



Title – Behavioural biases and its impact on investors, a literature review Authors' details

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Abstract

Behavioural finance has been growing over the last twenty years specifically because investors rarely behave according to the assumptions made in traditional financial and economic theory.

Behavioural finance is an-add on theory to the paradigm of finance. In contrary to the traditional and Markowitz modern theory of decision making process, Behavioural finance theories incorporated Behavioural aspects to the investment decision making process.

Behavioural biases are irrational beliefs or behaviours that can unconsciously influence our decision-making process.

Research in psychology has evidenced and documented a range of decision making behaviours called biases. These biases can affect almost all types of decision making, but have particular implications in relation to financial activities. These biases are related to how investors process information to reach decisions and the preferences they exhibit in the process of investment. As defined by Shefrin (1985), bias is nothing else but the inclination toward error. Understanding the effect of behaviour biases on the investment process, investors and their advisors may be able to improve economic outcomes and attain stated financial objectives. Simply identifying behavioural biases at the right time can save client from potential financial disaster. Investors while investing incur emotional and cognitive weaknesses that lead to faulty assessment in making trades/investment decisions. Kahneman and Reipe (1998) introduced biases of decisions and judgement as cognitive illusions. They

stated that as visual illusions exist, errors in intuitive reasoning cannot be ignored. Financial decisions are made under severe complexities and uncertainties that influence investors/traders to believe on intuitions. Hence, the author stated that intuitions play a very important role in decision making.

The present working paper aims to identify the future scope for further research in this area.

Key words: Behavioural biases, investing pattern, investing behaviour, heuristic biases, frame biases.

Introduction:

Traditional finance theories such as Efficient Market Hypothesis (EMH), Modern Portfolio Theory (MPT) and other theories states that investors are rational and follows standard financing pattern. However according to Anurage Shukla,Dr.Naela Jamal (2020) in their article states the financial markets often observes some puzzles and anomalies which cannot be explained rationally by standard finance theories it can only be explained through behavioural finance theories.

Behavioural finance is a relatively new concept in the financial market which replaces traditional finance models and it offers a better model for explaining investor's behaviour in financial market. According to Fama (1998) behavioural finance can be defined as a field of finance that proposes explanation of stock market anomalies using identified psychological biases, rather than dismissing them as chance results consistent with the market efficient hypothesis. It also explains how individual investors make decision in financial markets how they interpret and act on specific information.

After the energy crisis of the 1970s (Kahneman and Tversky 1979), an empirical study was conducted, and the results of the study were inconsistent with Efficient Market Hypothesis (EMH) and Expected Utility Theory (EUT). Kahneman and Tversky (1979) developed the famous concept of prospect theory, which is an alternative to EUT in explaining the decision making under uncertain environment. The introduction of the prospect theory brought a paradigm shift of traditional finance to the newly emerged behavioural finance field by combining the behavioural and psychological aspects of economic and financial decision making. The old school thought of efficient market hypothesis and expected utility theory succumbed to behavioural finance for lacking adequate explanation to various irrational decisions of investors. Thus, behavioural finance articulated that irrationality of investment decision making can be reasoned as the influence of behavioural biases.

Methodology:

In order to gain deep insight on influence of behavioural biases on investors more than 120 research articles were studied consisting a time line between 2015 to 2022 , for understand the core concept of behavioural finance some of the old and seminal works were considered.

Review of literature:

Behavioural biases:

Behavioural biases may be categorized as either cognitive errors or emotional biases. Investors are partly rational and irrational in their decision making, this theory showed that individuals have biases and cognitive limitation and this limitation stops investors to achieving fully rationality at the time of decision making (Ahmad Zamri, Ibrahim, Haslindar 2017).

Thaler (1980) developed the “mental accounting theory”. Money has the same value regardless of where it comes from, and what it is spent on. However, it costs us less work to spend an amount earned effortlessly than an amount earned with sacrifice resulting from work. This happens because our mind tricks us into believing that the first money has less value than the second. It is what is known as the mental accounting trap. Hammond (2015) considers Kahneman and Tversky (1979), along with Thaler (1980), as the forefathers of behavioural finance, stating that feelings rather than rational reasons guide investment decisions.

Athur (2014), studied behavioural biases that influence the individual investor’s decisions in Kenya concludes that representative, an illusion of control, cognitive dissonance, herd instinct and hind sight biases contributed significantly to individual investor’s decisions. Ullah (2015), elucidated the influence of behaviour biases on investment decision with the moderating role of financial literacy in context of Pakistan, he found that the illusion of control bias has a significant impact on individual investment decision.

Fillip – Mihai Toma (2015), in emerging markets queries in finance and business in the paper on “Behavioural biases of the investment decisions of Ramanian investors on the Bucharest stock exchange”, in emerging markets most of the investors are prone to take behavioural biased decision.

Noram . EI. Kashef (2017), after studying the effect of behavioural biases on gender and portfolio at American university they found there is significant association between gender and the biases like optimism, Risk aversion and confidence.

Kapoor & Prasad (2017), states that investors are influenced by psychological or cognitive biases and these biases impacts the investing decision by making them irrational.

Joo and Durri (2017) conducted empirical research to study the relationship between demographic variables and overconfidence and optimism/pessimism. This research conducted on the individual investor who belonged to Jammu and Kashmir. The researcher collected the primary data by a structured questionnaire. This research was based on a sample of 303 individual respondents who invest money in stocks. They concluded that male respondents were more overconfident and optimistic than female respondents. The demographic variable age does not influence the overconfidence and optimism bias.

Shaheer Kamal Dar (2017) has made an attempt to examine the impact of behavioural biases on the investment decision making process of single asset and portfolio investors. The study reveals the presence of self-attribution, illusion of control, regret aversion and loss aversion bias in case of portfolio investors whereas the single asset investors are affected by loss aversion and the status quo bias. The researcher pointed out the existence of the loss aversion bias which is commonly found among the single asset and portfolio investors. This study concludes that behavioural biases have played significant role in the losses suffered by the investors.

Bouteska & Regaieg (2017) investigate the impacts of two behavioural biases, namely loss aversion and overconfidence, on the performance of US companies. The study found that the loss aversion bias negatively affects and overconfidence positively affects market performance.

Saxena & Ahuja (2018) had researched various behavioural biases such as herding, loss aversion, regret aversion, market information; mental accounting, price shift and demand anchoring but herding behaviour had been taken into account for the study. Using quota sampling a questionnaire has been proposed. Using ordered logistic regression on the built model, Stata software was used for analysis. Gender, age, marital status and word of mouth are found to have a significant impact on the herding behaviour of stock investors.

Byder.J.Agudelo.D.A (2019) , examines the way investors in an emerging market react to a domestic financial crisis. It was conjectured that risk aversion increases following such events.

Madaan Geetika & Singh Sanjeet (2019) makes an attempt to discover the effect of behavioural biases on investor's preferences and judgement about investments. Mainly 4 factors were taken into consideration for studying the effect of over confidence bias, anchoring bias, disposition effect and herding bias, researcher analysis stated that over confidence and herding have the significant influence over individual's choices and opinions. They also exhibited that in financial market the investors do not show rationality in making investment decisions and they have inadequate choices.

Dewan and Dharni (2019) they observed the price effect of herding to be asymmetrical. Buying herding allows the discovery of the quality and it is permanent while selling herding leads to temporary yet substantial market distortions. Thus, the sell-side herding poses a substantial risk to financial stability. When investors herd to sell, the stock prices fall significantly during that period but reverse slowly over upcoming quarters. This finding is true on the stock market but in the institutional market, it is far larger in scope. During the recent global financial crisis, the price destabilizing impact of selling herding was found to be especially powerful for high yield bonds, small bonds, and illiquid bonds and. Herding has a negative relation to market liquidity i.e. the liquidity in the presence of herding activity of the market decreases as the liquidity of a market is measured by the bid-ask spread. The larger spread results in higher adverse selection costs and ultimately lowers the liquidity of the market.

Ngacha (2019) examined behaviour biases on individual investment decisions in the Nairobi securities exchange using primary data. The result shows that the effect of overconfidence behaviour on investment decisions. The work found a high positive correlation between overconfident, herding, and anchoring behaviour and investment decision making. Kappal J.M & Rastogi (2020) examined behavioural biases such as disposition effect, herding effect and over confidence bias and their impact on investment decision using a moderating role that is investor type. Their results indicated that the moderating role is positive in over confidence bias and negative in herding effect while making investment decision. Lather .A.S & Anand (2020) focuses on the biases like over confidence, reference point, self attribution, framing effect, regret avoidance bias and over reaction amongst male and female investors and their impact on investment decision. The study observed that the impact of gender was significant on over confidence bias, self attribution bias and regret avoidance.

J.K (2020), studies the role of prospect bias on small and medium scale enterprises in Nairobi City, the study concludes that all the prospect factors have significant influence on financial decisions.

Ranaweera & Kawshala (2021), the study was based on the Colombo stock exchange in Sri Lanka where researcher found and concluded in their study that there is significant statistical evidence on presence of overconfidence and heard biases.

Prathibha shree (2021), broadly indicated in their study that the behavioural biases explored by past researchers have not explained on females alone.

Other authors have studied the “disposition effect” (Shefrin & Statman, 1985) that occurs in investors who hold financial assets that have lost value for too long and sell assets that have gained value without waiting for those assets to continue the increase in value trend (Barber et al., 1999). Ultimately, people dislike losing much more than they enjoy winning, so most investors bet on the use of stop-loss that decreases the disposition effect of the investor (Richards et al., 2011). Another significant contribution comes from the study of “overconfidence”, or the tendency to overestimate our skills and knowledge (Fischhoff et al., 1977; Michailova et al., 2017), which is reflected in the adoption of financial decisions by overly confident investors (Odean, 1998).

Suresh (2013) considers that all these biases help to make sound investment decisions. Duxbury (2015) presented a systematic synthesis of experimental studies about the effects of heuristics and prejudices, excessive reaction and overconfidence, as well as the influence of investors ‘moods and emotions. In a similar line, Cuomo et al. (2018) reinforce human thinking and feeling as an element that influences financial behaviour. Indeed, investor emotions (Howard, 2014) and psychology directly affect the operation of the stock market and the real economy, since they generate a bias that impacts the volatility of returns and the use of a pattern of behaviour based on past performance (Barberis et al., 1998; Lacalle, 2018). That is, they are irrational behaviours that do not focus on market information, because investors overestimate their skills based on the information they collect themselves and not what the market generates. These

errors in investor perception have a direct effect on the markets (Daniel et al., 1998), and should be considered risk factors since the decisions taken by the investor focus on heuristics, cognitive dissonance, greed, fear and anchoring to satisfy their mental accounting (Chandra, 2008).

Some financial agents combine investment decisions with sentiment, mood or their mentality so that these conditions directly affect their decision making in one way or another (Blajer Gołe Rbiewska et al., 2018; Lucey & Dowling, 2005). However, knowing all the market information facilitates better decision making, although it has been shown that an excess of information sometimes harms investors, aggravating the threat, the relative risk and effectiveness of loss prevention (Blajer-Gołe Rbiewska et al., 2018). There are also gender differences when making investments, as shown by various authors. Matsumoto et al. (2013) showed that the behaviour of women is more rational than that of men, so decisions are more rational when investor teams are mixed since overconfidence is reduced. In the same direction, risk and loss biases are reduced in investment decisions in search of better performance (Bogan et al., 2013) since the processing of information between male and female investors is different (Graham et al., 2002).

Types of behavioural biases:

Over-confidence bias:

Over confidence is a condition in which an investor feels confident a feeling of how well the individual understands the abilities and knowledge they have (Supermono & Wandita 2017).

The consequence of people who have over confidence is that an investor will over estimate their ability to evaluate a company as a seemingly good investment and do not really consider the risk that exist (Afriani & Halmawati 2019).

Over confidence bias is often experienced by novice investors who want to quickly get profits in investing research conducted by Adil et.al (2021) found that over confidence effect on investment decisions for investors in India.

Primary et.al (2020) conducted research on the Indonesia stock exchange and found that over confidence bias does not have significant effect on investment decisions for investors in Indonesia stock exchange.

Disposition effect:

Shefrin and Statman (1985) brought the first formal analysis of the disposition effect. They used the database from the study of Schlarbaum et al. (1978), who had evaluated the transactions carried out in the American stock market considering only transactions initiated and closed, to verify the presence of a positive result where investors' gains exceeded that of the market in general by at least 5 percentage points. Shefrin and Statman (1985) questioned the result, indicating that investors tended to sell their winning stocks and hold their losing ones. Their work provided a formal foundation for studies of the disposition effect. , Prates et al. (2019) utilized the large sample available to identify whether investors from different categories have distinct behaviour regarding the disposition effect. They found evidence that retail investors have a strong propensity to behave in line with the disposition effect, while institutional investors have contrary behaviour.

The disposition effect is an anomaly in behavioural finance because in the disposition effect investors tend to sell fast stocks that are performing well and will hold stocks that perform poorly and causes losses (Wendy 2021).

An investor will hold stocks when the price is down and will immediately sell stocks when the price is just starting to rise. In the research article of Adil et.al (2021) found that the disposition effect has an influence on investors in making investment decisions.

Loss / Risk aversion:

Loss aversion bias is a very powerful bias, demonstrated by the originators of behavioral finance (Tversky and Kahneman, 1992). It refers to the tendency of people toward saving the capital from reduction rather than focusing on increasing the capital. The central theme behind this bias is that people react differently to the positive and negative changes in the market value of the investments. Losses are twice powerful compared to the gains. People suffering from this bias usually become risk averse after a prior loss and they sell shares which have increased in value. Kahneman et al. (1991) explored that investors suffering from loss aversion bias generally take irrational decisions. Female investors are comparatively more loss averse than male investors (Hassan et al., 2014 ; Blavatsky and Pogrebna, 2008). Loss aversion bias has positive significant impact on investors' decision making (Lim, 2012 ; Kengatharan and Kengatharan, 2014 ; Luu, 2014 ; Khan, 2017). Findings of the Bashiret al. (2013) are inconsistent with the previous findings. He found that loss aversion bias is not having any impact on investors' decision making.

An investor will avoid risk / loss in a profitable situation by selling shares and will refrain from selling shares in a loss condition. Research conducted by Susilawaty et.al (2018) conducted in Indonesia in 2018 shows that risk aversion has a negative effect on an investors investment decisions. Adil et.al (2021) found there is a negative effect on risk aversion on an investor's decision making.

Representative bias

Representativeness is the extent to which the situations and instances are similar to the population (DeBondt and Thaler, 1995). Tversky and Kahneman (1983) stated that people usually predict the future value of a script based on representativeness. Representativeness is generally employed, while making judgments under uncertainty. This leads the investors to analyze the companies on the basis of its characteristics like its management, products, publicity and returns, and investment is generally centered on these characteristics (Onsomu, 2014). Representativeness can lead toward the biases in decision making because of the reason that due to representativeness individuals tend to value more recent events and overlook long-term events (Ritter, 2003). Individuals suffering from representative bias, sometimes refer to very few samples, resulting into sample size neglect (Luu, 2014). Grether (1980) and Chen et al. (2007) mentioned that representativeness bias is more prominent in unsophisticated investors. Javed et al. (2017) found that representative bias is having positive significant impact on perceived investment performance.

Anchoring bias

Anchoring bias is also associated with representativeness because it states that the investors' decisions are based on recent experiences, and they are more optimistic during the rising market trend and more pessimistic during the falling market trend (Waweru et al., 2008). While making an investment, investors rely on anchors (initial reference

point), e.g. 52 week low price of a share. Kristensen and Tommy (1997) established the hypothesis that people use anchoring and adjustment process during negotiations for making counter offers, and change in the reference point has an influence on these counter offers. Lee et al. (2013) found that anchoring bias is more evident in females than males. The study conducted by Kengatharan and Kengatharan (2014) found that

anchoring has very high impact on investors' decision making. Mental accounting bias Mental accounting helps the investors in managing and organizing their investment portfolios in different accounts (Ritter, 2003) and it effects the assets prices significantly (Barberis and Huang, 2001). Study conducted by Lee et al. (2013) found that mental accounting bias is more evident in males in comparison to females. Investment decision making is largely influenced by mental accounting (Chandra, 2008) and because of mental accounting bias investors keep on holding the losing stock and sell winning stocks (Grinblatt and Han, 2005; Shefrin and Statman, 1985).

Availability bias The availability heuristics states that events which can be easily recalled are supposed to occur with higher probability. Investor preference changes as per available information and consequently sometimes irrelevant information influences the decision making (Harris and Raviv, 2005). Waweru et al. (2008) found that availability bias affects the decision making of institutional investors. In a study conducted by Javed et al. (2017), it was found that availability bias is having positive significant impact on perceived investment performance which is against the findings of Khan (2017) and Rehan and Umer (2017) showing that availability bias is negatively related to investment decision making.

Availability Bias

It is an inclination of an investor towards relying upon easily available information instead of examining the available alternatives (Javed et al. 2017). Availability bias is exhibited when decision-makers put the onus on contemporary issues and available evidence while making investments. The latest incidents, which were personal experiences, became unforgettable. Furthermore, these unforgettable events are expected to be exaggerated and cause an emotional response. Investors tend to invest based on the availability of information and consequently make irrational decisions (Van den Steen 2004). Investors with availability bias typically invest in local companies/scripts and prefer investing in stocks recommended by well-known experts. Nofsingera & Varmab (2013) checked the effect of availability biasness on the process of decision making by the investors of stock market and he came to know that due to this biasness investors buy stocks on basis of their own know how, means that they are not following the trend in the market rather they use their own knowledge to follow.

Anchoring

Anchoring is one of the most researched psychological biases (Shin & Park, 2018). Anchoring bias effect investor's decision-making processes (Wright & Anderson, 1989). Anchoring defined as a cognitive bias that explains the ordinary human being's tendency to depend massively on the first piece of information while making decisions (Shin & Park, 2018); (Maqsood Ahmad, Syed Zulfiqar Ali Shah, 2018); (Singh, 2016). Investors are likely to anchor their purchases of stocks on the recent highest price of the stock. Such behavioral reactions show that anchoring bias associated with suboptimal decisions of investors in their decision-making processes (Krause, Shiller, Shleifer, Wilcox, & Shiller, 1970). Anchoring bias shows as a criterion to analyze stock returns or profitability by a behavioral approach at uncertain

circumstances in 52- week high and momentum strategies (Jahanmiri, 2018). Researchers documents that anchoring lays a negative impact on investment decisions made by individual investors or traders (Maqsood Ahmad, Syed Zulfiqar Ali Shah, 2018). Researchers also argue that Anchoring as a judgmental bias, final judgments when to comprehend toward the starting point of the judge's consideration. The anchoring-and adjustment heuristic holds that anchoring bias caused by insufficient adjustment (Qu, Zhou, & Luo, 2008). The anchoring heuristic holds to abundant moderation that is underreaction. People anchor at some noticeable results, during using this heuristic and conform based on predictive information (Amir & Ganzach, 1998). Therefore, anchoring is a heuristic bias that causes investors to rely on recent price changes and price levels (Ormos & Timotity, 2016).

Over-Optimism Bias

According to Agrawal (2012), optimism is about expecting a favourable outcome irrespective of the actual effort or skills devoted by individual to bring about the outcome. The authors note that investors' earnings forecast errors are significantly optimistic for buy recommendations and significantly pessimistic for sell recommendations. Optimism bias can be explained better by looking at the investors' core beliefs. Investors with optimism bias are aware that bad things can and do happen in the investment market. However, they are often of the opinion that these bad things cannot really happen to them. They implicitly believe that such bad things can only happen to others.

Gambler's fallacy

It is the behaviour of investors who predict future events based on information from the past.

Investors believe that if something happens more often than usual in some time, it will occur less frequently in the future, or if something happens less frequently than usual in some time, then it will occur more frequently in the future. From the results of research conducted by Hopfensitz (2009), there is a bias in the behaviour of gambler's fallacy in investors in making the decision process. In addition, research conducted by Amin, et al., (2009), also found that the behaviour of gambler's fallacy bias can affect investors' decision-making processes in the Pakistani capital market. Events from the past are often a reference for investors to determine their investment decisions. When an investor gets a return several times in the previous period, the investor tends to reduce the level of investment in the future. During an uptrend, investors with a gambler's fallacy bias will tend to avoid buying shares that have previously experienced price increases with the assumption that in the future periods there will be a greater price decline. Conversely, when a downtrend occurs, investors with a gambler's fallacy bias will tend to buy shares that previously experienced a price decline assuming that in the future periods there will be a greater price increase (Djojopranoto and Mahadwartha, 2016).

Framing bias

The phenomenon of framing describes the presentation of the information in different formats can affect an individual's decision. The concept of framing has been widely used in the fields of communication

science and political science. Chong and Druckman (2007) explain that the concept of framing has been widely used in the field of communication science and political science. Based on the realm of communication science and politics, the concept of framing can be interpreted as an individual statement (mass media or politician) concerning the cause of the same issue or event but packed differently, resulting in different perceptions in other individuals (listeners and readers).

Mental accounting

Mental accounting has long been a heated topic in the field of behavioural economics, psychology, and judgment and decision making. The earliest empirical evidence on mental accounting behaviours dates back to Tversky and Kahneman's (1981) famous the after-ticket experiment (one of our replication problems). Tversky and Kahneman proposed that mental accounting is a form of decision framing by which people formulate (psychological) accounts to evaluate events and options (as cited in Henderson & Peterson, 1992). Their findings suggested that in people's minds, losses tend to be labelled into different categories, violating the longstanding economic notion of fungibility (Thaler, 1999).

Disposition effect

Investors are loss averse, the disposition effect makes investors sell the shares of the firms with good outlook too quickly and hold the shares of the firms with gloomy outlook too long. Investors are unwilling to accept the possibility of a decline in share prices when the share price is rising, so the winners' shares are sold too quickly (Kumar & Goyal, 2015). Conversely, investors will experience more significant losses because they do not immediately sell losers' shares as a prospect theory. Several causes were identified, including prospect theory, mental accounting, regret aversion, seeking pride, stop losses, December effect, overconfidence, sign realization preference, mean reversion, entrapment research, and social trust (Zahera & Bansal, 2019). Investors in making decisions tend to sort various investment types into different accounts by ignoring the correlation between accounts, just like an investment portfolio (Makoni & Marozva, 2018). The use of prospect theory is by selling profitable stocks and avoiding unprofitable stocks or holding losing stocks for a particular time to break even and even suffer more significant losses (Charpentier et al., 2016). Seeking pride and avoiding regret is a behavior that arises from selling winners' shares too quickly and holding losers' shares for too long. Losses experienced by investors positively impact the disposition effect even though they reduce investors' gains (Tenberge, 2009). Stop losses are a decision made by investors to postpone selling shares that generate gains until they reach the correct price and avoid detaining or selling shares whose prices have fallen (Zahera & Bansal, 2019; Fischbacher et al., 2017).

Conclusion:

The discipline of conduct finance has arisen because of handling the troubles the customary money discipline faces. Fundamentally, social money makes sense that speculation decisions are not generally affected in view of objectivity. Social money likewise attempted to comprehend the speculation market

oddities by loosening up the two presumptions of standard money, that is to say, (i) financial backers neglect to refresh their convictions unequivocally and (ii) there is a precise variety from the regularizing system in going with venture decisions (Kishore, 2004).

During the 1960 s, Kahneman and Tversky focused on various fields of examination. After the energy emergency of the 1970 s, they met up and directed examination and tracked down conflicting outcomes with the Proficient Market Speculation and Anticipated Utility hypothesis (Daniel Kahneman and Amos Tversky, 1979). During the 1980 s, conduct finance arose as an elective point of view that consolidated the social and mental perspectives in monetary and monetary direction or in another way we can comprehend that this field of conduct finance gives social and mental clarifications (Abay, Blalock, and Berhane, 2017). To comprehend the nonsensical way of financial backers in monetary business sectors, analysts draw on information from mental brain research hypotheses. Scientists have created "prospect hypothesis" and "heuristics" to make sense of the way of behaving of individual financial backers in monetary or financial choices. Conduct finance includes different conduct inclinations in view of a singular's social and close-to-home acknowledgement and resilience. The current review plans to decide the impact of social predispositions on venture decision-making of people. For the most part, four conduct inclinations are taken into flow research for recognizable proof of effect, specific, Arrogance, Securing, attitude impact, and Crowding. The review inferred that two, specifically presumptuousness and grouping, impact the speculation choices of people. The flow research likewise underlined that members in monetary business sectors are not judicious in their dynamic cycle, and, surprisingly, their decisions are restricted.

In the current review, the examination and conversation presented many issues for additional exploration. Later on, examinations can be performed to concentrate on different predispositions that are excluded from the current review this time. Likewise, the effect of choices of people and establishments can be investigated on common assets also.

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