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# Financial Performance and the Management Issues of Bumiputera Construction Firms in the Malaysian Construction Industry

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***Authors' contributions***

*This work was carried out in collaboration between all authors. All authors read and approved the final manuscript.*

***Original Research Article***

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## ABSTRACT

**Aims:** Financial factors are significantly related to the performance of construction firms. Moreover, total failure of the construction firms is higher than the percentage of failures of firms in other industries. Therefore, this study was conducted to achieve three objectives. First, this study identifies the failure factors of Bumiputera contractors by using ratio analysis. For this analysis, four financial variables were chosen, which are capital liquidity, profitability, debt, and the efficiency of financial management/assets. The second objective identifies the causes of failure associated with the four financial variables. The third objective identifies the elements of effective financial management.
**Methodology:** To achieve these objectives, data collection involved the use of qualitative (ratio analysis and interviews) and quantitative (questionnaire) research methods that led to the concept of triangulation. Respondents to the qualitative study consisted of 6 Bumiputera construction firms, while the quantitative data had 54 respondents.
**Findings:** The findings of the analysis showed the firms had shortage of capital to finance projects, received small profit from construction projects, carried higher debt, and were less efficient in asset management. The study confirmed that capital problems experienced by the firms resulted from the small capital at the start of their business, and

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the late payment from the clients (progress and final payment). Small profit margin was due to the increase in the prices of building materials, low price of contracts, and delays in project completion. Analysis showed that the higher debt of firms was caused by delays of the payment of the project owner, small capital base, and late receipt of advance payments. Moreover, asset management of the firm was said to be less efficient due to the level of ownership of fixed assets at a higher rate, and the improper management of cash flow.
**Conclusion:** It was observed that construction companies put themselves up for failure without effective financial practices.

*Keywords: Construction industry; financial management; financial failure; financial performance and construction firms.*

## 1. INTRODUCTION

The construction industry plays a very important role in the success of major national policies and strategies today. Nevertheless, the image of the construction industry has long been criticized and associated with abandoned projects and shoddy work [1]. This situation has given a bad impression about the performance of the contractor firm. Russell [2,3] stressed that when contractors fail to complete the work in accordance with the agreed contract, the project owner can take legal action. Consequently, the firm will not have enough income to cover the costs and net asset value if the firm is in a negative situation and is unable to pay debts to creditors.

Several studies have demonstrated across a range of perspectives that the problem of failure in the construction industry is not only domestic, but is a global problem as well [4]. Langford [5,6,7] described the failure of the firms as resulting from the percentage of contractors in the construction industry being more prominent than the percentage of failure of business firms in other industries. For example in the United States, the number of contractor operating between 2004 to 2005 has declined from 850.029 firms in 2004 to 649.602 in 2005, which was a decline of nearly 24% [7]. The percentage of firms failing in the United States is about 14%, which is higher when compared with business firms in other industries that have less than 12% rate.

According to “The New York Times” (April, 2002) as cited from [8], the two largest contractors in Japan, “Sato Kogy Company” and “Nissan Construction” have declared for bankruptcy. A similar situation was faced by the second largest contractor in Germany, “Philipp Holzmann AG,” which has been in operation for more than 150 years, when it declared bankruptcy. In addition, studies by [9,10,11] in Saudi Arabia, [12] in Ghana,[13] in Negaria, [14] in Jordan, [15] in Turkey, described how many firms have failed contractors in the construction industry.

The Malaysian construction industry is experiencing the same phenomenon. The number of failed contractor firms is high. Yin [6] stated there are only a small number of successful contractors in Malaysia, and relatively more bankruptcies in the construction industry compared to other industries. Sambasivan and Soon [16] reported the failure of many contractors to complete their work on schedule. Hence, a number of construction projects in Malaysia have experienced overruns in cost and time [17]. Other researchers such as

[18,19,20,21] reported the failure of contractors in the construction industry in Malaysia as well.

## 2. PROBLEM STATEMENT

Several studies have analyzed the performance of contractors in the construction industry, such as [22,10,23,24,25,26,27,28,29,6,30,31,32,11,18,33,7,21]. These studies found that financial factors significantly caused the failure of contractors. The significance of the above-mentioned studies has contributed to the discovery of the four financial factors that have resulted in difficulties for most of the contractors. First, a contractor faces shortage of cash to fund their construction projects. Second, a contractor enjoys a small profit or a loss from projects. Third, the contractor firm has high debt burden. Fourth, firms inefficiently manage their assets.

The identification of the four financial factors as described above is significant to domestic contractors because the results can provide suggestions to these firms concerning the competition in the industry. However, according to the best of the knowledge of the researcher, no comprehensive research has been done to clarify the financial performance of firms involved with domestic contracts. A few studies on the quantitative domestic level led to the discovery of several financial factors that contributed to the poor performance of the contractor firm [34,30,31,6]. However these studies did not focus on financial issues, and were more interested in the general view of the factors that led to the failure of a contractor performance as well as non-financial factors. This gap has prompted the researcher to perform in-depth studies to analyze the financial difficulties faced by contractors in the domestic construction industry.

## 3. RESEARCH OBJECTIVE

Based on the statement of the problem that has been described above, this study generally aims to assess the role of factors associated with symptoms of failure of financial firms to domestic contractors. More specifically, this study aims to achieve the following three objectives:

1. To identify the failure factors of Bumiputera contractors by evaluating the financial ratios of four financial variables according to:
    a. Capital liquidity of the firms
    b. Profit level of the firm
    c. Debt burden of the firm
    d. Efficiency level of the asset management of the firm
2. To identify the causes of failure associated with the four financial variables described above
3. To identify and to propose elements of effective financial management of the Bumiputera contractors

## 4. RESEARCH QUESTION

To achieve all the objectives, the three questions that form the direction of this study are as follows:

1. What factors led to the failure of financial firms of the Bumiputera contractors?
2. What factors caused such financial failure?
3. What are the elements of effective financial management guidance for Bumiputera contractors?

## 5. RESEARCH METHODOLOGY

Data collection for this study involved qualitative and quantitative research methods. Qualitative data were obtained through case studies (ratio analysis and interviews), which were the main sources of the study. Meanwhile, quantitative methods were used to support the qualitative research. Using qualitative and quantitative methods lead to triangulation. The concept of triangulation strengthened the study, and thus served as a method for assessing the reliability of the study based on the recommendation of [34,36,37,38].

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Fig. 1.1 illustrates the three methods used by researchers to obtain data for the study. Method (1) engages ratio analysis performed on the financial statements (three years) of selected contractors (six large and medium-size contractors). To achieve this aim, 17 financial ratios (Appendix 1) were used in this study. In method 2, interviews with owners of the firms were conducted. The step verifies the findings from the ratio analyses. Next, method (3), which was the quantitative survey, assesses the perception of other contractors on the findings of methods (1) and (2). The study mailed 250 questionnaires to contractor firms. Patton [39] defines the concept of triangulation in research as a process that can be used to avoid accusations that the findings of the study are inclined to one source, or a single method, or a researcher only.

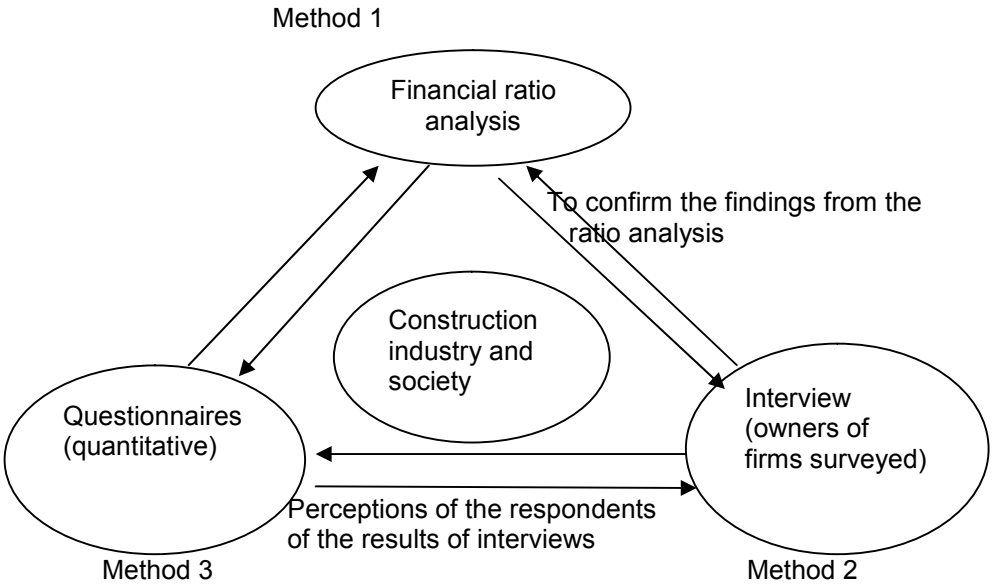


**Fig. 1.1. Triangulation**

## 6. SUMMARY OF THE RESULTS

This study initially highlighted several issues related to the performance failure of a contractor in the construction industry. Empirical results from previous research indicated that contractor failure was due to the financial problems faced by the contractors. This problem resulted in failure to complete the project and caused losses to the firm. Implications to the firm, the project, and the construction industry provided significance to this research. The overall study was divided into three phases, which were carried out in stages. The implementation of the first phase achieved the first objective of the study, while the second and third phases aimed to accomplish the second objective of the study. The third objective of the study is to propose a guide for more effective financial management to strengthen the financial management system of a contractor firm.

The first phase of the study identified the failure factors of Bumiputera contractors through an evaluation of financial ratios of four financial variables that highlighted the firm capital liquidity, profitability, debt, and efficiency in managing their assets/financial resources. To achieve the first objective, the research question posed asked whether financial factors caused the failure of a contractor. This question was answered through financial ratio analysis. Seventeen types of financial ratios that were introduced by [8] measured the financial position of the firms surveyed. Seventeen analysis results were sorted according to the ratio of the four financial variables to avoid duplication of information when making comments (Appendix 2). The ratio analysis resulted in four financial phenomena.

*First,* the analysis showed that the level of capital liquidity of the contractors on average was lower than the industry average. This situation showed that the firms have been facing a shortage of cash capital to finance their construction projects. *Second*, the contractor firms enjoyed a small profit margin from construction projects they had undertaken. *Third,* the contractors were highly dependent on debt capital to finance their project, and thus, were burdened with high debt. *Fourth*, these firms were less efficient in managing their financial resources or assets. The findings from this analysis indicated the financial position of a firm, and subsequently achieved the first objective and provided an answer to the first research question.

The second objective of the study identified the causes of failure associated with the four financial variables presented above. To achieve these objectives, the research aimed to answer the question, “What factors cause such a financial failure?” To explain this phenomenon, the second phase of the study (interviews) was conducted

Through this phase, seven factors that caused the low liquidity of firm capital were identified. *First,* a contractor started the business with a small capital base. *Second*, a contractor received late progress payments. *Third*, a contractor found difficulty in obtaining bank loans because of the absence of the pledged fixed assets. *Fourth,* they lacked efficient cash management. *Fifth*, clients had late payment of the final account. *Sixth,* the percentage of paid up capital of the firm in the form of cash was small. *Seventh*, the firm was not paid according to the work done. The level of interest of the evaluated causative factors was based on the perception of the respondents obtained from the third phase of the study (a survey using questionnaire). The perception of the respondents were generally seen as positive and classified as a moderately important factor based on the interpretation of Oxford [40]. However, the seventh factor was able to obtain a majority of the respondents, and thus, was classified as a less important factor.

Furthermore, six factors that led to the small profits obtained by a contractor were identified. *First,* the rise in prices of construction materials during the implementation of the project narrowed the profit margin. *Second*, the contract had a low price. *Third*, the project could not be completed on time. *Fourth*, a contractor was too dependent on creditors for financial resources. *Fifth*, the financial cost was high. *Sixth*, the financial management of the contractor firm was weak. From the perception of the respondents, all these factors were significant according to the interpretation of Oxford. The positions of the mean scores of all factors were beyond the low-level maximum (min>2:49). Meanwhile, factor price increases that occurred during the construction work and the lower contract price were selected as two very important factors contributing to the minimum profit firms and classified in the high group.

Moreover, eight factors why a contractor obtained high debt burden were identified. *First,* late progress payment received from the client disrupted the cash flow. *Second*, the factor of having a small capital base of the firm is another cause. *Third,* the delay in the receipt of the advanced payment of the contractor led to the debt burden. *Fourth*, advanced payment was not sufficient to cover the initial capital requirement of the project. *Fifth*, some of the firm capital was in form of fixed assets. *Sixth*, the attitude of the contractors was considered a factor as well. However, the seventh and eighth factors are considered non-significant factors based on the perception of quantitative respondents. These factors included the case when the value of the undertaken project exceeded the capacity of the firm capital, and the insufficient capital due to the expansion of the firm size.

The fourth phenomenon associated with poor performance from a contractor detected through ratio analysis indicated inefficient management of firm assets. However, making exact measurements of the efficiency of their firm asset management was difficult. Some firms deliberately overvalued their assets compared to the actual value for some specific purpose. As a result, some of the findings of the efficiency ratio did not give the true picture. The findings from this analysis thus had to answer the second research question, and to achieve the second objective of the study.

The third objective of the study was to identify and to propose elements of effective financial management of the Bumiputera contractors. This part aimed to strengthen the existing financial management system of the contractor firms. To achieve these objectives, the research questions focused on the elements of effective financial management guidance for a contractor.

The objective of this study was formed as a result of the three-phase exploratory study described previously. The results obtained showed that a contractor did not have a system of prudent financial management. In this case, the weakness of a contractor was shown in the planning of the movement of cash flow for projects. Kaka [41,22,25,28,32,42,43,44,21] reported on similar situations. Hence, to achieve the goals of this study, an effective method of cash management was proposed. The proposal recommends the implementation of one account for one project, which should replace existing cash management practices. Through this new method, the transaction of cash flows must be separated according to specific projects to facilitate the monitoring of the project cash flow. Fig. 1.2 shows an overview of the cash flow management system currently practiced by local contractor firms.

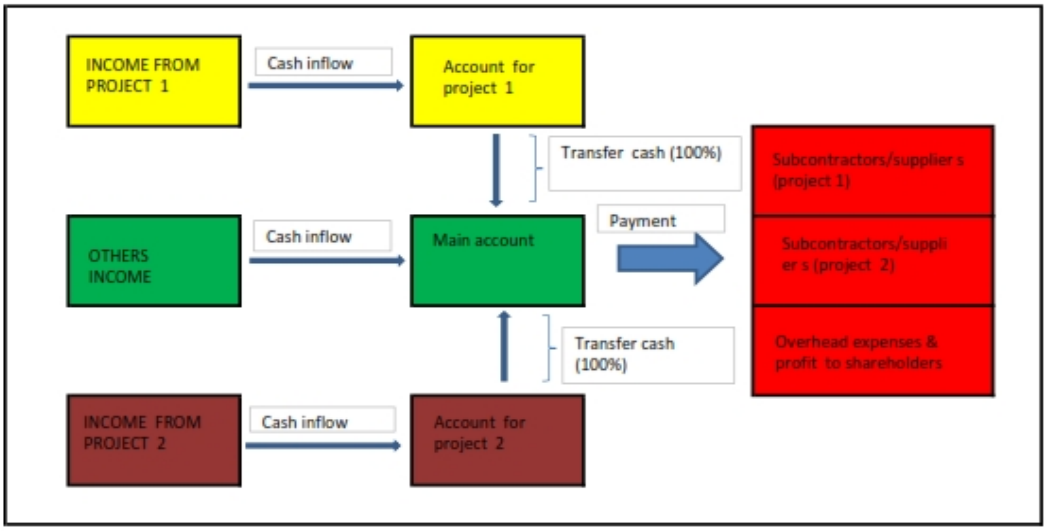


**Fig. 1.2. Cash flow management system currently practiced by a contractor**

Generally, the practice is to have all income from any of the projects integrated into the main account. For example, income from project (1) shall be allocated in the main account of the firm. The money will then be paid to all creditors and subcontractors, even if they are not part of project 1. Another aspect is that the income can be partly used to pay administrative costs. The respondents said they practice such so that all creditors and subcontractors get paid even with a little amount. Such action had to be done because some of their later projects receive late progress payments. However, this practice made it more difficult for the firm to ensure the movement of the project cash flows based on the estimated cash flows of the project. These actions also placed the on-going projects in high-risk situations.

Fig. 1.3 shows the proposed cash flow management system account for a project. By this method, each project has its own cash account. The income from project (1) will only be used to finance creditors and subcontractors of the said project only. Only gross profits from the project can be used by firms to fund overhead expenses and to pay profits to shareholders. This proposal allows for the better monitoring of the movement of cash flow for the project.

Therefore, the recommendations on the above financial management concepts answered the third research question on the elements of effective financial management guidance to a contractor. At the same time, this finding achieved the third objective of this research.

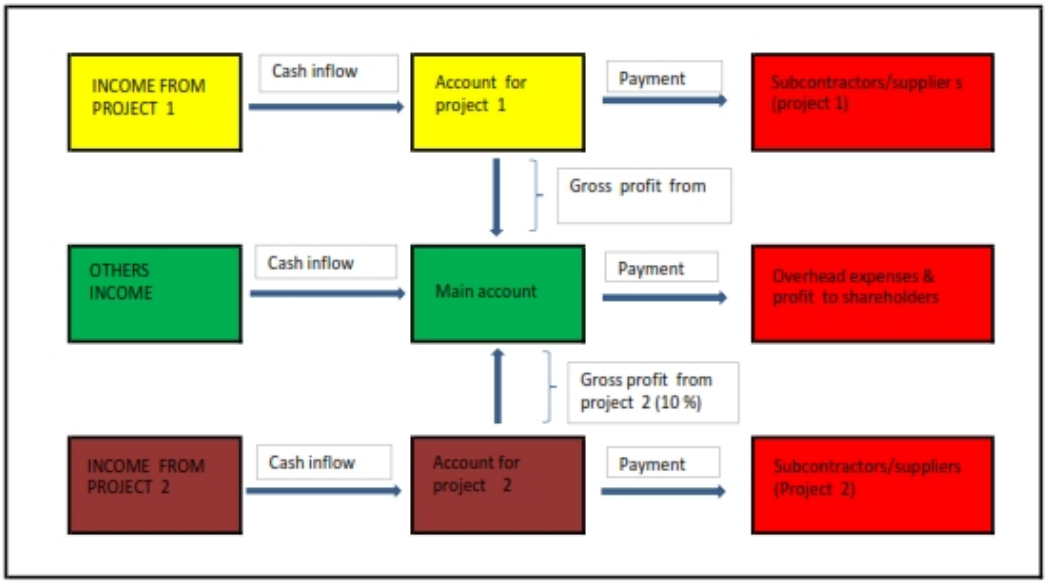


**Fig. 1.3. Proposed cash flow management system**

## 7. CONCLUSION

Most Bumiputera contractors are faced with a critical financial performance. Based on the results of the analysis performed on four groups of financial ratios (liquidity, profitability, leverage, and efficiency), the average firm is under four tight financial situations. These situations are the lack of enough capital of the contractor to fund projects they undertook; unrealistic profit from construction projects; high debt burden; and lack of efficient management of asset. Furthermore, the study confirmed that the capital problems experienced by the firms were caused by the small capital the firm had during its start; delays in receiving payments and progress payments from the client; smaller profits due to higher prices of building materials; low price of contracts; and contractor delays in the completion of the project. Other factors included high debts of firms due to delays in the payment of the project owner; the capital base of small firms; late payment; less efficient management of assets; acquisition of fixed assets at high rates; and no cash flow planning.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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# APPENDIX

## Appendix 1. Seventeen Financial Ratios with Industry Average

| Ratios | Industry Average (Median) |
|---|---|
| 1. Current Ratio (CR) | 1.5:1 |
| 2. Quick Ratio (QR | 1.2:1 |
| 3. Current Liabilities-to- Net Worth Ratio.(CL/NW) | 1.12:1 |
| 4. Debt-to-Equity Ratio (DER) | 1.3:1 |
| 5. Fixed Assets-to-Net Worth Ratio (FA/NW) | 0.24:1 |
| 6. Current Assets-to-Total Assets Ratio (CA/TA) | - |
| 7. Collection Period (CP) | 48 days |
| 8. Average Age Of Accounts Payable (AAAP) | 45 days |
| 9. Assets-to-Revenue Ratio (ARR) | 29% |
| 10. Working Capital Turns (WCT) | 12.1:1 |
| 11. Accounts Payable-to-Revenue Ratio (APRR) | 7.9 % |
| 12. Gross Profit Margin (GPM) | 17 % |
| 13. General Overhead Ratio (GOR) | Less 10 % |
| 14. After Tax Profit Margin (ATPM | 2.2 % |
| 15. Return on Assets (ROA) | 6.5 % |
| 16. Return on Equity (ROE) | 16.7 % |
| 17. Degree Of Fixed Assets Newness (DFAN) | 40% |

**Appendix 2. Summary of the 17 financial ratios by group**

| No | Category | Ratios | Firm A | Firm B | Firm C | Firm D | Firm E | Firm F | Industry Average | Average Result |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Liquidity ratios | CR | 1.12:1 | 1.05:1 | 0.97:1 | 1.35:1 | 1.07:1 | 1.34:1 | 1.5:1 | Worse than Industry Average |
| | | QR | 0.66:1 | 0.52:1 | 0.60:1 | 0.69:1 | 1.10:1 | 0.91:1 | 1.2:1 | Worse than Industry Average |
| 2 | Profitability ratios | GPM | 4.7% | 10.6% | 6.96% | 11.98% | 9.06% | 7.52% | 17% | Worse than Industry Average |
| | | ATPM | 0.78% | (0.14)% | 1.17% | (5.56)% | 0.24% | (0.48)% | 2.2% | Worse than Industry Average |
| | | ROA | 1.8% | (0.97)% | 2.07 % | (7.4)% | 1.69% | (1.28)% | 6.5% | Worse than Industry Average |
| | | ROE | 16.1 % | (10.5)% | 20.25% | (72.6)% | 4.5% | (2.45)% | 16.7% | Worse than Industry Average |
| 3 | Leverage/ debt ratios (Gearing ratios) | CL/NW | 6.47:1 | 9.06:1 | 7.59:1 | 14.62:1 | 2.43:1 | 3.84:1 | 1.12:1 | Worse than Industry Average |
| | | DER | 6.68:1 | 9.41:1 | 8.19:1 | 37.53:1 | 2.53:1 | 3.84:1 | 1.3 | Worse than Industry Average |
| | | AAAP | 63 days | 94 days | 89 days | 146 days | 38 days | 94 days | 45 days | Worse than Industry Average |
| | | APRR | 14.1% | 21.4% | 24.8 % | 24.3 % | 8.74% | 22.8 % | 7.9% | Worse than Industry Average |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4 | Efficiency ratios/assets management ratios | FA/NW | 0.66:1 or 66% | 0.71:1 or 71% | 1.65:1 or 165% | 9.28:1928% | 0.35:135% | 0.16:1 16 % | 0.24:124% | Worse than Industry Average |
| | | CA/TA | 0.899:1 | 0.93:1 | 0.77:1 | 0.71:1 | 0.90:1 | 0.96:1 | | Worse than Industry Average |
| | | CP | 47 days | 83 days | 8.7 days | 127 days | 22 days | 39 days | 48 days | Worse than Industry Average |
| | | GOR | 3.2% | 8.97% | 5.29 % | 17.85% | 8.27% | 9.26 % | Less than 10% | Worse than Industry Average |
| | | ARR | 42% | 49 % | 71.7% | 96.3% | 16.7% | 35.5% | 29% | Worse than Industry Average |
| | | WCT | 43.7:1 | 3.4:1 | 33 :1 | (0.02):1 | 26.9 :1 | 22.9 :1 | 12.1 | Worse than Industry Average |
| | | DFAN | 85.6% | 74.1% | 87.2% | 88.7% | 85% | 83.8% | 40% | Worse than Industry Average |



*Peer-review history:*
*The peer review history for this paper can be accessed here:*
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