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# *Research on Confirmation Bias and Its Influences on Purchase Decision-making*

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***Abstract:*** Confirmation bias is a common problem for customers, brands, and decision-makers across society. And collectively, it can positively or negatively impact the accuracy and quality of decisions, especially for purchasers. This paper introduces the concept of confirmation bias in behavioral economics and overviews the definition and origin of this theory and its importance. Also, taking good advantage of three applications including Information Processing, Marketing & Branding and Stereotype proves that if the confirmation bias is affecting, this raises the psychological cost of making a purchase decision and reduces the desire to buy, thereby influencing people's thoughts on the purchase decision.

***Keywords:*** conformation bias, customer decision-making, buyer behaviour, information processing, marketing & branding, stereotype

## 1. Introduction

Understanding biased human reasoning means understanding the role that reasoning plays in everyday activities [1]. The fact that a generation of psychologists has had a different view of human rationality with each passing decade may also explain the replacement of the 'new face of irrationality' of the 1950s with the 'rational amateur scientist metaphor' of the 1960s [2]. Wason published a relatively short experimental paper in 1960 in which he introduced the 2-4-6 problem as a test of inductive reasoning (positive testing), the earliest and most talked about the origin of the concept of confirmation bias [3]. Wanton found that subjects tended to be very confident in the hypothesized results given uncertain data and believed they had mastered the pattern. However, in most cases, they did not find wanton's rule to be more general and simply gave numbers in ascending order [4]. Since the subjects examined their theories in a biased manner, concentrating on one possibility and ignoring alternatives, Wason coined the term "confirmation bias" for this phenomenon.

Mental shortcuts are the result of a constant supply of information. The human brain tends to become impatient when it must carefully consider every piece of information. It leads people to develop a range of cognitive biases in their daily lives, whether they are aware of them or not. In confirmation bias psychology, humans are unable to view information fairly, so they often select only material that supports their pre-existing biases or opinions. This bias is motivated by wishful thinking when people form beliefs that confirm their opinions. It prevents people from gathering more information because the evidence gathered so far confirms their pre-existing beliefs. This paper will mainly focus on how confirmation bias affects buyers' decisions in the areas of information processing, marketing & branding, and stereotypes. Furthermore, through clear definitions and

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understandable examples, this essay will illustrate exactly what confirmation bias is, how it is understood and why it is important. Meanwhile, this study provides a reference for the development of the field of confirmation bias.

## 2. Importance of Confirmation Bias

Confirmation bias refers to seeking or interpreting information in a way that biases current views, expectations, or assumptions which is mostly used in the psychological literature [5]. People tend to frequently seek, evaluate, and produce new evidence to validate their pre-existing opinions [6] due to biases created by prior understanding. And rather than analysing the event critically and dialectically, they prefer to spend their time and energy attempting to demonstrate as much as possible that their notions (biases) are true and unchallengeable. Hahn and Harri also argue that this cognitive bias refuses to change once a belief or opinion has been formed, as well as being overconfident or delusional about the validity of one's opinion [7]. Here's an example practically everyone has heard the idea that left-handed people are more creative than right-handed people. If this is the case, meeting left-handed and creative people might just serve to reinforce their preconceived notions. Additionally, they might not even consider situations that provide opposing evidence [8]. The term "confirmation bias" refers to this mental blunder. To demonstrate confirmation bias, in 2006 Pines provided a hypothetical example of an overworked doctor encountering a 51-year-old man who had come to the hospital several times in the early hours of the morning asking for painkillers because of back pain [9]. The doctor thought it was just a similar visit and prescribed a new painkiller for the man after checking that his physical condition was as expected. Because the painkillers were exactly what the man wanted, he missed the delicate problem that required immediate surgery. Therefore, confirmation bias does influence the thinking and behaviour of this group of people in everyday life. Not only can it lead people to hold strongly held false beliefs, or to give more weight to information supporting their beliefs than to evidence, but it is also unconsciously applied in many areas such as medicine, law, and interpersonal relationships.

## 3. Applications about Research

### 3.1. Information Processing

Confirmation bias is an effective way to process information because there is an infinite amount of information that humans are exposed to. To form an unbiased decision, people must critically evaluate every piece of information that exists, which is not feasible and therefore people only tend to look for the desired information to form their conclusion [10]. Meanwhile, confirmation bias in the way people remembers things can affect their memories. It affects the way people store and interprets information in their minds. Personal opinions can also alter memories. Although human attitudes affect the way they process information, the effect seems to vary with the reasoning stage, which may have an impact on purchasing strategies [11]. A good example of it is that if someone has an awful experience buying something because of the bad service attitude the sales staff offered, he/she is more likely to bring the whole brand store into disrepute wherever they go. Also, an unlimited amount of information can have an impact on a search engine's tendency to bias searches [12]. This type of bias occurs when you do research and only look for information that supports your theory or hypothesis. If someone searches for a question with two variables, such as "is it better to buy a house than a car", the search engine will return more results that support buying a house; when typing in the opposite question, the research engine will return more results that support buying a car.

Additionally, one bad experience can affect people's overall perspective, especially the impact of social media. How people interpret information is how they see the parts they want to see. For example, people are more willing to incline, choose, and are more likely to stick to what they want to

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see. Confirmation bias influences the way people consume and process information because it favours their beliefs [13]. For instance, someone's favourite social media influencer has been recommending a certain shoe for the past few weeks, so he/she immediately places an order to have the same model as the person he/she likes. However, once someone receives the shoes, they realise that the shoes themselves are not as perfect and appealing as the social media influencer recommended. Social media has always been a powerful way of spreading information [14], especially fake news, such as WhatsApp, Twitter, and TikTok links to products or retweets of advertisements, and sensational headlines and false statements are often spread by the confirmation bias of readers. These pre-existing notions about an event or person can easily become the catalyst for fake news, as people rarely check the credibility of the source of the information and thus become the windfall for the spread of falsehoods. Many studies have confirmed the important role of social media-influenced confirmation bias in the complex purchase decision process of consumers [15], where people use only certain channels/websites to obtain information to make biased conclusions due to biased reporting and portrayal of products.

### 3.2. Marketing & Branding

Some applications of confirmation bias can be discussed in the marketing field via branding. Peters argues that the term "confirmation bias" is used to refer to the different ways in which beliefs and expectations can influence the selection, retention, and evaluation of evidence and can enhance people's perceptions of themselves [16], often in a positive way, as confident and stubborn. In marketing, with the use of confirmation bias in the creation of marketing content as a creator of marketing content, brands are better able to facilitate purchase decisions by helping viewers create the tunnel vision created by confirmation bias [17]. Advertising campaigns cleverly use confirmation bias as a tool to convince consumers that they are part of a group, often using clichés and false propaganda to their advantage or to build a customer's brand image for a product. For example, some people are not aware of the results of being "brainwashed" by brand marketing techniques: Carhartt's durable workwear attracts construction workers, while artists and designers tend to choose Apple's iPad Pro.

As discussed above, positive and navigate biases can influence people's decisions, and most of these biases are unconscious [18]. However, with the development of advertising technology, they can become embedded in the work and lives of people in society, which creates advertising bias. For example, only analysing the brand mark's content will bias the visual brand's existence [19]. The nature of advertising bias relies on assumptions rather than objective facts for advertising campaigns so marketers may find it a daunting task to try to avoid making initial judgements to facilitate consumers' purchasing decisions. As an industry, marketers need to be aware of how these biases affect society, including organisations and jobs, to optimise advertising campaigns and use consumer data ethically to exaggerate brand impact and increase sales, as well as to improve advertising fairness and publicity.

### 3.3. Stereotype

Stereotypes are a set of beliefs that individuals have about the characteristics or attributes of a group [20] and are generally considered to be characteristics that are imposed on people because of their race, nationality, sexual orientation, etc. [21]. One example is the perception that women are considered more emotional when purchasing goods and services and are more likely to be influenced by external circumstances such as compliments, disapproval, and foils. A 2005 social science paper also pointed out that the stereotypical perceptions of older people in the United States have been studied as enthusiastic and incompetent, due to their perceived lack of competitiveness and low status

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respectively [22]. This is not necessarily negative, as the belief that accountants are good with numbers is well documented and logical and is part of the stereotype. These characteristics often oversimplify the group in question and are seen as an inevitable by-product of a meanspirited way of perceiving them [23]. Even if they appear "positive", stereotypes can harm buyer behaviour for various reasons, which could decrease the tendency to shop. This can also be interpreted to mean that even slight hints, such as reading negative stereotypes about a customer's race or gender, can have an impact on whether they buy or not [24]. Consumers often use stereotypes to help shape their choices, even if they don't realize them [25]. Due to the fact that stereotypes are socially shared and provide information about social groups based on easily identifiable factors (e.g., race, gender, etc.) to help inform their choices, it serves as a useful resource that may help infer preferences and predict the behaviour of consumption partners. Lee et al. (2011) predicted that awareness of negative stereotypes about one's group (ethnicity, nationality, gender) would make consumers sensitive to whether the service provider was part of the group they belonged to and would dramatically reduce their desire to purchase when they found out that the provider was not in their group [26]. For instance, shops selling Buddhist stuff in Taoist mountains are often uncrowded and have sluggish sales. In addition, the perception of negative stereotypes, especially in the areas of financial services and automobile sales and services, may cause consumers to fear being cheated and giving up buying.

## 4. Conclusion

This paper mainly expounds on what confirmation bias is, how it was proposed, and its great impact on fields including behavioural economics, psychology, society, and many others. Also, focusing on confirmation bias, this paper analyses how confirmation bias influences customers' purchasing decisions through its positive and negative aspects in the economics of consumer behaviour. Peter Watson found that is easy to view one's theory in a biased way and ignore the problem itself and the alternatives while many studies have shown that the existence of confirmation bias can lead to people spending a lot of energy trying to verify that their opinion is correct and more likely to be stubborn with these impressions. Additionally, three applications will take full advantage of the influence of confirmation bias on purchasing decisions which are information processing, marketing & branding, and stereotypes. They demonstrated confirmation bias via biased memory and biased searching preferences, advertising operation creation and simplifying the psychological cost of purchase decisions for consumers harmed by stereotypes.

However, there are areas of this essay that need to be supplemented and refined. For all three applications, social media is effective in influencing people's purchase decisions through confirmation bias, which is mainly reflected in the fact that online reviews generate and direct the audience's confirmation bias towards their purchase decisions, which is open to discussion but is not included in this essay. Also, confirmation bias is a concept that has a wide range of applications, not only in the field of behavioural economics but also in law, ethics, medicine, society, and many other areas that are worthy of more in-depth study and discussion. Furthermore, everyone's understanding of life is based on previous experience and knowledge, which is why confirmation bias tends to be effective and widely used. In the case of professional life, for example, there is a confirmation bias that can kill opportunities or cause tensions if it is too radical. Understanding what confirmation bias is and how it applies to all aspects of people's lives can help determine when to take full advantage of it. Meanwhile, for purchasers, tips like understanding their own bias, looking critically at information (brands, products, services, etc.), allowing themselves to make mistakes and developing a replicable decision-making process can help to avoid the impact of confirmation bias on purchasing decisions and clear as many hurdles as possible to make the right decision to purchase.

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