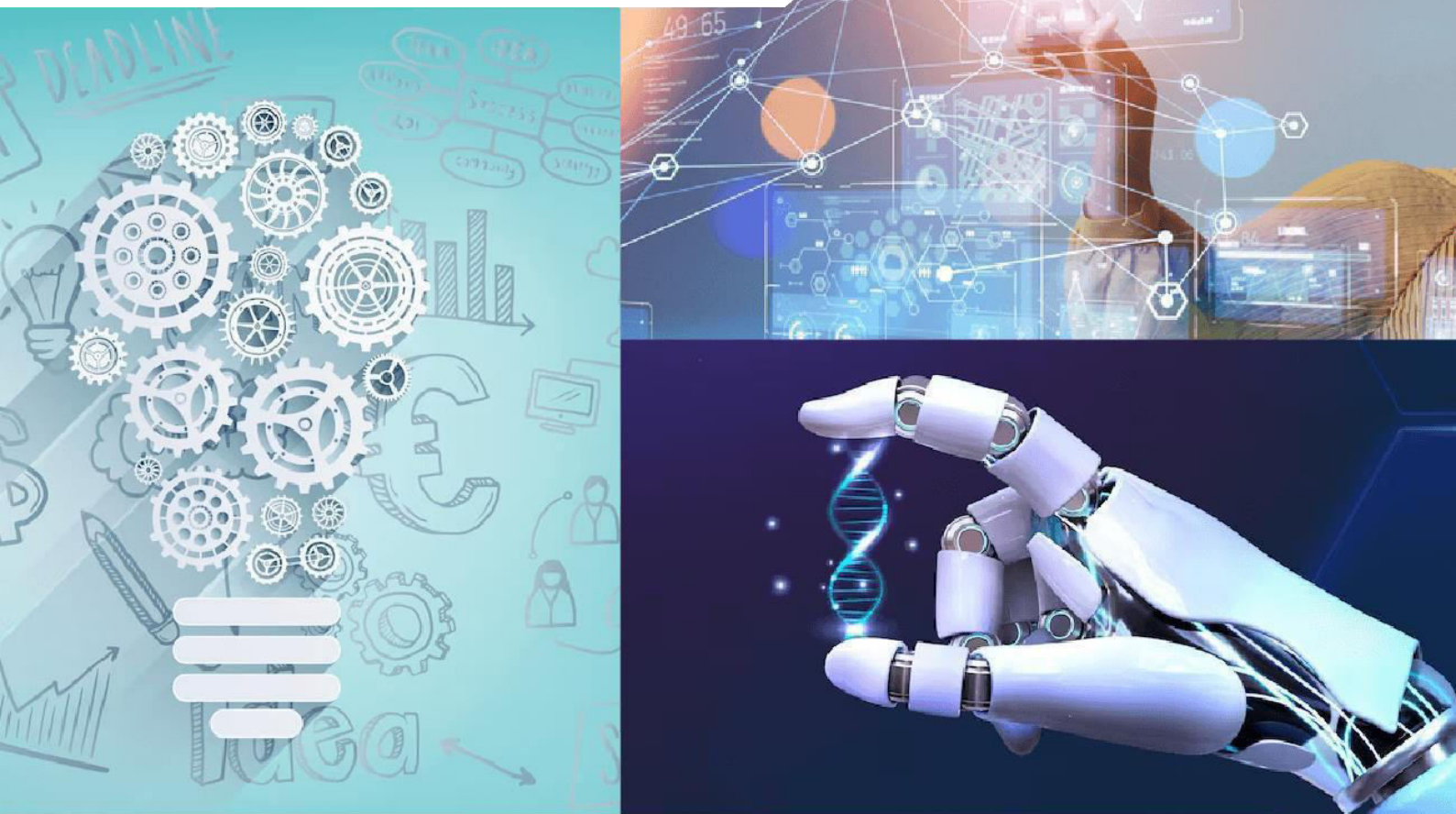




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How Cognitive Biases Shape Economic Decision-Making: A Study of Rationality, Heuristics, and Behavioural Economics

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ABSTRACT: This research focuses on the role of cognitive biases that influence economic decision-making by investigating the connection between rationality, heuristics and behavioural economics. Most of the traditional theories of economic behavior of individuals are based on the notion that people will take rational decisions based on the information they have to choose an option that maximizes their expected benefits. But, cognitive constraints, mental processes, social issues, and the sense of time affect real world decision-making. This study focuses on secondary qualitative research methodology that was carried out using only academic literature obtained from Google Scholar. Five key areas are explored by systematically reviewing and thematically analyzing the literature: bounded rationality; heuristics and cognitive bias; loss aversion and prospect theory; social influence and herd behaviour; and present bias. The review shows how people often make decisions under uncertainty and with incomplete information using mental shortcuts. Cognitive biases like anchoring, overconfidence and loss aversion affect economic decisions, and the influence of social dynamics and preferences for immediate gratification are highlighted by herd behaviour. In general, the study serves to show the weaknesses of the idea of a perfectly rational economic actor and how behavioural economics can help to understand real-world economic behaviour. The results highlight the need to take into account the psychological and behavioural aspects in the study of consumer, financial and market decision making. The cognitive biases are the various factors that affect the way people make decisions in a given scenario. The factors are known as behavioural economics and economic decision-making.

KEYWORDS: Cognitive Biases; Behavioural Economics; Economic Decision-Making

I. INTRODUCTION

Economics is traditionally taught as a field of rational economic decision making, where individuals carefully consider the information at their disposal and choose the option which maximises their gains (Gigerenzer, 2018). But, in the real world, it's often the case that human behaviour does not fit this idealized picture. People's time, information, attention and thinking resources are finite and can influence their evaluation of alternatives and reaction to uncertainty. This means that people often use mental shortcuts, or heuristics, to decide on something that is complex. While such shortcuts can aid effective decision making, they can also create systematic patterns of judgment called cognitive biases. The study of economic behaviour has evolved into an important field of study for explaining these deviations from traditional economic rationality by drawing upon psychology (Umapathy, 2024). Decision making regarding consumption, savings, investing, risk taking, and other economic activities can be affected by cognitive biases like loss

aversion, overconfidence, anchoring, herd behaviour, and present bias. This research paper deals with the impact of these biases on economic decisions and reflects on the connection between rationality, heuristics and behaviour economics. The systematic review of literature will help to gain a better understanding of factors that could influence consumer and market outcomes, and the reasons why consumers may not behave as economic theory would suggest.

II. RATIONALE AND OBJECTIVE

Rationale:

This study is motivated by the fact that the assumption of perfect rationality in economic decisions is becoming increasingly acknowledged. In conventional economic theory, people are typically assumed to be rational decision makers who have enough information and always try to maximise their utility. But, evidence from behavioural economics suggests that psychological considerations, cognitive constraints, sentiments, and social influences can often affect a decision (Dhami et al., 2019). Cognitive biases may influence key economic actions such as buying, saving,

investing, borrowing and dealing with financial risk. It is therefore important to be aware of these influences, in order to develop a more realistic explanation of economic decision making. This study is also pertinent because cognitive biases can impact individual consumers but also, broader market behavior and economic impacts. This paper aims to provide a comprehensive overview of the literature concerning rationality, heuristics and behavioural economics and to highlight the overlap of concepts, findings and ideas between various fields of research and to show how there are predictable deviations from traditional economic decision-making models driven by cognitive biases.

Objectives:

1. To explore the ways in which cognitive biases such as the loss aversion, overconfidence, and anchoring, herd behaviour and present bias, affect economic decision making at the individual level.
2. To critically evaluate the contribution of the concepts of bounded rationality and heuristics towards the explanation of why individuals might not behave in a rational economic way as traditionally assumed.
3. To assess the impact of behavioural economics in comprehending the impact of cognitive biases on consumer behavior and broader market outcomes.

III. METHODOLOGY

This research uses secondary qualitative research method with only one method systematic review of literature that is collected from google scholar. First, there is no primary data to be gathered, no questionnaires, interviews, focus groups, experiments or direct participation with respondents will be involved in the study. Google Scholar will be the only search engine to be used in identifying relevant scholarly sources such as peer-reviewed articles, academic books and book chapters that address cognitive biases and economic decision-making. Key words and combinations for the literature search will include ‘cognitive biases and economic decision-making’, ‘behavioural economics’, ‘bounded rationality’, ‘heuristics’, ‘loss aversion’, ‘overconfidence bias’, ‘anchoring bias’, ‘herd behaviour’ and ‘present bias’. Sources will be chosen with respect to relevance to research goal and how they can contribute to the understanding of rationality, heuristics, cognitive biases and behavioural economics. Important background sources and current research from the field will be taken into account to ensure a balanced view of the subject. Only those publications that are relevant, academic, and not overly related will be accepted. The literature will then be critically reviewed and thematically analyzed to identify the common concepts, relationships, similarities, differences and research gaps so that the study has a better understanding of how cognitive biases influence economic decisions based on the information it has found.

IV. LITERATURE REVIEW

Theme 1: Rationality and Bounded Rationality in Economic Decision-Making

Most of economic theory has been developed on the basis that economic actors are rational, calculating and their objective is to maximise their utility or economic benefit. In this context, people should have fairly stable preferences, be provided with relevant information, assess the anticipated costs and benefits of each option, and choose the one that offers the most anticipated benefits (Gabhane et al., 2023). The assumption has been a key part of the formulation of economic models as it gives a formal structure to the way consumers make decisions, markets operate, investments are made, and resources are used. The rational decision-making model also makes the assumption that a person can consistently assess alternatives and that his or her choice is based largely upon economic incentives and preferences. In reality, the decisions made are often made in situations where the assumptions of perfect rationality are not met. People might not have all of the information or it might be out of date, may not have enough time to make a decision, or may not have enough mental capacity to consider all the options. Economic decisions may also be highly uncertain and individuals often do not know what will happen in the future. The restrictions underscore the fact that individuals may not always be able to recognize the theoretically best option, even when they have a clear intention to make a rational choice. For instance, consumers face decisions that involve selecting among a variety of products with varying quality, features, and price, and investors must make choices given the lack of information regarding market conditions in the future (Raj, 2024). These limitations can be explained by the notion of bounded rationality. It acknowledges human rationality is limited by information, time, cognitive ability, and complexity of decision-making environment. People can simplify the problem and select a solution that may be as good as they can do, but not necessarily the best. The process is a way for people to make decisions within limits, but it can also cause decisions that are not anticipated by classical economic models (Noch and Rumasukun, 2024). Bounded rationality is thus an important bridge between the two approaches to economics: the traditional and the behavioral. It does not imply that people are totally irrational, rather it is an explanation of rational decision making in realistic human and environmental constraints. This outlook is especially relevant for consumer buying, saving, investing, borrowing, and consumer reaction to financial risk (Bischi

et al., 2020). In general, the study of bounded rationality helps to explain the way people make decisions in complex and uncertain environments more realistically through economic analysis.

Theme 2: Heuristics and Cognitive Biases

One of the key findings in the field of behavioural economics and decision-making is the importance of heuristics, the mental shortcuts or strategies that people rely on to streamline complex judgements and decisions. Making decisions in everyday life often involves a situation where one must make decisions rapidly, in the face of uncertainty or with incomplete information. It would take a lot of time and mental energy to process all available information and carefully consider all options (Oberdieck and Schulte, 2025). Heuristics thus enable people to make decisions more efficiently by considering certain information or by referring to their past experiences to frame their judgement. This can be helpful in situations of time pressure or when the information to be used in making decisions is complicated. Heuristics, on the other hand, can enhance efficiency but their application can also result in systematic patterns of judgement that deviate from the predictions of the fully rational models of decision making. Anchoring bias refers to the tendency of people to use a first piece of information to make later judgements. After initial reference point, people may change their estimates or decisions insufficiently even when new information is available. In an economic and consumer environment, the initial price may serve as an anchor that impacts the evaluation of subsequent prices (Saleem and Amjad, 2023). A product might look more appealing if it has a high initial price and then is discounted, for example; because the initial price sets a reference point to measure the discounted price. This illustrates the effect upon the economy of the presentation and sequence of information. Another common cognitive bias is overconfidence, defined as having too much confidence in one's own knowledge, skills, forecasts and/or judgments. Positive illusions may impact financial choices, investment behaviour, and attitudes towards risk. People could trade too much, underestimate potential losses, or think their own knowledge is more accurate than it is (Ayaa et al., 2022). This can result in decisions which are not supported by the available evidence. However, heuristics are not necessarily irrational. They frequently offer concrete approaches for an efficient decision-making process in complex environments. The problem is that a mental shortcut which is successful in one context can lead to mistakes in another. In this respect, heuristics and cognitive biases show that decisions in economics may be made under psychological influences, which suggests that psychologic processes are not always objective and uniform in their way of thinking.

Theme 3: Loss Aversion and Prospect Theory

Loss aversion is a second major theme in the behavioural literature, and is the idea that people feel the pain of losing a dollar more than they feel the joy of a dollar they have won. In other words, a loss of a certain amount of money is likely to lead to higher levels of dissatisfaction than the same amount of money won (Tansuchat and Thaicharo, 2025). This notion raises a challenge to the traditional economic principles, which assume that people always make economic decisions based on their financial worth. Rather, their decisions might be much influenced by the way an outcome is felt and whether it is a gain or a loss relative to a current reference point. Prospect theory is an important behavioural theory for the evaluation of uncertain gains and losses. From this view, individuals are more likely to judge an outcome based on a reference point than on a person's overall level of resources or wealth (Taylor et al., 2024). What is the same financial return can mean different things to different people, depending on their initial situation and expectations. The theory also implies that losses are more likely to be salient to people than gains are, and may have a significant impact on decisions with risk and uncertainty. It can be useful to understand loss aversion to account for a variety of economic behaviors that might seem otherwise irrationally deviant from standard neoclassical economic theory. An opportunity might have a chance of having a gain but an individual may not pursue it for fear of having a loss. People can then act more prudently when things are potentially good and opt for less risky options. But, in situations of loss or potential loss, people might be more open to risk to try to catch up (Korteling et al., 2023). This may lead to decisions that seem to be contradictory with consistent risk evaluation. Loss aversion has economic consequences in consumer behavior, investment and financial decision making. Eliminating an existing benefit can have more impact on consumers than adding a similar benefit. The presentation of prices and promotions can also affect the perception of whether a result is a gain or a loss for consumers. Financial market participants might not be willing to liquidate a falling asset for fear of making a financial loss more real (Celestin, 2022). In general, the principle of loss aversion and prospect theory helps to explain the psychological perception of gains, losses, and reference points in how economic behavior is influenced, offering a more realistic view of decision making in the presence of uncertainty.

Theme 4: Social Influence, Herd Behaviour, and Present Bias

Individual cognition is not the only factor that affects economic decision-making, but also social environments and perceptions of time. An important example of social influence is herd behaviour, which is a situation in which people make choices and decisions that they believe are the right ones, but they make their decision without careful consideration of their own information. A person might be more inclined to do so when they are uncertain, don't know

enough, or think there are things they don't know that other people know (Battaglio et al., 2019). For instance, in consumer markets, people might be swayed by the trend of the day, reviews on the internet, what they see on their social media or what others are buying. Likewise, investors can trade based on market trends since they believe that other traders or investors possess more information or have discovered profitable opportunities. The benefits and the drawbacks of herd behaviour. When people don't know much, their actions can be helpful and remove some of the uncertainty. But blindly following others, without critically evaluating the available evidence, can accompany collective faults as well. If a lot of people act in the same way or mimic each other, their actions could reinforce current trends and lead to excessive optimism or pessimism (Acciarini et al., 2021). It can lead to quick runs-ups or runs-downs in asset prices in financial markets, without necessarily reflecting underlying economic factors. Herd behaviour thus illustrates how people's decisions can become interdependent and lead to broader societal consequences. Another important behavioural influence is that of immediate rewards in comparison to future rewards – this is known as present bias. People with present bias might opt to choose the immediate gratification despite the long-term benefits being greater (Aigbovo and Ilaboya, 2019). This behaviour is applicable to choices of saving, borrowing, consumption, investments and financial planning. For instance, an individual can invest some of the income in the moment instead of saving for a specific goal in the future because the benefit now is more rewarding. Herd behaviour and present bias collectively reveal that economic decisions are influenced by social factors as well as costs and benefits and by the perceived sense of time (as well as financial costs and benefits). These behaviours contradict the notion of rational decision making on a long-term optimisation basis. Rather, decisions about economics can be social, socially confirmative, current, and future oriented.

Theme 5: Behavioural Economics and Implications for Consumer and Market Behaviour

Behavioural Economics is now an important field of interdisciplinary research which brings together the theory of economics and the psychology of human decision making. Behavioral economics does not abandon the traditional economic models, but rather looks at conditions where people systematically violate the assumption of full rationality (Winter, 2020). It thus offers a more general perspective for the study of the impact of cognitive, emotional, social and contextual factors on economic decision-making. Literature reveals that cognitive biases can have an impact on the individual and collective economic behavior. Biases can influence consumer decisions on what to buy, their price perceptions, their reaction to promotions, product choice and their tendency to delay purchases. An initial price tag can affect consumer purchasing, they are more likely to be tempted by a loss than a gain of a similar amount, or they may opt out of something that may have more of a financial benefit if it is available in the short term. Such behaviors have significant consequences for businesses to learn and shape consumer decision-making. Market biases can become important at the individual level when many individuals act in the same manner. The psychological mechanisms of overconfidence, herd behaviour and loss aversion may impact investment decisions and have the potential to affect market fluctuations (Moya-Ponce and Madrazo-Lemaroy, 2023). If the same information is processed in the same way by the same people, then the decisions made can be reinforcing to one another. Behavioural economics therefore offers valuable insights into both how markets and economic outcomes can sometimes deviate from those that can be predicted through the lens of rational choice. In general, it is found that the literature shows that the economic decision-making process is influenced by several factors, namely rational evaluation, psychological biases, cognitive limitation, social factors and temporal preferences. Individuals' bounded rationality and mental shortcuts, known as heuristics, are explained by the concept of bounded rationality and studies on heuristics, respectively (Vaid and Chaudhary, 2022). Loss aversion is about the disproportionate psychological effect of gains and losses, while the herd behaviour and present bias shows the role of social and temporal influences. Behavioural economics aggregates these two views and questions the theory of perfect rationality in economic decision making. The literature also indicates, however, that cognitive biases are not necessarily ubiquitous and equally powerful in all contexts. They can be context specific, based on personal factors, knowledge, and information. Thus, further studies are needed to explore the circumstances in which particular biases may arise and how they will differ in different economic contexts. The systematic review therefore signals the need to use psychological and behavioural approaches in conjunction with economic approaches to better understand real-world decision making.

V. CONCLUSION

The results of this research highlight the importance of cognitive biases to the economic decision-making process and offer significant challenges to the assumptions of perfect rationality. Economic theory assumes that people are rational and get better information and find ways to maximize benefit, but behavioural economics research reveals that decisions are sometimes made due to cognitive limits, psychological factors, social contexts and time perceptions. Bounded rationality refers to the fact that people know and process less information, have less time and cognitive capacity to make optimal decisions. Likewise, heuristics can be helpful in making complex decisions but can also lead

to systematic errors like anchoring and overconfidence. Loss aversion and prospect theory also illustrate that people are more sensitive to losses than to gains—affecting their risk taking and financial choices. Moreover, herd behaviour emphasises social influence and present bias is an explanation for the tendency to seek short-term rather than long-term gains. Behavioural economics offers a more realistic picture of economic behaviour in general by allowing for the fact that people make choices based on rational assessments and psychological factors. The information is important for consumers, financial activities, investment choices and market results.

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