Studying Affecting Factors on Analysts' Decisions Regarding Share Analysis in Tehran Stock Exchange: A Fundamental Analysis Approach

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Abstract

This paper studies affecting factors on analysts' decisions in Tehran Stock Exchange. Principally, analysts use two types of fundamental and technical analyses in their decisions. In present research, we study affecting factors on analysts' decisions in the format of fundamental analysis. Such analysis is studied in three sectors: (1) economy/market, (2) industry, (3) firm. This paper uses analytical approach to study affecting factors on analysts' decisions. Its statistical population contains analysts in brokering companies at Tehran Stock Exchange. The tool to collect data was questionnaire and SPSS software was used to analyze data. Based on the results, it was determined that firm – related factors such as actual EPS, estimated EPS, profit margin, P/E ratio and sale rate have the highest importance in analysts' decisions followed by economy/market related factors and industry – related factors.

Keywords: Fundamental analysis, technical analysis, analysts, Tehran Stock Exchange (TSE)

1. Introduction

Securities Exchange in any country is considered as a pillar of its economy which shows the rate of its economic development. It is more than 40 years that stock exchange is established in Iran and it has experienced a growing trend during these years.

An important component of stock exchange in any country is broker or analyst of capital market which perform various tasks such as share buying/selling, financial services, advisory to customers, etc. Analysts use different information and approaches for their analyses. Overall, there are two traditional and well – known approaches on share analysis: fundamental analysis and technical analysis.

Technical analysis method is a way to forecast security price fluctuations and to find share price patterns while fundamental analysis method assumes that each security has an intrinsic value based on investor's estimations. Such value is a function of company's fundamental variables combined to create expected return and its related risk (Jonz, 2002).

Fundamental analysts study such issue as incomes, audited balance sheets, dividend reports, managerial capabilities and competitive status and then compute the intrinsic value of each share based on future inflow cash forecasts (Abdolahzadeh, 2002). In countries like Iran that lack an efficient capital market, there is a remarkable difference between securities market and intrinsic values; so it is better foe analysts to use fundamental analysis to evaluate stocks.

Regarding the role played by this approach in stock analyses by analysts, we plan to study the factors used by analysts in this approach as well as the importance rate of such factors. So our purpose in this research including: 1.Identifying the method of analysts' decisions in stock transactions 2.Studying the factors considered by analysts in fundamental analysis in terms of importance.

2. Previous Research

Since there a few domestic researches on affecting factors on investment decisions and foreign studies are more focused on the ways of using technical and fundamental analyses rather than affecting factors on investment decisions, research background is as follow:

In 2011, Davari et al conducted a research on affecting factors on fundamental analysis by investors in Isfahan Regional Exchange and concluded that macro economic factors have less impact on investors' decisions and among company related factors, competitive status, profitability analysis and financial analysis impact on investors' decisions.

In a research by Tavakoli Mohammadi and Ghazizadeh (2009), the behavior of investment managers and financial analysts on forecasting the market and stock selection in TSE was studied and they concluded that analysts use stock selection traditional methods (technical and fundamental analyses) more than new methods (portfolio analysis technique).

In 2004, in his research on identifying the affecting factors on stock selection in TSE (cement industry) by using MADM approach, Hadavinejad rated shareholders' criteria in evaluating and selecting stocks. His findings show that the most important affecting factors are economic policies and measures, financial ratios on stock dividends and R & D plans.

In a research by Aghaie and Mokhtarian in 2004, affecting factors on investors' decision making in TSE were studied. The findings show that financial criteria including dividends and the profit of each share are too important for investors but their importance is less than price inflations and stock price trends in exchange market.

In a research by Stanly Block in 1999 on affecting variables on analysts' decisions in USA, it was recognized that the importance of stock dividend and relevant cash flows are more than book value and divided profit.

In 1994, Negy and Obenberger distributed a list containing 34 affecting variables on decision making among the shareholders of 500 companies randomly. The findings show a combination of financial and nonfinancial factors. According to these findings, one can conclude that investors' decisions include a continuum of financial and nonfinancial items that each investor may consider a different importance for each factor.

In their research on technical and fundamental analyses in 2007, Menkhoff and Taylor found that (1) almost all market scholars use technical analysis, (2) most stock market scholars use a combination of both analyses and (3) in a short term interval, technical analysis is more important than fundamental one.

In 1998, Hon Lui and David Mole conducted a research in which the extent of using technical and fundamental analyses by international market dealers in Hong Kong was studied. The findings

show that dealers rely upon both technical and fundamental analyses but in shorter intervals, technical analysis is more fruitful than fundamental analysis in forecasting the references and procedures.

3. Research Questions

1. Which factors namely economy/market, industry and firm have the highest importance in analysts' fundamental approach?
2. Among above three factors, which one has the highest importance?
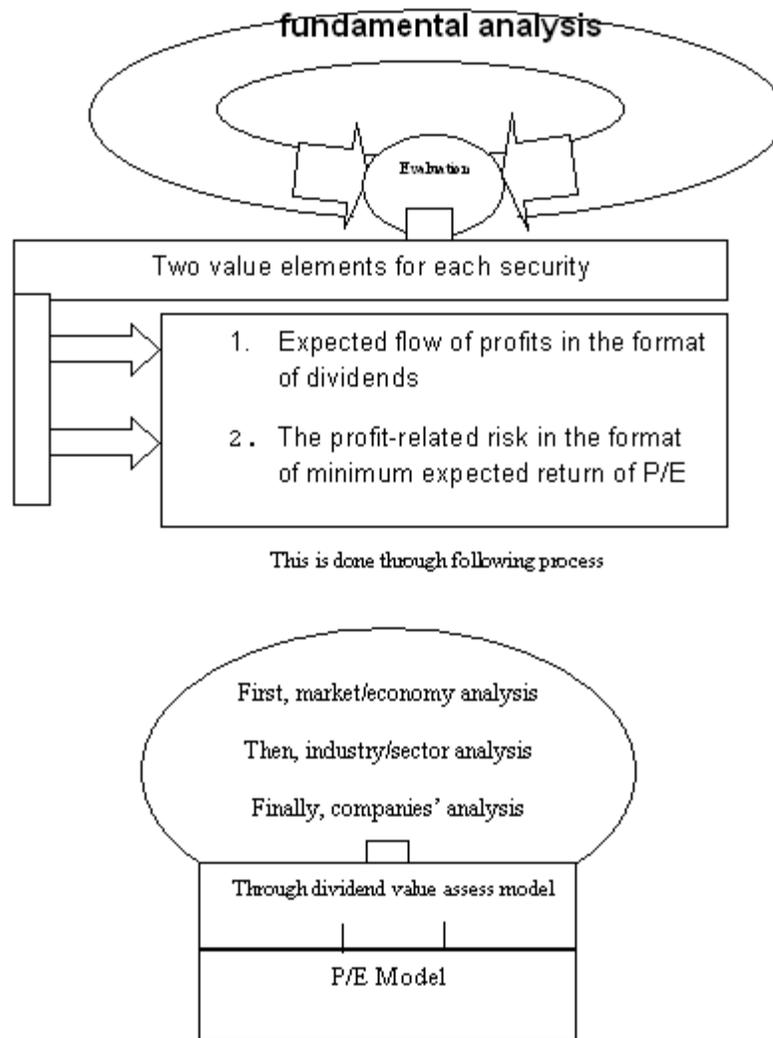
4. Fundamental Analysis

Fundamental analysis is to evaluate current information in financial statements, industrial reports and economic factors to determine company's intrinsic value. Fundamentalists try to forecast changes in stock future prices by studying factors related to stock values in the market. These factors are divided into three groups:

- Company's conditions: incomes, financial power, products, management and workforce relations
- Industrial conditions: stability and current competitive situation
- Economy/market conditions: economic cycles and Money and Financial Policies of the country (Raei, 2010).

In fundamental analysis both quantitative tools such as financial ratios from financial statements and qualitative tools such as managerial policies, marketing strategies and product innovation are used to determine the intrinsic value of investment tools (Lam, 2003) Fundamental analysis stands on the assumption that each security (and market in total) has an intrinsic or integer value based on investor's estimates. Such value is a function of company's fundamental variables combined to create expected return and its related risk. One can estimate intrinsic value by evaluating fundamental variables of security value determinants. Then, estimated intrinsic value can be compared to security current price in the market.

Fundamental analysis can be conducted by two top – down and down – top approaches. In top – down approach, economy/market, industry and firm are analyzed respectively. Economy and market for securities are analyzed to see whether it is the right time to allocate additional sums to stocks or not. Then, industries and sections are analyzed to decide which one has the best outlook in future. Finally, company is analyzed. In down – top approach, investors focus on firm's pillars or foundations directly. Analyzing such data as firm's products, competitive status and financial situation lead to estimate potential profits and, ultimately, its value in the market. In this approach, it is emphasized on finding companies with long term growth perspective and on right estimations on profit (Jonz, 2002).

Figure 1 shows the evaluation process of fundamental analysis in top – down approach (Jonz, 2002).

Figure 1: Fundamental analysis process (top – down approach)

In technical analysis, the content of information is only price and transaction volume while in fundamental analysis a wide range of information is used like organizational internal information (EPS, financial ratios, the rate of utilizing the capacity, developmental plans, possible receivables in the format of differences, subsidies, etc) and external information (products import/export, customs tariffs, banking interest rate, inflation, foreign currency rate, political changes, currency incomes, etc) (Mohammadi, 2004: 102 – 103).

In such analysis, stock intrinsic price is forecasted based on future cash flows of each share after studying relevant factors. It is expected that stock prices increase and the share are purchased if stock market price is lower than its intrinsic value and vice versa (Albadvi et al, 2007: 673 – 683).

In present study, our used model is studied among Tehran Stock Exchange analysts. TSE is the main stock market in Iran and its value is over 124$ billion (www.tsetmc.com).

We use a top – down approach so that macro market/economy factors, industry – related factors and company –related factors are respectively studied to investigate a fundamental analysis.

5. Methodology
5.1. Sampling and Sample Volume

In present study, sample means those analysts who work in capital market to advise and analyze the market. Since the number of capital market analysts is limited, we used simple random sampling method for a limited population. Following formula was used to determine the sample volume:

$$n = \frac{N.Z_{\frac{a}{2}}^2 P(1-P)}{8^2(N-1) + Z_{\frac{a}{2}}^2 . P(1-P)} \quad n = \frac{307.1.96^2.0.5(1-0.5)}{0.1^2(307-1) + 1.96^2.0.5(1-0.5)} = 73$$

n: sample volume

Z: normal distribution standard variable

ε: estimation error

As seen, the sample volume is 73 after inserting the figures into the sample volume. Therefore, this sample is considered as the final sample since its volume is greater than 30 namely population distribution is normal. In confidence level 95%, the sample volume should be at least 73 in order to extend its results to statistical population.

5.2. Data Collection Method

Regarding research goals, affecting factors on decision making were extracted through examining various resources. They were mitigated by using the opinions of elites and scholars in capital market and, finally, a questionnaire was devised in two parts. In the first part, all three variables including (1) economy market macro factors, (2) industry factors and (3) firm factors were divided into several segments and then their traits and states were questioned. In the second part, the factors are prepared by using Likert scale. One can answer research questions by analyzing the provided data in this section.

To test research validity, a preliminary questionnaire was prepared and it was amended after obtaining elites' opinions.

To test research reliability, Chronbach's alpha is utilized. By using SPSS software, Chronbach's alpha was calculated for research questions which was 85% for a 73-subject sample and shows the reliability of the questionnaire.

6. Data Analysis

The results of data descriptive analysis on the gender of respondents (figure 2) show that 86% of respondents are male and 14% are female. It indicates that most analysts in Tehran Stock Exchange are men.

Figure 2:
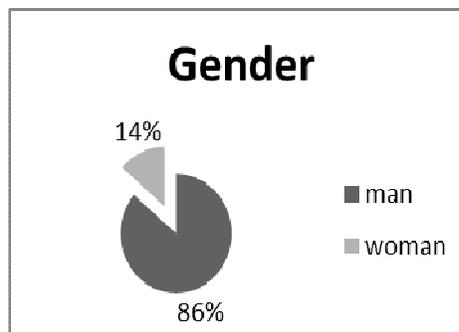
In the meantime, the results of descriptive analysis on the education of respondents (figure 3) show that all respondents possess B. A. or M. A. degrees. Most of the respondents have M. A. Relevant percentages are outlined in below figure.

Figure 3:
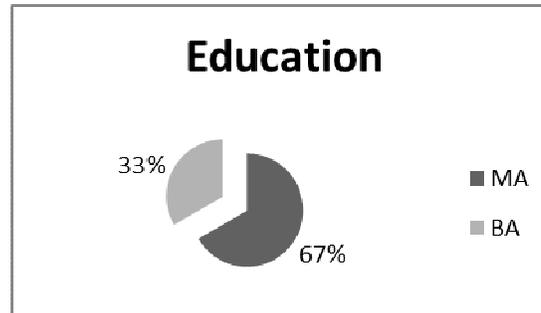
Obtained data from the questionnaire were analyzed by SPSS software. The first question is that "how is the importance of three variables namely (1) economy market macro factors, (2) industry factors and (3) firm factors for analysts' decisions. To answer this question, Duncan's test is used and the findings are shown in tables 1 and 2.

Table 1:

ANOVA of main factors					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	2.094	2	1.047	3.435	.035
Within Groups	43.898	144	.305		
Total	45.992	146			

Table 2:

Duncan			
Main factors	N	Subset for alpha = 0.05	
		1	2
Market/economy	73	2.6129	
industry	73	2.6342	
company	73		3.8705
Sig.		.855	1.000

As seen in ANOVA table, it is determined that Sig is less than 0.05 which shows a significant difference between some factors. Likewise, Duncan table indicates that the importance of company's related factors is more than economy/market and industry related factors. There is no significant difference between economy/market and industry related factors (they have equal importance).

To answer the second question, some tests were conducted on (1) economy market macro factors, (2) industry factors and (3) firm factors and the results are shown in below tables.

In such tests, H_1 means that the average score of respondents in 95% confidence level is > 3 and H_0 means that it is ≤ 3.

Table 3 indicates the importance of economy/market factors which includes 6 variables such as interest rate, governmental monetary policies, governmental laws and regulation, business cycle and political factors.

Table 3:

Components	Mean	t	df	Sig
Rate of interest	4.103	5.833	72	.000
Money policy	3.929	4.455	72	.000
Governmental law	2.951	.396	72	.693
Business cycle	2.992	1.567	72	.123
Rate of inflation	2.689	-2.250	72	.028
Political factors	4.500	15.100	72	.000

Obtained significance level for interest rate, governmental monetary policies and political factors is less than 0.05 and since t is positive, H_1 is supported. Regarding governmental laws and business cycle, H_1 is rejected and H_0 is supported since their significance level is greater than 0.05. Regarding the inflation rate, although its significance level is greater than 0.05, H_1 is rejected and H_0 because that t is negative. Overall, one can conclude that among economy/market variable, three factors including banking interest rate, monetary policies and political factors with 95% confidence level impact on analysts' decisions and other factor have no remarkable impact. As expected, because of domestic political situation, political factors are considered as the most important macro economic factors. Their average importance is shown in graph 1.

Graph 1:
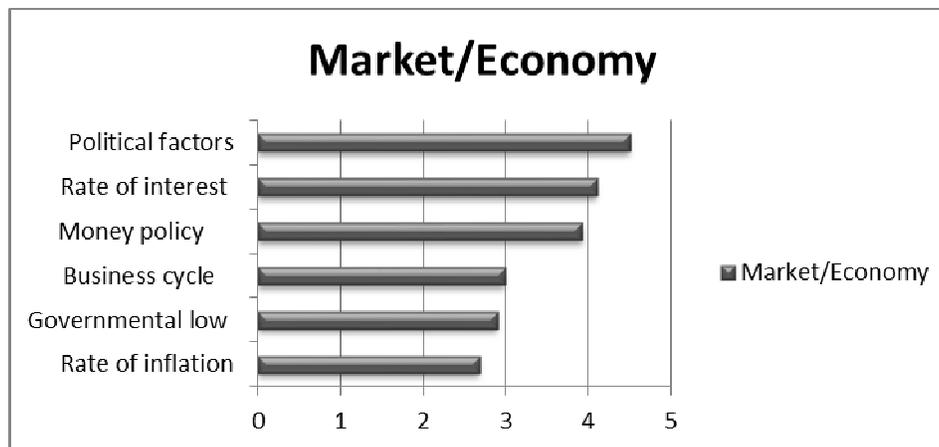
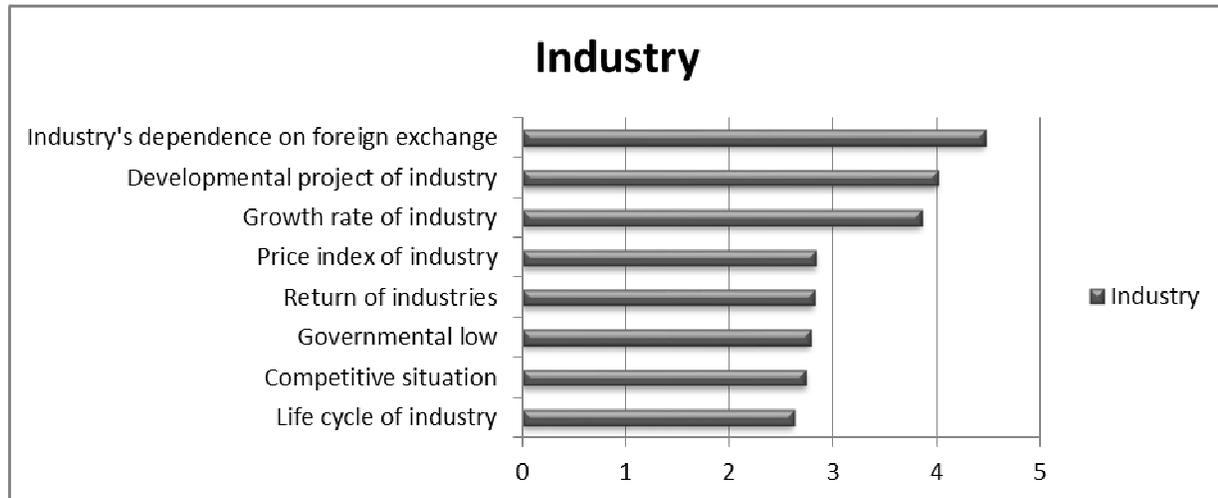The results for industry related factors are outlined in table 4.

Table 4:

Components	Mean	T	df	Sig
Price index of industry	2.844	1.720	72	.091
Governmental law	2.789	.872	72	.384
Return of industries	2.821	-1.436	72	.157
Life cycle of industry	2.624	-2.537	72	.041
Competitive situation	2.743	1.029	72	.308
Growth rate of industry	3.856	3.259	72	.002
Developmental project of industry	4.012	5.178	72	.000
Technological change	2.797	1.318	72	.193
Industry's dependence on foreign exchange	4.471	6.217	72	.000

Obtained significance level for three variables including growth rate of industry, government's developmental plans and dependence on foreign exchange rate is less than 0.05 so H_1 is supported. Regarding other variables such as price index of industry, governmental laws, return of industries, life

cycle of industry, industry competitive situation and technological changes, H_1 is rejected and H_0 is supported. Overall, regarding the impact of industry factors on analysts' decisions, one can say that variables like growth index of industry, developmental plans for industries and industry's dependence on foreign exchange with 95% confidence level impact on analysts' decisions and other factor have no remarkable impact. Their average importance is shown in graph 2.

Graph 2:

The results for company related factors are outlined in table 5.

Table 5:

Components	Mean	T	df	Sig
Predicted EPS	4.3276	8.069	72	.000
Real EPS	4.6034	12.984	72	.000
P/E	4.0690	4.549	72	.000
Sale	3.9828	4.234	72	.000
Gross profit	4.1034	6.006	72	.000
ROA	3.9649	4.648	72	.000
Midterm report	3.9649	3.717	72	.000
Profit growth	3.9286	3.774	72	.000
Liquidity rank	2.966	1.409	72	.164
Main stockholder	2.987	1.878	72	.066
Liquidity ratio	2.991	-1.920	72	.060
Competitive situation of company	2.621	.563	72	.576
Transaction volume	2.534	-.157	72	.876
Supply & Demand of stock	3.7368	2.327	72	.024
Profit stability	3.8772	3.759	72	.000

The results of testing company related factors show that significance level for such variables as predicted EPS, real EPS, sale, P/E, margin profit, ROI, midterm reports, profit growth, supply and demand of stock and profit stability is less than 0.05 so H0 is rejected and H1 is supported. Regarding other variables, H_1 is rejected and H_0 is supported. Therefore, variables like predicted EPS, real EPS, sale, P/E, margin profit, ROI, midterm reports, profit growth, supply and demand of stock and profit stability impact on analysts' decisions and other factor have no remarkable impact. Their average importance is shown in graph 3.

Graph 3:
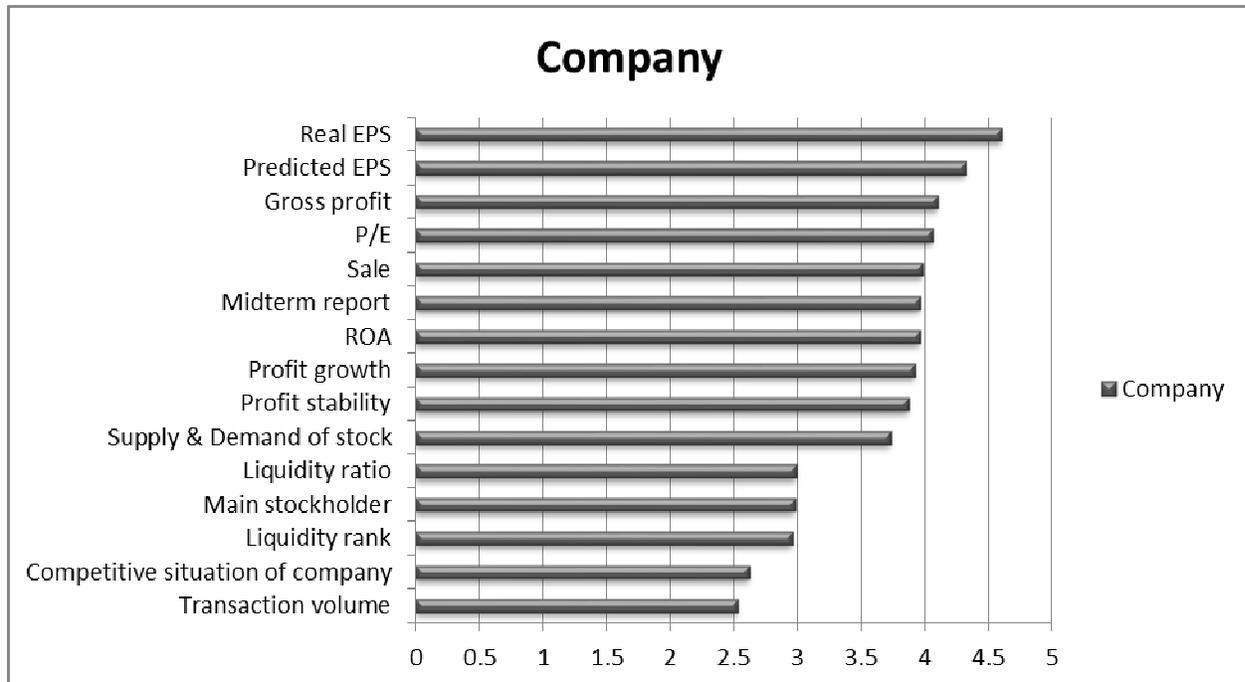
7. Conclusion

As seen, among three factors analyzed in present study, company related factors have the highest importance on analysts' decisions; it shows that analysts consider a special priority for financial statements and midterm reports. In the meantime, among financial statement elements, real EPS has the highest importance. On the other hand, the importance of economy/market and industry related factors have lower importance on analysts' decisions. Perhaps, the reason is that analysts access to company information more than other data. Therefore, the findings show that in fundamental analysis, company related factors have the highest importance followed by economy/market and industry related factors.

Compared to the findings of present study and another research conducted by Aghaie and Mokhtarian in 2004, on can conclude that measures used by investors in their decisions are almost in contrary to measures used by analysts in their decisions. In other words, while investors emphasize highly on measures like stock price trend and financial statements are less regarded by them, analysts give the highest importance to company's financial statements and other factors are less regarded by them.

Noteworthy, there other factors that can impact on analysts' decisions not included in our questionnaire. This was due to the scope of financial discussions and length of factors as well as the problems of responding. So, it is recommended that other characterizes to be identified and studied by other researchers.

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