# Recognition and analysis of effective factors on investors' decision making in stock exchange of Tehran

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## ARTICLE INFO

## ABSTRACT

**Objective**: There are various factors considered in the investor's decisions. The main purpose of this research is identifying and analyzing the factors influencing the decision–making process of investors in Tehran's stock market. **Methodology:** The statistic population consists of all investors in Tehran stock market in year 2009. Because of high amount of investors, the random sampling method was used. **Results:** 130 samples were selected randomly. The tool for collecting the data was a questionnaire containing 25 questions, 23 of which were closed and based on Likert scale, and 2 of them were open questions. The SPSS software was used for analyzing the data. **Conclusion:** According to the results, following factors respectively had the most effect on the decisions of the investors in Tehran's stock market: political issues, clarifying the financial data, the type of industry and the volume of transactions of a share.

## 1. Introduction

The importance of stock exchange can be investigated in two aspects, on the one hand bargainers of stock market and on the other hand, we can point out the importance and the role of the market to promote investment. The economy of developing country requires attracting financial resources and proper allocation of the resources by economical activities in investment market. In Iran like most of developing countries, many markets are predominant than investment market and stock exchange is main part of investment market and as yet it cannot play a key role to promote the efficiency and effectiveness of investment and in this way the necessity of expanding stock market as a most difficult part of stock market has double importance among governors and economists. Today, investment market is one of vital parts of economy that reaches to more importance and expanded status by growing economy. Investment market appears more organized in the economy of country and has more important in the area of development. Investment market becomes more accepted by conducting investments and savings of people and making job and increasing the level of public welfare. Providing the conditions for investors to select investing stock exchange among different status has special importance. In other words, studying investors' needs and providing their logical demands lead to transfer investment from producing activities towards manufacturing and productive ones. Thus Recognition and analysis of effective factors on investors' decision making in stock exchange of Iran is very important and leads to grow investment and financially follow developing financial part in the country. Totally, this study follows four main purposes including:

Recognition and study of the factors effective on investors' behaviors and their developments in stock exchange, Determining importance degree of individual effective factors, Increasing individuals' contribution as well as raising the quality of investment in stock market by using obtained results. By continuing the discussion, firs, theoretical bases in stock market is discussed and in next section, national and foreign researches in this field will be reviewed. In fourth section, research method is explained and finally, research findings and results are presented.

## 2. Materials and methods

### 2.1 Theoretical base

Stock exchange is a formal and informal market and most important factor of attraction and organization of correctly vagrant financial resources and by collecting each society and selling firms' stock, while moving economy wheels of the society through obtaining required investment of projects, decreasing intervention of the government. By economy and increasing tax income and economical benefits and besides them, inflectional effects are eliminated by existing cash in the society (Akhondzadeh, 2006) main task of stock exchange is to provide the clear and fair market for transacting stock exchange system to supervise the flow of transaction, market operation and members' activity and its basic feature is to supervise the flow of transaction, market operation and members' activity and its basic feature is to support legally the owners of savings and legal necessity for investment's applicants (Abed Tabrizi, 2003). Totally, it should be said that economy growth and increasing public welfare in the long term are not possible regardless investment and main factor in investment place. In stock market, it's found that widespread items and conceptions are basic factors for investors, some explanations are presented

### 2.2 Investment method and stock exchange

Stock exchange is transacted and there are different methods for categorizing stock exchange. Figure 1 is an appropriate categorization in the case. (Azarnia, 2007)
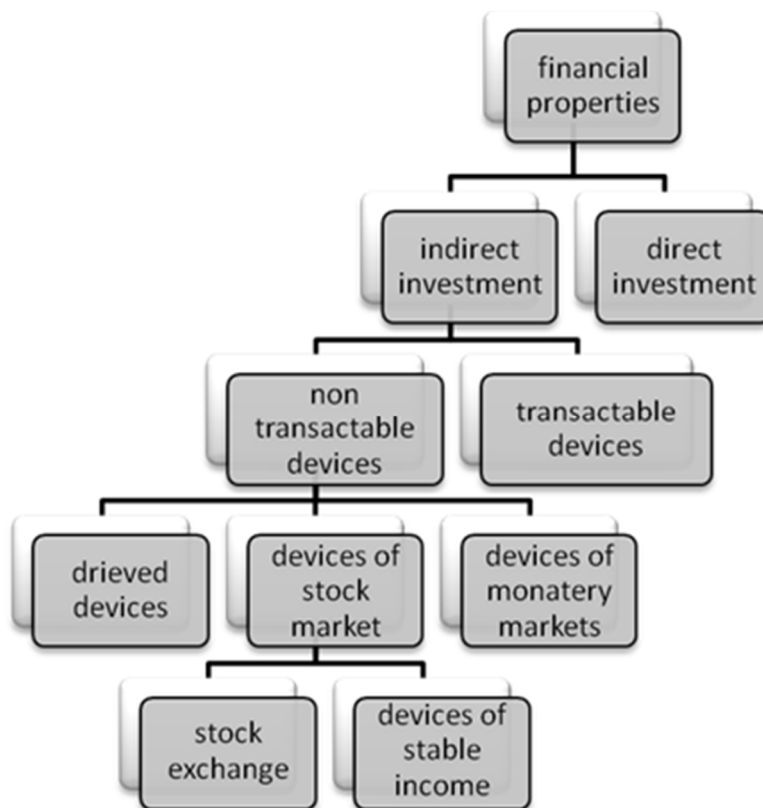


**Figure 1. Appropriate categorization of stock market**

Every investor can directly buy different share. Also he can invest through financial brokers and then sells them. For separating individuals without professional knowledge, from them professionals are active in investment market, indirect investment is economical market ended in the stock. In this method, for ensuring demand and supply forces and equivalence of information distribution, non-professional investor is presented in the market through the brokers and they do not buy directly from the stock.

### 2.3 Types of financial markets

Different types of financial markets with diversity of investors and contributors, financial markets are categorized based on investments, investment expiry , types of lenders and borrowers , market place and different transaction and are including "market of money and investment" , "first and second market " and "stock market and "Over-the-counter market (OTC)".

### 2.4 Analysis methods in stock exchange

Totally, bargainer uses two main methods to evaluate and select present stock: fundamental and technical analysis

### 2.4.1 Fundamental analysis

It's thought that by studying the position of macro economy, certain industries and circumstances of the firms, internal value of the firms' stock are determined and input or output ratio of stock can be decided through their comparison with present cost. This type of analysis includes factors such as global economy, political circumstances and annual budget of country. Position of demand and supply in related markets of this industry , market  stocks , competitive power  first properties and incomes , debts and liabilities , managers and employees ,  first action every investors should performed is to select the industry.

### 2.4.2 Technical analysis

It's a prediction of future changes of stocks cost based on past events. It is established on the effective stable bases: □ Stocks cost is determinant
of all potential stocks.
- Past is a light for the future.
- History is repetitive.

This method like those of predicting the affairs is not able to manifest the changes, but it is claimed that what will be happen for stock cost. Most important instrument to technical analysis is cost' diagrams.

### 2.5 Types of financial markets

Specific value of various institutions is different, since the vendibility and risk is different, even "market cost "of stocks is changing over time.  If the demand relates to money and its supply is low or limited, the law of demand and supply establish the terms that cost (i.e. interest rate of loan or output rate required by specific value )is a state that supply of money is more than demand. Effective factors on changes of stock cost are consisting of following: (Khoshnoud, 2006)
- Firm's budget and predicting the profit per stock
- Changes of stock cost in past years and the same level of transaction
- Specific position of industry
- Monetary and financial policies
- Divining dividends
- Plans of development and increasing investment
- Combining properties and investments
- Validity and history of the firm
- Probable liabilities
- Internal information of first and gossips
- Ratio of cost to income of every stock
- Demand and supply of stocks
- Firm management

### 2.6 Basic points and factors to select stock exchange

According to mentioned logic, some points can be effective in selecting one stock exchange among all. Therefore, these points have general aspect and their importance degree is different, based on views and policies of investors:
- Capability of cash
- The number of stock in public hands
- Combining stockholders and profitability
- Relative stability of profitability
- Ratio of shared profit per stocks
- Specific value per stock
- Financial context of firm
- Vacation and date of paying dividends
- Continues publication information and relative news
- Life of financial and depreciation- based scrap rate
- Macro economical decisions and political and social factors

### 2.8 Management of investment's risk

In the definition of decision, we can say that it is prediction and evolution of present results. It divides into three sets according to the knowledge and information, making a decision in the terms of reliability, lack of reliability and risk.

*2.9 Effective mental factors to make a decision for investors*

Generally experimental evidences obtained from investment markets shows this fact that the process of making decisions of investors and their behaviors are complicated and probability of presenting unit pattern for predicting behavior in the market is not possible. Totally we can say that effective mental factors on intention of people on investment in stock exchange includes bio-rhythm factors and the power of internal analysis and obtaining the prestige (direction )of being stockholders corresponding mental image of buyer and real image of him, stock degree , and trust

*2.10 Previous researches*

Maditinos et al (2007) studied behavior of investment in stock exchange in Athena and concluded that minor investors rely on newspapers of stock, media and gossips of market on deciding. As professional investors relay more on technical and fundamental analysis and less on implicit analysis, according to the researches, it seems that investment has direct relation with relative importance of techniques. Professional investors use to analyze the stock. Also it seems that the application of specific techniques has different effects on   professional performance of investors.

Al-Tamimi (2006) studied effective roles on partial investors. Its independent variable in the research was religious factor market   stocks and firm's validity, accounting information, general information, recommendation of lawyer, and private financial needs.  Most important findings of the research were as follows: Financial information or classic measure of maximum properties are most important and effective on AUE investors' behaviors.

Neutral information is less effective on investor's behavior, like religious reasons and factors relating to family members and authorities.

Nagy & Obenberger (1994) studied effective roles on minor investors. According to this research, investors had same induction of effective factors on investment.   Analyzed factors were categorized within 17 groups. Decision making process of investors includes a continuous spectrum of financial and non-financial goods. Moreover it's possible that every investor has relative different importance on above 7 groups of variables.

According to Lucey & Dowling (2005) mental situation of investors are effective on their judgment while deciding to invest. Other one is a situation that in a firm they invest to see they like this firm or not.

Soutar et al (2004) in a research showed that all minor investors have low tendency to stock jobbery and networking have investors need longer time to decide to buy one stock. Financial measures such as stock, dividends and income and cost rate are related. Although they were less important than firm managers or current changes of stocks cost.

 In addition to foreign researches, some local researches has been also carried out in this field.

According to Farrokhnia (2000) investors on stock exchange of Tehran for deciding for transaction and stocks cost, don't used a certain pattern. Most important factors are to reduce specialized knowledge, backwards of informing system of stock exchange and dissatisfaction of output and in conformity wih guaranteed income of other investment,s they have negative effects on investor decisions. Scientific method of analysis and statistically are followed by other views.  Khademi Gerashi discussed factors in 4 dimensions of political, mental, economical and internal. Among performed studies, he concluded that investor's decision is in lack of predetermined and global model; His results showed that political, mental, economical and internal factors had respectively highest effect on decision of investors.

Findings of Teymouri (2011) showed that perception of investing risk is effective on the tendency to have risk, expected rate of output, investment allocation and information of past performance and tendency on the risk. Findings of Shahi et al showed that there were channels of marketing communications among member countries of stock exchange. All activities of the firms are effective on decision of investors for buying. Javadi (2012) in his research concluded that in Iran, the effect of environmental factor on success or the failure level of the organization is more severe than internal and managerial factor.

## 3. Discussion and results

### 3.1   Conditions of political factors of country

Research findings show that political factors have high importance for the investors.  This factor, particularly in Third World countries like Iran that have low political stability has determinant importance for investors, because in these countries, the speed of changing rules is high. In fact, we can say that political stability leads to continuousness of the stock. When political conditions have negative effect on stock market, it has highest effect on stock has low innate value. Thus, if investors have long term vision on investments, it leads to select higher innate value and sectional fluctuations. Of course, political instability and existing high chances, long term decisions have difficult investors for example, one of effects of political factors on stocks market is to become a positive core negotiation and it inverses stock index in stock exchange of Tehran.

#### 3.1.1 Clarifying financial information

As it's pointed out clear and correct financial information that is presented through the firms and has high importance.  Some firms have incorrect information of investors and leads to deviations and incorrect firms is one of basic factor to obtain proficiency of a lot of information in stock market This factor can be profit to reduce investment's risk.  While the firms present clear financial information or each news to proficiency of the firms to stockholders, they can do better transaction. Totally, according to the result we can say that the investors tend to buy firms' stock that informs financial information against others.

#### 3.1.2 Type of industry

Each firms working in industrial space and growing and financially falling down. Studying the type and specific situation of industry is effective on stock cost of firms' stocks in the industry and financially deciding investors to transaction stock. Occurring the crisis in the industry can be resulted from

different investors such as imports, decreasing demand etc. and it effects on successful firms. According research's results industry, investor prefer to develop and have high profit rate than other industries

### 3.1.3 Transaction size per stock

Whatever the size stock transaction is high and precise are fairly and logically and in fact, we can say that market is closer to proficiency x this case helps to investors to make a decision. According to the results of investors, more than 70% respondents tend to buy the stocks that transaction size is high level.

### 3.1.3.1 Ratio P/E

If P/E is higher that market average or industry, it means that the market has big expectations of the stocks in months and years.

A firm with high P/E makes incremental profits, otherwise, the price of the stocks is falling down. Of course, we should consider that low P/ E does not mean that the value of one firm is falling down, it means that the market believes that the firm takes into account the problems and it changes in different times . Generally, the stockholders prefer the stock and P/E is higher than stocks.

### 3.1.4 Type of firms' ownership

Accepted ownership of firms in the stocks is private state market (state –private firms )according to investors ' views importance of the fact is in the sixth factor. Based on the results, the stockholders tend to invest and buy the stocks of private firms.

### 3.1.5 Prediction of Earnings Per Shares (EPS)

EPS is one of financial ratio that investors pay EPS when buying stocks. Different types of EPS is used and it's necessity that investors know that what EPS is used and secondly it determines that whether EPS reflects firms' profit in IPS is announced by the firms in the form of financial inventories and newspapers and as a result, it's possible that the stocks and its use is considered less and more in the innate form.

According to research results, more than 61% respondents prefer stocks with the ratio profit per stocks.

### 3.1.6 Stability EPS trend

The trend of EPS changes of one firm can give meaningful information about the trend of stocks cost of the investors. Indeed we should constitute PS changes are studied by probable changes of firms ' investment.

 As studying the trend of EPS is a determinant of its stability or the minority of fluctuations' range, it's possible to estimate the stocks' price. Almost 605 respondents matter the decision and this is in 8th rank.

### 3.1.7 Risk stock

 Risk is an inseparable part of active in financial market and its necessity for gaining the profit .Investors whether are informed or not, risk in investment has various degrees and the types of risk. They are different relative to different risks. the subject of accepted-risk  or  escaped- risk is depending on individual risk per stocks is a factor that investors' decision making % respondents have  importance , while investing more than investors are considerable.

### 3.1.8 Firm management

The role of firm management is basic factors that are effective in these fields. The politically of dividing the profits, productivity of the firm, correct and on-time informing are affected by the firm's management. Also conforming management is a sign of firms' success .although all employers have the roles in the firm. But makers' decisions are the managers. For more than half of respondents, it's important and they  are in 10th rank.

### 3.1.9 Stock exchange - cash profit stock (DPS)

In balancing other factor the firms have higher the ratio of dividends against to other firms. This ratio should not be considered. Non divided profits that remain in the firm, most important resources of obtaining the costs, but the dividends paid the stockholders constitute internal cash flow that use for deciding about the future.  It's confirmed that investors ensure that the firms rely on cash profit of financial resource like loan.

### 3.1.10 Fluctuation of stocks cost

According to the research, fluctuation of stock cost is 12th rank. In fact, it is mean for investors. When investors want to buy the stocks with fluctuation of price, they are risky.

### 3.1.11 Delay paying cash profit

Most of firms don't do their commitments on the time  of paying cash profit and usually its pay by delay. Whatever the profits is further cash, it's useful for stockholders, because it's including inflation and decreasing non cashed value. The stockholders can reinvest his investment.

### 3.1.12 Increasing investment by the firms

Every firm can increase the investment percentage of investment, the number of the firms and stockholders are increasing   based on investor's view, the importance of investor's decision in the 14th rank.

### 3.1.13 Profit rate and bank gain

changing in- profit rate follows changing stock exchange 's output , usually changes put in diverse, it means that stock exchange moves in stable conditions and whatever - profit rate is increasing , the price of stock exchange is decreasing. The importance of this factor is in 15th rank.

### 3.1.14 Inflation rate
Expended output rate of stockholders is influenced by inflation rate. Whatever inflation rate is increasing, expended output rate is increasing because increasing inflation and decreasing money values, investors have high profit of investment. According to research's results, the importance of the factor is in 16th in the view of investors.

### 3.1.15 Published gossips in stock
According to researches, the findings and the respondents, the importance of this factor is 17th rank. Therefore investors in the time of deciding have not attended to published gossips.

### 3.1.16 Agent recommendations
From agents' tasks presenting services and guidance to the investors is to transact the stock. Based on research' results, all investors don't use agent recommendations to transact stock exchange regarding to the view. In fact, stocks' agents are very low relative to transaction size**.**

## 3.2 Research hypotheses

In this research, 18 factors that affect decision making process of investors were analyzed and among them, 5 factors are considered as a hypothesis. These hypotheses were:

**H1.** Investors' decision making in stock market is influenced by predicting Earnings Per Share (EPS )
**H2.** Investors' decision making in stock market is influenced by Dividends Per Share (DPS )
**H3.** Increasing investment by firms affect investors' decision making in stock market
**H4.** Investors' decision making in stock exchange is influenced by fluctuations of stock cost H5**.** Consulting and advising agents are effective on investors' decision making.

## 3.3 Research method

It's a descriptive – measuring based on its entity. Statistical population in the research was all investors that participate to transact in stock exchange in Tehran. According to high size of statistical population, we select a sample of investors. The method of sampling is a random one and there is no personal interest and as a result, research's results are generalized to all investors in the stock exchange. According to the number of investors in stock exchange of Tehran is very high statistical population size is unlimited and for measuring sample size the Cochran formula is used. In this formula, α is error value, d is the degree of the reliability and n is sample size. According to the relation of the number of sample size was 130, with reliability of 95%, at least 130 samples are selected among investors of stock exchange and the results are generalized to all statistical society.      $d = 0.032$  ,    $\alpha = 0.05$

$$n = \frac{\frac{Z_\alpha^2}{2}}{4\,d^2} = \frac{(1.96)^2}{4\,(0.032)^2} = 130$$

The method of gathering data is a library method and a questionnaire was designed in three sections. Section one had personal questionnaires of respondents. Section two had closed questions based on Likert scale, and section three had an open question for determining the importance of exceptional factors and recognizing effective factors. The number of all questions in sections 2 and 3 were 25 items that were designed based on the purposes, hypotheses and determinant factors. For testing the reliability of research, Cronbach's Alpha was used and its value was calculated by SPSS software. For questions of the questionnaire alpha was 75% which shows the acceptability of reliability of the questionnaire.

## 3.4 Results And Discussion

### 3.4.1 Testing hypotheses
For analyzing the hypotheses, sample t-test was used. If mean value is more than intermediate, the hypothesis is confirmed. Each one of 5 hypotheses are separately selected and the results showed that for hypothesis 1 about predicting Earnings Per Share ( EPS) the t was 7.29 with p-value =0.000. Thus investors believe that prediction of Earnings per Share has high effect on deicing to invest stock exchange. (Its effect is over intermediate), thus hypothesis 1 is confirmed.
For hypothesis 2 that is about Dividends Per Share (DPS), t= 9.37 with p-value =0.000. Thus we can say the effect on Dividends Per Share is high for investors to decide; in other words, its effect is higher than intermediate and therefore hypothesis 2 is confirmed. For hypothesis 3, statistical value of t

equals to 2.75 with p-value=0.000. Thus we can say the effect on increasing investment by the firms is high for investors to decide; in other words, its effect is higher than intermediate and therefore hypothesis 3 is confirmed.

For Hypothesis 4 statistical value t equals to 7.11 and its p-value=0.000. Therefore, investors believed the effect of stocks cost has high effect on their decisions and therefore hypothesis 4 is confirmed. For hypothesis 5 t is -13.56, p= 0.000.

$$\begin{cases} H_0 : 3 < \mu \\ H_1 : 3 < \mu \text{ —} \end{cases}$$

Thus it should be said that recommendation of agents to investors has low effect on their decision making, because it's lower than intermediate, thus hypothesis 5 is rejected.

According to relative importance of the factors on investors' decision making, their ranks are presented in figure 2 and its places show their importance for investors.
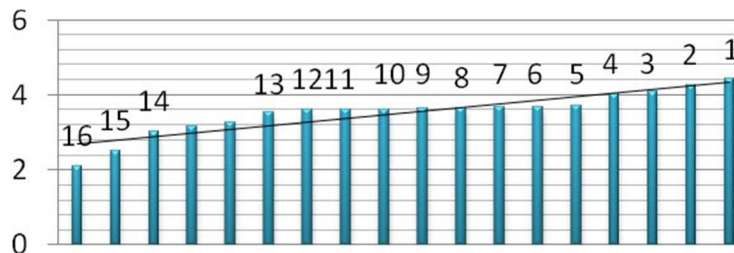


**Figure 2. Mean distribution of effective factors on investor's decision making**

Based on the results of performed analysis   on the data, the importance of 18 mentioned factors are ranked like followings:

1.    Volume of transaction per stock
2.    Type of ownership of firms
3.    Stability of EPS trend
4.    Ratio P/E (price to efficiency )
5.    Published gossips in the stock exchange
6.    Profit rate of market and bank profit
7.    Prediction of income per s or EPS
8.    Political factors of country
9.    Inflation rate
10.    Increasing investment by the firms
11.    Fluctuations of stock cost
12.    Firm amendment
13.    Delay to pay cash profit
14.    Clarifying financial information
15.    Cash profit per stock
16.    Agents' recommendation

As you see political factors inside the country has highest impact on deciding investors. In fact, we can say that people tend to buy stock that has low political risk. After political factors, in the investors, the factor of clarifying financial information has in second place. In other words, what is important for potential investors? Correct and clear financial information are delivered to the people. The factors of industry have in probability than other firms and are preferable for investors. Published gossips in the stock market as well as agents' recommendations have lower importance. In fact, investor in the time of decision don't value the  gossips  and the recommendations of investors that have low level and is low valuable than their views in following , we explain the ranking of stock as followings:

## 4    Conclusion

In this paper, we studied most effective factors on investors' decision making in stock exchange of Tehran and their reasons. As it's pointed out that political conditions of country and clarifying information are more important in the view of investors. In other words, financial ratio has not place in the ranking other note that  can be mentioned that proposed factors  in the hypothesis of the research,  in first rates , investors have high reliability to financial ratio , inventory and announcing  system of  the firms  while public trend  in reliable stock  of the world is as factors that are studied in the research.  For example, unlike other stocks of the world like "wall street"  and or Tokyo stocks, agents have consultative role and the effect of agent's recommendations in deciding investors in the stocks is very high , agents have  broker a role and it shows that stock exchange  of Iran has long way to reach reliable stocks of the world.  The number of respondents superposes that In the process of deciding other factors consider that this matter is due to expand financial

factors and process and it's commended that different features like " products and services " of accepted firms in the stocks, the cost of their transaction, importing and exporting the gossips, performed prohibitions against the country, informing bottom and top price of stock, central bank policies etc. By other researches we can financial the method of analysis data. Financially it's mentioned that since the investors can decide correctly, according to different conditions, they conscious and correct selection and avoid sensitive decision and without careful studies.

According the results of the research, political factors have highest effect on decisions of the investors. Therefore, it's suggested that stock of organization among unit reference to analyze on time information has political fluctuation and we should control its effects and keep it away from political pressure.

Investors are studied the time of deciding financial ratios like profit per stocks and cash per stocks and the trend of stocks cost to buy the stock. Gossips and informal news are followed by the stock and immediately the accuracy of the gossips is clear for the investors. For enforcing supervision on the market, the stock should have enough forces and organizational diagram, the supervision of update and modern activities; also the confidence obtains with higher proficiency of supervision structure. The stock should open the field for analyzing the damage to unskillful people and for decreasing market risk nonprofessional stockholders are separated from long-term horizon. Inflation' conditions reduce the power of buying. Also this subject attends to increase like costs for saving to invest and decreasing stock exchange. Moreover, decreasing profit rate is a factor lead to expand the investment in the society. Encouraging the fields in known invest leads to promote investors and expands investment's culture among people, demanding of agent's services and also agents' number and competitive position among agents.

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