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The Performance of Nepalese IPOs

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Abstract

This paper assesses the performance of Nepalese IPOs (initial public offerings) and relates them to potential factors like promotion of business and industry, peace and security, sufficient electricity supply, easy loan process, and so on. This study finds that the Nepalese IPOs are heavily oversubscribed and provides the investors with the market adjusted excess rate of return leading to the conclusion that Nepalese IPOs are under-priced too. The study finds that Nepal Stock Exchange-NEPSE Index and the subscription as times of issue have significant predicting strength on the performance of IPOs. The study results show that phenomenon of over-subscription can be explained by the firm size and the debt equity ratios.

Introduction

The performance of initial public offerings (IPOs) is one of those empirical questions that continuously draw the attention of many researchers in finance. Several researches have been carried out to examine the performance of IPOs in the developed countries like United States, France, Germany, United Kingdom, Japan, Israel, etc. and in the developing countries like India, Malaysia, China, etc. where IPO market mechanisms may not be identical. Several empirical studies put forward that IPOs are sold at a significant discount, a phenomenon known as under-pricing, from the prices that prevail in the aftermarket that results into significantly better performance of IPOs than that of equity market in general. The deeper the under-pricing, the higher will be the initial returns resulting into better performance of IPOs for the investors. On the other hand, the deeper the under-pricing, the lesser will be the net proceeds for the issuing companies resulting into the loss of wealth of the company as it represents the part of the cost of going public for the companies.

Various explanations have been laid down to explain why IPOs outperform the market initially due to the under-pricing of IPOs under varying IPO market mechanisms. There are both supporting and opposing evidence for these explanations in the finance literature. This study aims to examine the mechanism of Nepalese IPOs market, which stands out as an emerging market and their performance.

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The rest of the article is organized as follows: Section II provides the literature review of the studies carried on different IPO market mechanisms. Section III introduces Nepalese IPOs market mechanism. Section IV gives details of the data and methodology. Section V presents the empirical findings of the study a period of 13 years from fiscal year 1997/98 to 2009/10.

Literature Review

Empirical studies provide evidence for and against different hypotheses on the issues of market adjusted excess return of IPOs in varying IPO market mechanisms.

A study conducted by Security Board of Nepal (2004) sheds light on the fact that the Nepalese primary market is dominated by a risky instrument i.e. equity shares and the major portion of the total public issue approval being from bank and finance sectors. However, Adhikari (2006) sheds light on the fact that investors hesitate to subscribe to public issues of manufacturing and processing, trading and hotel sectors and due to this the companies from these sectors face difficulties in raising funds from the market. The study finds that the financial forecasting in most of the issue is overstated. Pradhan (1993) finds that the stocks with largest market value to book value of equity have higher price earning ratio in the Nepalese stock market. Pradhan and Balampaki (2009) find that in Nepal the capital gain yield is positively related with the size of a firm measured in terms of market capitalization. Timilsina (2004) concludes that the companies making IPOs overstate their forecasted accounting figures.

Habib and Ljungqvist (2001) find that the US IPOs are under-priced by 9 percent on average; Chinese IPOs are under-priced by 42 percent whereas the Malaysian IPOs are under-priced by 6 percent. They argue that some IPOs are more under-priced than others because their owners have less reason to care about under-pricing and that the extent to which owners care about under-pricing depends on how much they sell at the IPOs. It is because the promoters who sell very few shares to the public suffer less from under-pricing than those who sell large portion of the shares. They predict that issuers can reduce the under-pricing by spending more in the IPOs promotion. They consider both the under-pricing and IPO promotion costs are the part of the costs of going public. Habib and Ljungqvist illustrate the US and Canadian IPO mechanisms where issuers can choose between the best effort offering which is cheap in terms of cash expenses but typically leads to high under-pricing and a firm commitment book-building which is expensive in terms of fees but leads to lower under-pricing.

Benveniste and Busaba (1997) observe that American book building mechanism is becoming the method of choice in the context of fixed price method being historically dominant approach in the UK and its former colonies (e.g. India and Singapore) and in most of Europe. They also observe that fixed price mechanism creates cascading demand thereby guaranteeing the issuer some proceeds. However, book building mechanism generates the higher expected proceeds to the issuers and provides option to sell additional shares at fair price but exposes to the greater uncertainty too. Sherman (2005)

too finds that the U.S. book building method has become increasingly popular for IPO worldwide over the last decade.

Derrien and Womack (2003) find that the auction mechanism is associated with less under-pricing and lower variance of under-pricing than other mechanisms namely book building, and fixed price mechanism with reference to the data from the French IPOs market where all three of the aforementioned mechanisms were prevalent at the same period (2006-2010) in France. They also observe that even though the auction procedure dominates the book building procedure in mitigating under-pricing in varied market conditions, book-building procedure is dominant in the United States and very significantly increasing in the rest of the world. They explain that even though the mitigation of under-pricing is a worthy objective to issuers, it clearly is not their only objective. Besides, they argue that controlling under-pricing is clearly not the most important issue to underwriters who suffer an agency conflict of interest, pitting their issuing clients against their investor clients.

Derrien, & Kecskes (2009) observe there is a 'two stage mechanism' prevalent in the UK in which under-pricing has been found to be reduced by 10 percent to 30 percent in comparison to the traditional under-pricing in which IPOs are made at first and then the shares are listed in the secondary market. First time public financing through equity is proceeded in two stages i.e., a firm lists and lets a public market develop in the firm's existing shares in the first stage, and sells new shares to the public in the second stage.

Kandel, Sarig, & Wohl (1999) find small but significant average abnormal return of 4.5 percent from the auctioned data IPOs in Israel where the stock price is not fixed prior to the IPOs and where allocations are not determined by the issuers or the underwriters unlike in the US IPOs under book building mechanism. This implies that a small but significant under-pricing is documented even in countries where IPOs are conducted as auctions.

Kutsuna and Smith (2004) conclude that in regimes where firms can select between book building and auctioning, issuers overwhelmingly select book building from IPOs data in Japan where both book building and auction mechanisms are prevalent.

Krishnamurti and Kumar (2007) show evidence regarding the widespread under-pricing of Indian IPOs, an emerging market, which has shifted to free pricing mechanism from fixed pricing mechanism. Jaitly and Sharma (2009) show that the IPOs return is, on average, 72 percent after deregulation has been adopted. They simulate and conclude that the initial return would have been 160 percent with government restriction in the Indian IPOs market.

Gouldey (2006) finds that an IPO that is oversubscribed in the pre-market sale almost certainly will experience a short-term price increase in the secondary market. This shows positive relationship between IPOs performance and over subscription.

Operational Modality of Nepalese IPO Market

The performance of Nepalese IPO market has made it an attractive market for the investors. Shrestha (2007) observes that whenever the pubic limited companies issue new shares, the stock market gets busy with crowds of share applicants. It is evident by the heavy oversubscription and very good initial market returns in the Nepal Stock Exchange Ltd (NEPSE), the only organized stock exchange for the listing and trading of outstanding shares. (Ordinary shares, shares, equity shares and the common stocks are used interchangeably here.) The Nepalese IPO market gives issuers and their underwriters a choice of either to issue the ordinary share at par or at premium incase the annual general meeting (AGM) of the company decides to do so. However, only those companies having higher net worth than the total liabilities profit record and distribution of dividends for the last three subsequent years can issue shares at premium (Durukan, 2002). Companies can issue their shares at discount only when a special resolution is passed by the general meeting to do as per the provision under the circumstances specified in the Company Act 2007. The face value of a share shall be Rs. 50 or any about above it that is divisible by Rs. 10 for any public companies. (Company" is used to refer to the public company.) The application money should not exceed 50 percent of the face value of share for the companies as well as those companies whose audited financial statements of three subsequent years have been published. The allotment of shares has to be done within three months from the last day of the subscription of shares.

The issuing company appoints the issue manager as the mandatory provision by law in order to apply to the Securities Board of Nepal (SEBON) for the approval of public issue. The issue manager submits the due diligence certificate regarding the proposed issue along with the prospectus and necessary documents. IPOs may be underwritten by the issue manager or any other financial institutions. However, underwriting of IPOs is compulsory only for manufacturing companies. Once the application for the public issue is approved by the SEBON, the IPOs have to make within two months. Otherwise the company has to obtain approval again from SEBON for public issue. IPOs are offered at a fixed price as approved by the SEBON for public subscriptions should be open for at least for five working days.

The share allotment, refund, and distribution of share certificate have to be completed from 30 days to 60 days as per the share allotment guidelines of SEBON.

The companies apply to NEPSE for the listing. Generally, listing has to be done within 30 days from the date of the allotment. Although there is no legal barrier for the companies to opt for the over-the-counter (OTC) market, the legal provision of OTC market still exists in Nepal exist, but the practice is very rare.

Data and Methodology

To analyze the aspects of issues and subscriptions of IPOs, all of 107 IPOs from the FY 2009/10 were selected. Descriptive statistics of issues and subscription have been brought into light. The means of issues and subscriptions have been compared by way of

paired t-test in order to determine whether the oversubscription is significantly higher than the issues made over the study period.

In order to accomplish the aim of studying IPOs performance, a sample of 21 IPOs time series data has randomly been selected out of total of 107 IPOs. Audited accounting data related to the prospectuses have been collected manually from the prospectus of sampled companies from the records. Data of NEPSE has been collected from its website and the annual reports.

A regression analysis has been carried out in order to test the predictive power of firm size, age of firm, portion of public issue, debt-equity ratio, price earning ratio, Return of Nepal Stock Index, market share of issue manager, and subscription as times of issues. To investigate the factors affecting IPOs returns the following Ordinary Least Squares (OLS) model is formulated:

RET = f (FS, AGE, PI, D/E, P/E, RIDX, MSI, STI) (Model 1)

Similarly, to investigate determinants of subscriptions times of issues, the Ordinary Least Squares (OLS) method is employed under following model:

STI = f (FS, AGE, PI, D/E, P/E, RIDX, MSI) (Model 2)

Idea of Model 1 and Model 2 is different, but most of parameters used to test the models are identical, please ensure that the essence of 2 models are not significantly departed. Or test the other parameters as well.

Where,

RET	=	Return of the IPO
FS	=	Firm size at the time of IPO
AGE	=	Age of firm in years at the time of IPO
PI	=	Portion of public issue
D/E	=	Debt-equity ratio in the year prior to the IPO
P/E	=	Ratio of the IPO offering price to pre-IPO earnings per share
RIDX	=	Return of Nepal Stock Index
MSI	=	Market Share of issue manager
STI	=	Subscription times of issue

Definition of Variables

Return of IPO (RET): Return of IPO is defined as the annualized return of the initial return which is the percentage change of the stock price from its offering price on the day of public issue to the first trading day closing price in the secondary market. RET has been taken as the independent variable. The initial return has been annualized by dividing

the initial return with the holding period days and multiplying it with 365 days. The comparison of the return of IPOs with the return of stock market can be taken as the indicator of the performance IPOs. The higher the RET exceeds over the return of Return of Nepal Stock Index, the better will be the performance of IPOs and vice versa. Both of the aforementioned returns are annualized for the comparison purpose.

Firm Size (FS): Total assets of a firm can be taken as the measure of firm size. Firm size is calculated as the natural logarithm of the total assets (LnTA) of the firm prior to the IPO. The effect of size of total assets on the performance of IPOs depends on degree of efficient utilization of the total assets of the company.

AGE: The age of the firm is calculated by dividing the number of days from the date of the commencement of business to date of issuing 365 days in a year. The age variable is used as the natural logarithm of age (Ln age). The study aims to find out whether the age of a firm has significant effect on the return of IPOs or not.

Public Issue (PI): PI is the ratio of the total shares offered to the public. Generally, the firms that issue less of the equity to the public are perceived to be in a better position. The firms that have better prospects prefer to issue debt capital rather than equity capital.

P/E (P/E ratio): Ratio of the IPO offering price to pre-IPO earnings per share is calculated to determine the P/E ratio at the time of the IPO. Only the paid up value at the time of IPOs has been taken as the offering price to determine the P/E ratio. P/E ratios indicate the value of Rs. 1 earnings at the time of issue. In the context of fixed price regime in Nepal, the lower the P/E ratio, the higher will be the performance of IPOs at the secondary market is expected to fairly value the shares. No P/E ratio has been calculated when the company has negative earnings prior to the IPOs.

Return of Nepal Stock Index (RIDX): RIDX is defined as the annualized return of the NEPSE return which is the percentage change of the Nepal Stock Index from the day of public issue to the first trading day of stock in the secondary market. The NEPSE return has been annualized by dividing the NEPSE return with the holding period days and multiplying it with 365 days. Annualized return of Nepal Stock Index has been as the market return in order to measure the performance of the IPOs.

RIDX measurement can further be refined adjusting the market rate of dividend with the change in NEPSE return. But yet, you can determine the acceptable rate of market dividend considering the practice of div of majority of the listed Co.

Market Share of Issue Manager (MSIM): Market share of issue manager is the ratio of issues made by a particular issue manager out of total issues in the period of study. Market share of issue manager is a measure of the popularity of a particular issue manager. The study aims to find out whether the performance of IPOs has any significant relationship with the MSI.

At first a model is developed based on the regression analysis for all the independent variables. Then a model is proposed including the predictive variables that have predictive power at 10 percent level of significance.

Subscription Times of Issue (STI): STI is determined by dividing the amount of IPOs subscribed by the amount of IPOs issued. It indicates the demand condition for an IPO. Therefore, it can be taken as the investors' perception over the performance of an IPO. The higher the STI, the higher is the investors' perception over the performance of the IPO. This study aims to find out whether STI has any significant relationship with the RET.

Model 2 focused on finding the significance of predicting power of firms size, age, portion of public issue, debt equity ratio, price earning ratio, and market share of issue manager.

If the investors perceive that the amount of total assets is an indicator of a better company, they may demand more from the IPOs and vice versa. Model 2 tries to find out whether FS has any significant relationship with STI. This study aims to find out whether the investors prefer firms with long history or otherwise. Similarly, the portion of public issue may have an inverse relationship with the STI with larger one. This does not give a good signal to the investors. Likewise, D/E is expected to have an inverse relationship with the STI as D/E indicates the level of risk. The STI is expected to have a positive relationship with RIDX as investors expect better performance of IPOs when the market is bullish. MSI is expected to have positive relationship with STI as companies are expected to choose the issue managers, which have had larger market share in terms of amount issued. On the other hand, the investors would also choose an issue manager whose IPO management has led to better performance. The study seeks to find out whether MSI has any significant predicting strength for STI.

Data Analysis and Findings

Data analysis and findings have been carried out into two headings viz. general and regression analysis.

General Analysis of Nepalese IPOs

As of FY (2009/10)million has been issued to the public with a mean and standard deviation of Rs. 35.15 million, and Rs. 50.65 million per issue. The corresponding descriptive statistics of subscriptions are given in Table No 1. In aggregate the issues have been oversubscribed by 593 percent. The amounts of issue and corresponding subscription have moderate positive correlation of 0.53 and it is significant at 5 percent level of significance. Paired sample t-test shows that the mean subscription of Rs. 243.61 million is significantly higher than the mean issue of Rs. 35.15 million. We can infer the heavy oversubscription of IPOs form this test. Table 1 shows the mean, median mode of issues and their subscription as well.

Table: 1 Descriptive Statistics of IPOs

(Rs. in Million)

	Issue	Subscription
Mean	35.15	243.61
Median	16.50	77.32
Mode	8.00	N/A
Standard Deviation	50.65	451.69
Minimum	2.00	1.03
Maximum	237.41	2,798.00
Sum	3,760.53	26,066.36

Table 2 shows the descriptive statistics of annual IPOs in terms of both number and issued amount during the study period of 13 years. It further shows that the annual issues in terms of number as well as amounts are not smooth over the study period.

Table: 2 Descriptive Statistics of Annual IPOs

	Number	Issued Amount (Rs. in Million)
Mean	8.23	289.27
Median	8.00	227.90
Mode	10.00	N/A
Standard Deviation	4.09	175.29
Minimum	2.00	57.00
Maximum	14.00	657.50
Sum	107.00	3,760.53

Table 3 shows that the number of IPOs and the amount of IPOs has positive correlation and the correlation is significant at 10 percent level of significance.

Table: 3 Correlation between Number and issued Amount of Annual IPOs

Pearson Correlation	0.520
Sig. (2-tailed)	0.069
N	13.000

Table 4 shows that the higher the amount of issue, the higher will be the amount of subscription. The positive correlation of 0.53 is significant at 5 percent level of significance.

Table: 4 Correlation between the Issue and Subscription of IPOs

Pearson Correlation	0.530*
Sig. (2-tailed)	0.000
N	107.000

*Correlation is significant at the 0.01 level (2-tailed).

Paired sampled t-test has been carried out in order to find out whether the average of subscriptions is significantly higher than that of the issues.

Table: 5 Paired Samples Test

		Paired Differences		T	df	Sig. (2-tailed)
		Mean	Std. Deviation			
Pair 1	IPOs issues-IPOs Subscription	-208.46	426.98	-5.05	106	0.000

Table 5 shows that the average amount subscribed is significantly higher than the average amount of issues at 5 percent level of significance.

Return Analysis of IPOs

The annualized mean return of IPOs is 63.43 percent, which is much higher than the annualized mean return of NEPSE, which is only 10.18%. This shows that the Nepalese IPOs are under-priced in comparison to the overall market returns. (Indicate the specific study and their findings) The standard deviation of annualized returns of IPOs and NEPSE are 88.4 percent and 25.7 percent. It shows that the returns of IPOs in Nepalese market are more risky than the overall stock market returns. The statistics are given in Table 6.

Table: 6 Paired Samples Statistics of Annualized Returns of IPOs and NEPSE

s		Mean	N	Std. Deviation	Std Error Mean
Pair 1	Annualized IPOs	0.6343	21	0.88406	0.19292
	Annualized NEPSE	0.1018	21	0.25706	0.05610

The correlation between annualized returns of IPOs and NEPSE is positive at the lower end. It is also not significant at 5 percent or 10 percent level of significance. This shows that the IPOs returns move to the similar direction of market returns but the conclusion is not definitive. Table 7 summarizes the explanation.

Table: 7 Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Annual IPOs & Annual NEPSE	21	0.309	0.173

The mean returns of annualized IPOs are higher by 53.25 percent than that of NEPSE. The paired sample t-test shows that the mean return of annualized IPOs is significantly higher than that of NEPSE at 5 percent level of significance. The results are given in detail in Table 8.

Table: 8 Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Annualized IPOs-Annualized NEPSE	0.53248	0.84093	0.18351	0.14969	0.91526	2.902	20	0.009

The Regression Analysis

The results of regression analysis identify the factors affecting IPOs returns on all variables explained in the methodology, which is given below:

RET = -2.40 + 0.091 FS + 0.020 AGE + 2.00 PI - 0.0053 D/E - 0.00009 P/E + 1.36 RIDX + 0.50 MSI + 0.0340 STI ..... (1)

The significance of coefficients of independent variable is found to be very low in the above model. Besides, the problem of multi-co linearity has been found among the independent variables. Therefore, all the variables except subscription as times of issue (STI) and Annualized NEPSE Return (RIDX) are excluded for regression analysis, as other independent variables are found to have insignificant prediction strength to the annualized return of IPOs (RET). The finding that P/E ratio does not have any significant relationship with IPOs in Nepalese market is in line with the finding of Kim and Ritter (1999). Therefore, the regression analysis has been rerun with the annualized NEPSE return and the subscription as the times of issues as the independent variables.

The result of rerun regression is found as below:

RET = f (RIDX, STI) has been obtained as

RET = 0.028 + 2.00 RIDX + 0.0461 ST..... ..... (2)

Table: 9 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.558 (a)	0.311	0.234	0.77355
A Predictors: (Constant), Annualized NEPSE Return (RET), Subscription times issues (STI)				

The study shows that 31.1 percent of the variation in the IPOs returns can be explained by the NEPSE returns and subscription as the times of issues.

Table No 10 shows that the regression model shows the significant relationship at 5 percent level of significance between the dependent variable viz. IPO return and the independent variables viz. NEPSE returns and subscriptions as times of issues. The positive coefficients of both STI and RIDX show that they have significant positive relationship with the RET.

Table: 10 ANOVA (b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.860	2	2.430	4.061	0.035 (a)
	Residual	10.771	18	0.598		
	Total	15.631	20			
A Predictors: (Constant), Annualized NEPSE Return (RIDX), Subscription times Issues (STI)						
B Dependent Variable: Annualized IPO Return (RET)						

Table 11 shows that both of the independent variables i.e. STI and RIDX are very good predictors as their relationship is significant at 5 percent level of significance. It also shows that there is still nominal problem of multi-co linearity and therefore, has insignificant effect on the model. NEPSE return has a little bit more strength to affect the IPOs return than the subscription times of issues as RIDX has slightly higher standardized beta coefficient than the STI.

Table: 11 Coefficients (a)

Model		Un Standardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	0.028	0.278		0.101	0.921		
	Subscription times Issues (STI)	0.046	0.019	0.539	2.372	0.029	0.743	1.347
	Annualized NEPSE (RIDX)	2.003	0.781	0.582	2.565	0.019	0.743	1.347
A Dependent Variable: Annualized IPO (RET)								

Regression analysis has been performed in order to identify the significant factors affecting the subscription times of issues. The results of regression analysis excluding the insignificant factors are given below:

$$STI = -87.9 + 5.14\ FS - 0.244\ D/E \quad \ldots\ldots (3)$$

The analysis shows that the firm size has positive relation and the debt equity ratio has negative relation with the level of subscription. The details of the results are given by the following table:

Table: 12 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.526 (a)	0.277	0.187	9.49538
A Predictors: (Constant), Debt equity ratio (D/E), Total Assets (FS)				

Table 12 shows that D/E and FS explain 52 percent of the variation in the subscription times of issues with 90 percent level of confidence.

Table: 13 ANOVA (b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	552.684	2	276.342	3.065	0.075 (a)
	Residual	1442.595	16	90.162		
	Total	1995.279	18			
A Predictors: (Constant), Deb equity ratio (D/E), Total Assets (FS)						
B Dependent Variable: Subscription times Issues (STI)						

Table: 14 ANOVA (a)

Model		Un-Standardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-87.881	39.920		-2.201	0.043		
	Total Assets (FS)	5.143	2.095	0.764	2.454	0.026	0.467	2.143
	Debt Equity Ratio (D/E)	-0.244	0.121	-0.627	-2.014	0.061	0.467	2.143
A Dependent Variable: Subscription Times Issues (STI)								

Table 14 shows that both predicting variables beta coefficients are significant at 95 percent level of confidence. There is some degree of multi-co linearity as Variance Inflation Factor (VIF) is 2.143 for both variables. However, the VIF is much lower than the typical cutoff point of 5, which means there is less adverse effect of multi-co linearity in the model. The higher standardized beta coefficient of FS shows that FS has greater effect than the D/E.

Conclusion

Nepalese IPOs have been found to be heavily oversubscribed. It shows that the investors have a very high degree of attraction to the IPOs. The study shows that growth of Nepalese IPOs in terms of issues and subscription has been bumpy during the study period. The study shows that the IPOs investors make 53.25 percent market adjusted returns leading to the conclusion that Nepalese IPOs are highly under-priced. IPOs returns have been affected mainly by the subscription times of issue and general return of stock market. The positive relationship of oversubscription with the return of Nepalese IPOs is in line with the findings of Gouldy (2008). The study also reveals that the firm size expressed as the size of total assets affects the subscription times of issues positively and the debt equity ratio affects the same negatively. The study has shed light on some of the important aspects of the IPOs performance and opened several doors for the further researches in Nepalese IPOs.

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