoT) [4]. Now the foundation of digital communication, broadband supports a wide range of services that are now essential to both personal and professional lives. Another influential technological advancement was the rise of social media, platforms such as Facebook, Twitter, Youtube, etc, has revolutionized the way people interact and communicate [4]. They allow people to share information more efficiently, create digital communities, and interact with others far apart. Most importantly, social media has opened many new business models and markets.

## 3. Factors influencing consumer behavior

There are many factors that influence consumer behavior, they can mainly be split up into the following categories: psychological, social, cultural, personal, and economic [5]. Therefore, it is crucial for product marketers to understand these factors, and how they can convert their potential customers to buyers. Marketers must predict what affects each of their promotional moves could

cause, and understand the consumer's purchasing behaviors to effectively market their product. Nowadays, there are countless goods and services in the markets for consumers to choose. Therefore, producers no longer hold control over the consumers.

When it comes to buying, there are several important factors that needs to be considered: what to buy, where to buy, when to buy, how much to buy, and how often to buy [6]. By knowing this information, businesses can better formulate plans for the things they will create and promote by knowing what consumers will buy. It also allows them to strategize the best distribution routes and systems to reach consumers with items by figuring out where and when purchases will be made.

It is important to note that consumers often assess and compare various brands when making a decision to purchase. Therefore, an individual's response towards a product is the deciding factor for purchase. As businesses, for consumers to have the best responses towards their product, they would have to meet the demands of the consumer.

### **3.1. Target Markets**

Since human behavior is very distinct and complex to understand, it is impossible to precisely predict how consumers would react to certain marketing moves. However, businesses can try to understand various factors that may cause specific consumers to be keener on purchasing their products. For one, a common way that producers would try to increase sales is by finding a target market. A target market is usually described by a group of buyers who have similar demands or characteristics that the company decides to service. Businesses approach their target markets by tactically correlating the price, product, place, and promotion to create a distinct product on the market which differentiates from other businesses [5]. When doing so, businesses are hope to attain as much consumer value and satisfaction as possible from their target audiences. As a result, despite certain companies are producing a similar product, each business is able to achieve a unique marketing mix that is different from its competitors [5].

### **3.2. Market demand and individual demand**

Market demand refers to the quantity of goods or services that consumers are willing and able to purchase within a specific market, taking into account factors such as price levels, income levels, and the time period under consideration [7]. Therefore, businesses should try to maximize their sales by adjusting to the market and what consumers want. For example, a decrease in price would lead to increased quantity demanded, as suggested by the law of demand. Companies should adjust their production and marketing campaigns based on the current economic situation. If the economy isn't in a good place, and people's incomes are decreasing, then the company may need to decrease their price in order to achieve the same number of sales. On the other hand, if the price of a substitute was to decrease, then that may force the company to decrease their prices as well in order to stay competitive and not lose customers.

## **4. Advertisements on Consumer behavior**

One of the main ways that businesses could sway the consumer's opinion about their product and alter consumer behavior, is through advertising. Since purchasing behavior is largely reliant on the customer's perception of the good, businesses can utilize advertisements to influence the customers. Consequently, mastering how to advertise and how to achieve advertisement efficiency are key for product successes. For a long time, people have studied advertisements and how to effectively market their products. Therefore, numerous research has been done on advertising strategies and the benefits of each. However, as the world changes with time, the ways that people advertise has changed too. New technologies and innovative ideas have caused advertisements to pop in new ways every day. Giving even more opportunities for companies to advertise and market their product. That said, not all advertising strategies have kept up with the times. With the world changing and advancing so fast every day, some advertising options have fallen behind, while others have proven to be greatly

influential. Therefore, it is important for marketers to understand how each way can be more beneficial and impactful than others.

To understand more about the effects of advertising strategies, it is helpful to know “Why consumers react to advertising”. Generally, there are two views in response to this question. One view is that its persuasive, where advertisements alter consumers behaviours, creating a sense of product differentiation and brand loyalty. This in turn causes the firm to have a more inelastic demand and decrease competitiveness in the market. On the other hand, advertising can be seen as informative; where advertisements present consumers with low-cost information about the product that otherwise may not have been attained by consumers [8].

In a study by FJ Otamendi, et al the effectiveness of advertisements is analyzed based on cognitive-emotional neuroscience [9]. By using AFFDEX to record and analyze facial expressions, a combination of indicators that track both basic emotions and individual involvement is used to quantitatively determine if a spot causes high levels of ad liking in terms of attention, engagement, valence, and joy [9]. In another study, performed by Gronhaug et al., they examined the influence of variety of factors such as size of an advertisement, number of colors used, the product advertised and characteristics of the audience on recall and recognition of advertisements [10]. Keshari et al., conducted a study investigating the elements that may make a printed advertisement more effective—believability, persuasiveness, relevancy, memorability, and eye-catching imagery [11].

## 5. Linear regression of Advertisement efficiency

To take a closer look at how different advertisement means may alter consumer behavior differently, a linear regression analysis can be performed. A dataset gathered and presented by Ankit Kumar provided 200 unique entries of data regarding the different budgets allocated for various advertisement means and their effect on sales [12]. In this dataset, there will be 3 explanatory variables: advertising budgets for TV, radio, and newspaper all of which measured in thousands of dollars. The response variable is units of sales measured in thousands. 200 entries of data are collected of each variable, and a linear regression line is plotted for each explanatory variable (Figure 1,2,3).

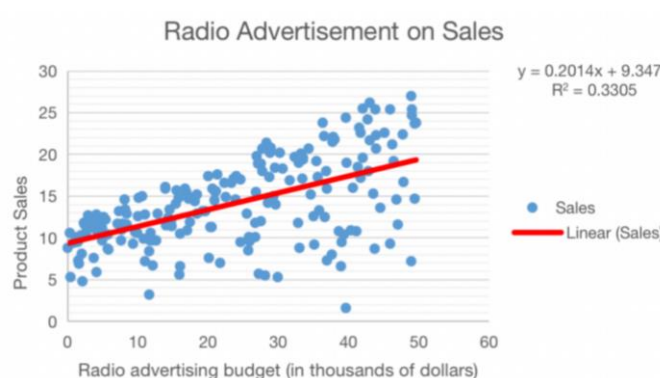


Figure 1. Radio Advertisement on Sales

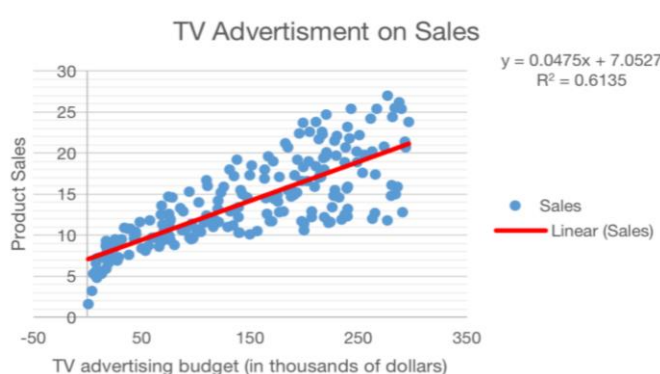


Figure 2. TV Advertisement on Sales



**Figure 3.** Newspaper Advertisement on Sales

As Figures 1, 2, 3 shows, it is clear that increased budgets allocated for TV and Radio Advertisements can have an overall increase in sales. While increased budgets allocated for Newspapers had less effects on sales. This is done by comparing the slopes of the regression lines of each graph. The lines with a steeper slope mean a larger return in sales for additional money spent in that form of advertisement. We can also see that TV advertising has a strong correlation to a better performance in sales. There is little correlation between Newspaper advertising and increase in sales. This is found through comparing the  $R^2$  coefficient, which is the proportion of the variation in the dependent variable that is predictable from the independent variables.

These findings align with how technology is involving in the real world. With digital computers and online platforms overtaking hard copy prints and newspapers, digital forms of advertisements predominantly performs better than non-digital platforms. Mainly for the simple reason of more exposure and a larger audience.

In a study performed by Joel Rubinson, empirical evidence was found that advertising through TV is as effective as ever in today's world [13]. This is mainly because of the fact that TV adverts greatly promote brand awareness. Therefore, for businesses to effectively impact consumers in different stages of the purchasing process, it is ideal to use other marketing plans alongside TV advertisements. On the contrary, despite the large exposure and popularity that TV advertisements bring, there are some drawbacks for the companies. Namely, the huge price tags associated with producing TV commercials and purchasing TV ad slots provides a huge cost for the businesses. Companies such as Amazon or P&G (Proctor & Gamble) for example, spends billions of dollars each year on advertising, with hundreds of millions spent on TV advertising alone [14].

## 6. Conclusion

As the world continues to evolve, the ways that people go about purchasing products and their willingness to do so has changed drastically, making advertisements increasingly important for businesses to be successful. With the various ways people go about advertising, its crucial to understand which ways are the most effective and deserve the most investment. Through this paper, several factors affecting consumer behavior were analyzed. A linear regression was also performed on several advertising methods to discover which ones would bring be the most beneficial result to businesses. By analyzing the slope and coefficient of determination, it was found that TV advertising had the greatest correlation to a better performance in sales. While Radio advertisements showed the greatest value for sales/dollar spent.

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