Abstract:
This paper aims to examine the supply and demand situation of Quantity Surveying / Construction Cost Consultancy Services in Indonesia, from Economic Policy perspective. Since the construction industry in Indonesia is growing rapidly therefore the respective study is become necessary in order to develop and fullfil the market requirement, not only locally or regionally but even can be as a wider reference. One thing for sure that this study is just a preliminary and further elaboration is needed. Furthermore, in the conclusion and actions recommended are made for the practitioners who willing to involve in the related industry.

Keywords: Construction Cost Consultancy/QS services, Economic Policy perspective, Indonesia Construction Industry, Supply Demand Analysis.
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SUPPLY AND DEMAND ANALYSIS OF QUANTITY SURVEYING / CONSTRUCTION COST CONSULTANCY SERVICES IN INDONESIA

INTRODUCTION

The functions of the Quantity Surveying / Construction Cost Consultancy Services are broadly concerned with the control of the cost on construction projects. The methods employed, however, cover a range of activities which may include cost planning, value engineering, feasibility studies, cost benefit analysis, lifecycle costing, valuation, and cost estimation. Some senior quantity surveyors are known as construction economists, cost engineers or construction managers. Quantity surveyors control construction costs by accurate measurement of the work required, the application of expert knowledge of costs and prices of work, labor, materials and plant required, an understanding of the implications of design decisions at an early stage to ensure that good value is obtained for the money to be expended. The technique of measuring quantities from drawings and specifications prepared by designers, architects and engineers principally, in order to prepare Tender/Contract Documents, is known in the industry as taking off. The quantities of work taken off typically are used to prepare bills of quantities, the which usually are prepared in accordance with a published standard method of measurement as agreed to by the QS profession and representatives of the construction industry.

Quantity surveying practices have had a presence in Indonesia since early 1970s, primarily serving the private construction sector plus the oil and gas industries. A decree of the President states that a pre-qualification system should be followed in tendering for consultancy work on government projects. The procedure is set out in the decree and a standard tender procedure has been added to the decree in a memorandum from the Minister of Public Works. Competition is important, especially on very large projects. In the private sector, the procedure is more flexible, but still follows the basic government rules. QS expertise in financial management of the project is required by developers (private and public), contractors, consultants, banks, insurances and other industries.

The growth of Indonesian construction industry now a days is getting faster since stagnation happened during monetary crisis in 1997 on then political turmoil on 1998 and a few years afterwards, so practically construction industry just commenced again and has a quiet significant progress on year 2002 onwards. As we known basically construction industry has some sub-sectors as consists as follows: Sub-sector of the Property (such as: all commercial buildings like the superblock, mixed use, offices, shopping mall / trade center, hotel, apartment, industrial estate and also residential also like housing, real estate); Sub-sector of Heavy Construction-Infrastructures (such as: bridge, dam, canal, road, highway, airport, harbor, ferry terminals, power plants, etc). Those above two sub-sector sometimes did not grew concurrently, all depends on some indicators like supply and demand in the market; government policy / protection system; situation on the global-regional-national economics and so on. Even though the cycle of construction of business investment would be able to show us that the amplitudes sometimes are high / peak and sometimes are low / through, thus
during the monetary crisis considered as part of the cycle of the system but the level of amplitude was out of expected, the only things we have to do is to minimize the level of amplitude or as a business practices, we can do the suitable and relevant steps for the coming years in order to anticipate that the respective cycle.

Herewith one of the examples of the investment value table and followed by the business cycle charts for property business in Indonesia from the year 1970 up to the year 2010:

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<tbody>
<tr>
<td>Value ($ billion)</td>
<td>0.2000</td>
<td>0.9400</td>
<td>1.4200</td>
<td>2.4800</td>
<td>2.9500</td>
<td>0.9659</td>
<td>9.2778</td>
<td>10.8200</td>
</tr>
</tbody>
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Sources: Reference No.2, 4, 5 and own analysis

Later on next chapter, we would like to go through further in regard to the above chart to comprehend the analysis of supply and demand of the construction industry especially the topic for this paper.

DEMAND ANALYSIS

In today’s globally competitive world, customers are more knowledgeable, more analytical, more demanding, exposed to more strategic information and more choices. This condition makes the customer’s expectation grows faster than the customer’s actual experience / perceived value. Customers will feel satisfy if their actual experience is more than their expectation. In order to survive, win the competition and grow the business, the companies need to understand the change, take the lead and even create the change. Customer satisfaction is an essential performance metric to track the market performance. Customer satisfaction is also a barometer of future revenues and profits, it is a good leading indicator of operating performance. In order to reach that expected level of customer satisfaction that then
first thing we have to do is to read the market demand so we will not forecast differently. On this paper we just try to determine the market demand as the following statements. From the table and chart shown on previous page in regards to Business Cycle that we may say that the fluctuation of property investment business is implicitly will face ups and downs conditions, since the first five year plan (Repelita I) in 1970 until the third five year plan (Repelita III) in 1980, the annual growth of this sector was 16.8% and in 1985 when recession happened the growth rate was only 1% and at the end of the 80’s was picking up until before the monetary crisis in 1998 the property industry was in the high amplitude position which decrease sharply afterwards in the monetary crisis which marked by the ended of almost all property projects which means in the lowest amplitude position then stagnant until 1999 and then start picking up in 2000 for starting for quite significant in 2002 onwards until 2005 in the peak position then in 2006 and 2007 starting to decline and in the year of 2007 due to the BI (Indonesia Central Bank) rate in the ideal position (though market still hopes to be more decline on year 2008 in amount of 8%), therefore the highest amplitude condition will be impacted around 3 years ahead which refers to property analysts due to market absorption to the existing supply on year 2008 and 2009, therefore in the year 2010 to 2011 will be in the peak position then subsequently stabilize unless we have to do further analysis on growth opportunity due to open new land for new development provided the excess demand is there, perhaps from regulation for foreigner entitled on property ownership. The fact is in overall within last 35 years, the fluctuation of the property business has variety amplitude levels and within variety years depends on the indicators which need to be reviewed in details. So far the highest amplitudes during the respective periods as has happened for 3 times which was somewhere on the early 90’s then on, 1997 (exactly before monetary crisis) and on year 2005.

We can see the trends when reached the highest amplitudes among those three become increasing coming to the present time, that because of the population being increased also, value of money is become smaller, therefore the investment amount also bigger. Another thing would have to highlight is regarding the market absorption since the market trend after year 2005 is decreased due to some reason like BBM (fuel) increased, oversupply on some sub-sector of the property, so that is why the absorption period will be taken place somewhere on year 2008 up to 2009 then afterwards will have another highest amplitude somewhere on year 2010 up to 2011 in amount of definitely higher than previous highest amplitudes, provided supported by stable economics in global, regional and national, in other words, such as global oil crude prices, US economic (like housing sector/sub prime mortgage), Rupiah currency (especially to US Dollar) should be in reasonable levels. Another consideration is regarding the current status as a developing country that obviously indeed require significant growth in construction development so that require decades in order to stabilizing, therefore can consider this construction industry has a sustainable growth, at least for the next two decades.

On our demand analysis, we try to take one sample based on BIES data and our government amount of data that is shown on year 2007 GDP of about Rp 4,000 Trillion, then the investment is about 22% of GDP in amount of Rp 880 Trillion, the Construction sector is about 77% of Total Investment, let say Rp 680 Trillion (consisting of Property <±45%> and Infrastructure <±55%> ) then we can apply the prediction on construction growth for the coming year let say 7%, thus the amount of investment value for the coming year can be forecasted already. However we will not apply the abovementioned amount but we will apply the property investment value amount based on the previous table that is show for expecting year 2010 in amount of $10.82 billion or Rp 108.2 Trillion. Why we choose property side
only instead of overall construction including infrastructure?, the answer that because of the optimum level of QS services utilization only happened on the property side. For infrastructure side (especially government projects) still did not utilized for QS services even though lately due to foreign investors involved on the government projects so that QS services is needed. Actually, the demand on QS consulting services come from the following sources:-

- **Investors / developers**
  Lately, a lot of foreign investors came to invest by informally joint with local developers, that foreign investors usually ask for QS consulting services in order to commence their activity.

- **Contractors (property, infrastructure, oil & gas, etc)**

- **Banks (related to loan matters, either advise on approval or term of issuing loans / drawdown)**

- **Insurances (related to claim matter including dispute resolution)**

- **Teleworking (to support global-regional construction shortage on Bill of Quantities – BQ Document preparation in order to go to pre-qualification system of tendering process)**

- **Supply trained QSs to the fast growing countries all over the world, either for pre-contract or post-contract as a part of the construction works**

I believe from the possibility of demands above that opportunity on QS consulting services still promising. Even though the constraint for these services have to consider also, like ‘in-house’ QS sometimes attached to the respective developers, contractors, etc. Normally all QSs in Indonesia has not get formal QS education yet, since the formal education institution established only on year 2002 at Bung Hatta University. Meaning that mostly all QSs are learning the knowledge from their experiences in the International QS Consultants, actually most of their educational backgrounds are from Civil Engineering, Architect, Mechanical & Electrical Engineering. On other words, the first thing for all of those QSs are considered have no comprehensive knowledge even though they are mostly all experienced, another thing regarding in-house QSs is about their limitation on production so normally happened whether a limited budget for in-house QS so the owner can only get very limited package or sometimes happened like in-house QS function as a supervisor for their engaged QS consultant.

Demand assumptions on this paper are as follows:-
Just apply for the investment value on property only (instead of the other sources as shown above) in amount of Rp 108.2 Trillion (prediction on year 2010)

- The constraint consideration is regarding in-house QS at developers which will be deducted the above amount in 25 percentile (further research is required); existing consultants which are already been established (detail will be shown on the following chapter); and 700 QSs which already registered in LPJK – Public Works Department which mostly all of them work in contractors all over Indonesia and they don’t have formal QS education with assuming will be taken of 10% of the market share (need further survey in detail).

### SUPPLY ANALYSIS

Quantity Surveying originally came from the United Kingdom and was born on the end of 19th century just after the big fire burnt mostly all of the London city then British government require architect to re-build the new construction all over the place and in the same time they
also require a group of those architects to estimate the quantity of building materials required including the cost estimation then came to the 20th century that QS have to be independent in order to build the trust among investors and all other respective parties who willing to get QS services. Therefore, Quantity Surveying had become independent and has their own faculty in order to support the formal education requirements in their country of origin. Afterwards QS was grew to the commonwealth countries then as mentioned earlier that QS services just established in Indonesia on early 1970s and the formal diploma school just established in the University of Bung Hatta – West Sumatra just on year 2002 and today they already produced about 100 of QSs which are spreading to all construction industry in Indonesia or abroad.

On this paper, I try to list out all the official QS Consultants either international or national/local companies who has been involved since early 1970s until just who gave the services for 1 year only. Based on experiences and discussion analysis with some of the respective owner of QS consultants that approximately manpower required for 1 year projects with total amount average of Rp 2.5 Trillion are 20 QSs, from here the following list will show the important information so that can finalise the supply analysis with some allowances. For confidentiality, I just put the company initial only and of course for the real business, further survey and detail analysis are required.

Some of the listed QS Consultants in Indonesia which are considered mostly domicile in Jakarta – Indonesia based on rough survey to individual companies and info from Indonesian QS Association are as follows:

1. A PT
   Capacity: 3 QSs
   Average project per year = Rp 0.5 Trillion

2. B PT
   Capacity: 6 QSs
   Average project per year = Rp 1.25 Trillion

3. C PT
   Capacity: 3 QSs
   Average project per year = Rp 0.4 Trillion

4. D PT
   Capacity: 3 QSs
   Average project per year = Rp 0.4 Trillion

5. E PT
   Capacity: 20 QSs
   Average project per year = Rp 5.0 Trillion

6. PT EC
   Capacity: 25 QSs
   Average project per year = Rp 5.0 Trillion

7. F PT
   Capacity: 30 QSs
   Average project per year = Rp 4.0 Trillion

8. PT JB
   Capacity: 20 QSs
   Average project per year = Rp 2.5 Trillion

9. PT B9
   Capacity: 10 QSs
   Average project per year = Rp 1.5 Trillion

10. PT G
    Capacity: 15 QSs
    Average project per year = Rp 4.5 Trillion
11. PT H
Capacity: 15 QSs
Average project per year = Rp 2.5 Trillion

12. PT KQ
Capacity: 6 QSs
Average project per year = Rp 0.5 Trillion

13. J PT
Capacity: 18 QSs
Average project per year = Rp 5.5 Trillion

14. PT K
Capacity: 10 QSs
Average project per year = Rp 1.0 Trillion

15. PT HAR
Capacity: 5 QSs
Average project per year = Rp 0.5 Trillion

16. L PT
Capacity: 5 QSs
Average project per year = Rp 0.5 Trillion

17. PT M
Capacity: 3 QSs
Average project per year = Rp 0.20 Trillion

18. Other small consultants spread in Bandung, Jogja, Medan, Surabaya & Bali took for the projects say Rp 2 Trillion with QSs approximately 25 persons.

Thus, from the above mentioned companies data that possible to finalise the total of projects investment values has been absorbed annually, in approximately amount of Rp 37.75 Trillion with QS manpower = 222 person. From Rp 37.75 Trillion we still have to consider the worst case that consideration on constraint as mentioned earlier, so would have to add up another 25% and 10% of Rp 37.75 Trillion which is equal to Rp 51 Trillion. In the mean time, the estimated demand is Rp 108.2 Trillion. Now, it is very clear, the existing supply on QS Consulting Services is inadequate, approximately only 50% of demand fulfilling. Why this inadequate happen? , the explanations are:-

- Indonesia has no adequate formal education in Quantity Surveying, so the growth of qualified manpower is far behind than the growth of the respective industry. We can see from graduated diploma QSs from University of Bung Hatta is about 100 QSs and should be included already in about 222 QSs in QS Consultants spread all over Indonesia, meaning that about 122 QSs are qualified based on their experiences only from QS Consultants. Therefore, every existing consultants now in Indonesia facing the same problem regarding the which is shortage of qualified QS, thus the demand in the market in about 50% of property investment value can not be covered in the short period, some more the global demand for QS still very high, as many times happened lately for hijacking Indonesian qualified QSs to Middle-East and Asia Pacific countries.

- Even QS consultancy have started on early 70s but just required intensively since early 90s and further monetary crisis happened that definitely made the industry stagnant, so practically just started again on early 2000
RECOMMENDED ACTIONS AND CONCLUSION

- Supply-Demand is unbalanced, therefore this great opportunity would have to follow up in the immediate effect, moreover the property investment will be booming somewhere on year 2010 – 2011, thus the QS Consultancy Services will have a great opportunity as well. The best time to penetrate the market is on year 2008 / 2009.
- In addition, as long Indonesia country considered as a developing country, so the construction growth is there, provided supported by stable economics in global, regional and national, in other words, such as global oil crude prices, US economic (like housing sector/sub prime mortgage), Rupiah currency (especially to US Dollar) should be in reasonable levels.
- The prospect of QS Consultancy Services still have a great opportunity when we refer to the slow-developing on QS education (so far only one QS diploma school being established in Bung Hatta University – Padang, West Sumatra – founded on year 2002) therefore the prospect still very good at least for the next 2 decades, the only thing we have to do some improvement in the quality of Quantity Surveyors, such as: intensively do some training, short courses even formal school like bachelor degree in QS like already did in commonwealth countries. At least for the short term is require pro-active from IQSI (Indonesian QS Association – founded on 2006) in order to improve the quality of Indonesian Qs and to increase qualified QSs in order to fulfill shortage of manpower.
- To build awareness of QS consulting services which is accommodating for a pre-qualification system for the tender process especially to government projects through Indonesian QS Association for instance, since government projects (like infrastructure project) contribute big amount of contribution into investment output.
- Domicile of QS Consultant Services better in Jakarta as a central of business so far.
- Need further and thorough investigation for the respective market even though I’m confidence to proceed further for business plan due to rough analysis on this paper. In addition to business on QS Consultant Services that require relevant strategy to suit with the current situation such as: how to fulfill the shortage of qualified QS in immediate effect? the answer is to have a strategic agreement among employer-employee that have mutual benefit like employer support on short course to get the minimum qualification on Quantity Surveying and the return is the employee would have to give the minimum services to the company let say for at least 1 year.
- Besides to do promising business in QS Consultant Services, another prospective business opportunity also can be approached like open accredited bachelor or master degree in quantity surveying, the person graduated from here can be consumed for either local or global demand, provided supported from the most capable QS Institution / Association from UK like the RICS (Royal Institute of Chartered Surveyor) or regional QS institution like in NUS (National University of Singapore) or UTM (University of Technology Malaysia)
- Indonesian QS Association (IQSI) have to develop more qualified Indonesian Qs in immediate effect, in order to reach the targets, the respective government authority would have to support in terms of establishing valuable cooperation with global QS authorities like the RICS (Royal Institute of Chartered Surveyor) in UK
- In general, Quantity Surveying contribution to overall development in Indonesia is needed, especially to plan and control all the construction costs in the right path. And to
fulfill the requirements of customers which are more knowledgeable, more analytical, more demanding, exposed to more strategic information and more choices.

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