FOCUS

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JOURNAL HIGHLIGHTS

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Institute of Quantity Surveyors Sri Lanka (IQSSL)

New Year Greetings for 2020 from IQSSL

We extend our heartfelt wishes for the fruitful success of our readers' professional, academic, and personal lives while hoping for a progressively and swiftly developing human-first society as well as Quantity Surveying sector in Sri Lanka.

Reserve the Date...

IQSSL Technical Sessions 2020 - 19th March 2020 at BMICH

IQSSL AGM and Annual Forum 2020 - 20th March 2020 at Galle Face Hotel

Message from the Secretary

Ch. QS Senarath Wetthasinghe

LL.M., F.I.Q.S.SL, MAIQS, FQSi, FCIArb

Secretary
Institute of Quantity Surveyors Sri Lanka

Happy new year 2020 to all members of the Institute and the staff of the secretariat and the College of Quantity Surveying. I hope you celebrated the start of 2020 in good spirits with family and friends. Before we look ahead and think about the tasks we need to do to enhance the status of the Institute, it is pertinent to have a glimpse of the last year.

Last year was an eventful year for the Institute. The Governing Council has taken several initiations for the betterment of the membership and to enhance the status of the Institute. Some of the main initiations encompass: Revisions to the Institute of Quantity Surveyors, Sri Lanka Act No 20 of 2007 to bring it in line with the current needs of the profession, Drafting a Quantity Surveyors Registration Board to regulate the Quantity Surveying Profession in the country, Revisions to Ethics and Code of Conduct to update them to comply with current professional needs and Revisions to Continuing Professional Development (CPD) guidelines to facilitate disseminating knowledge on Quantity Surveying competencies and other essentials to members in a structured manner and making compliance with CPD requirements mandatory to renew memberships of the corporate members in accordance with Rule 12 of the Rules of the Institute.

Moreover, we have established IQSSL Toastmasters Club to improve the communication skills of the members and we have been liaising with other stakeholders in the construction industry, especially with Construction Industry Development Authority for the furtherance of Institute's interests.

Certainly, there is still a lot of work ahead. Establishing a Service Minute for Quantity Surveyors and incorporating technical level Quantity Surveyors into the Technical Services cadre of the government are two of the main goals we have to achieve in 2020.

The chairpersons and members of the seven boards of the Institute have been untiringly pursue the above matters and I am thankful to them for their efforts. Further, it's important of us to move forward as decisively and swiftly as we can in 2020 to achieve the impending tasks. That will only be possible with the members' continuous dedication and teamwork. Hence, I request whatever support the members can extend to the Institute to achieve the goals set for 2020.

Once again I wish you a very happy and prosperous New Year 2020.

Annual Technical Sessions 2020

19th March 2020

Call for Papers

"Rethinking Construction Industry: Future Envision"

The Annual Technical Sessions 2020 organised by the Institute of Quantity Surveyors Sri Lanka (IQSSL) will be held on 19th March 2020 at the Bandaranaike Memorial International Conference Hall (BMICH), Colombo. The session will provide a forum for researchers, academics, practitioners and students to share their knowledge, interests and experience in the field of building economics.

Prospective authors are invited to submit their papers written in English on subject matter related to any of the sub themes of the Sessions.

Scope

The Institute of Quantity Surveyors Sri Lanka as the sole body representing the quantity surveying profession in Sri Lanka holds its Annual Technical Sessions with the intention of sharing and updating knowledge in the field of quantity surveying and in fields related to the built environment including architecture, engineering and facilities management.

The Annual Technical Sessions will include a full day seminar which will include a key note speech, guest speeches, presentations and a panel discussion to help the participants to update their knowledge, share experience and network with their peers. The technical papers on research and intellectual developments that are received will be reviewed by a panel of senior academics and the papers considered as being of acceptable standard will be published.

The main theme of the Annual Technical Sessions is "Rethinking Construction Industry: Future Envision" and Following is an indicative, hence a non-exhaustive, list of anticipated sub-themes:

• Building Information Modelling and Information Management	• Environmental Economics and Management
• Cost Management	• Green Buildings
• Construction Procurement	• Innovative Green Technologies
• Construction Management	• Linking Design & Construction to Operation & Maintenance
• Value Management	• Public Private Partnerships (PPPs)
• Disaster Management	• Process Improvement
• Built Environment Education	• Resilience Buildings
• Energy Management	• Risk Management in Construction
• Construction Law	• Sustainable Construction Practices
• Facilities Management	• Sustainable Facilities
• Life Cycle Costing	• Sustainable Urbanisation
• Contract Administration	• Waste Management
• Claims Management	• Innovative Construction technologies
• Entrepreneurship	

Format for the Technical Paper Submission

The technical papers which should include an abstract and a list of references shall be of no more than seven A4 size pages. The details of the author shall not be included within the paper. Final papers will be double-blind reviewed by two members of the review panel. The papers which should be submitted via email to techsessions2020@gmail.com will be acknowledged. The authors of the papers that have been selected will be informed of the comments made by the reviewers. Guidelines for the preparation of the full papers are annexed.

Schedule of Key Dates

Submission of full paper – January 20, 2020
Notification of reviewer comments – February 15, 2020
Revised paper submission – February 21, 2020
Camera ready paper – March 02, 2020

IQSSL Journal Article

Viability of Consultancy Practices as a Business in Sri Lanka and use of Professional Inputs of Quantity Surveyors

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CONSULTANCY PRACTICES AS A BUSINESS

Professional services to the construction industry are provided by various professionals and predominantly by the Architects, Engineers and Quantity Surveyors in terms of designs, documentation and / or supervision. As the said professionals are involved throughout the projects' life cycle, they are identified as key professionals in the Section 26 (*Qualified Persons*) of the Construction Industry Development Act (CID Act). These professionals are engaged in the construction industry as academics, employees in different organisations or as entrepreneurs.

Professionals who are employed, are supposed to provide the inputs required by the respective organisation based on the; duties assigned, organisational regulations and whims of such organisations while following professional practice ethics and standards.

The word "professional" is often used inappropriately. A Professional is a person who has;

- completed specified formal education of respective discipline,
- undergone a structured and prescribed training under professionals,
- full membership with voting rights of the relevant and recognised professional institution, and
- undertaken social responsibility accordingly in providing his / her service.

The above will entail much austerity in providing services by a professional than; a technologist, person with vocational qualification or that of an ordinary prudent man, encompassing risk of legal liability of any negligence or mistake in the services provided. It is the professional Quantity Surveyor (Chartered Quantity Surveyor or Corporate Member of Institute of Quantity Surveyors, Sri Lanka) who is liable for the documentation not the junior Quantity Surveyor who does the drafting of documents. It is similar to that the registered medical doctor is liable for the curing ailment or saving patient's life. The junior medical staff are doing a prescribed supporting role based on dutybound regulations and on the professional advices of the doctor, in duly performing a duty by dispensing of prescribed medicine, patient care etc. Thus, the Quantity Surveyor is professionally liable for the society at large while drafter is duty bound internally in the organisation and under labour laws. The design liability of Architects and Engineers also operates on a similar manner.

Professionals who are practicing as entrepreneurs can provide their independent services without being bound by any organisational officialdom. In that context, they may have comparatively more magnanimity in creativity, making fair documentation, impartial determinations and unbiased management of projects without prejudiced opinions from any organisational will. However, it must be admitted that practically there cannot be veritable independency in doing consultancy business with the respective public and private sector clients, but it may be considered as comparatively less influenced mode of services delivery. Therefore, such service providers are one of the most important entrepreneurs in a country when it comes to ensuring of public accountability, safety and health.

Further, as their services are provided to overseas clients on Knowledge Process Outsourcing (KPO), by operating in overseas or in other modes, it is an important economic activity of much spoken knowledge-based economy at present.

The main input that the professional service providers require for such service delivery is trained human and intellectual capital. However, the capable and educated young persons are difficult to find for these services, as many migrates from the country after their higher education due to various reasons.

The universities, those produce graduates who are having a demand in other countries, have become institutions producing graduates from tax payers' money, for other countries. Therefore, very limited young personnel are available for professional services in particular on Quantity Surveying but this situation is there in Architecture and Engineering fields as well. From the total Quantity Surveying graduates passed out from the University of Moratuwa in excess of 1300 about 70% are in overseas. Who are available locally at present are also not having long term prospects in local organisations as they think national policies are not promising for their generation to stay in the country. On the other hand, their readiness on employability to support a business in local industry is also poor, but merely qualified technically to have an employment.

The demand fluctuation of construction sector in shorter cycles circumscribes the ability of establishment of any corporate level or even medium scale professional service providers or companies. Hence, most of them are very small practices ready to shrink at demand down turn and should be able to expand when demand is high, in an amphibious mode survival. This has negatively impacted the capacity building in the consultancy sector of the construction industry.

In order to have a good office for a professional practice with required good staff, computer facilities, servers, licensed software, backup power, alternative data communication provisions, document archives, meeting facilities, ISO certification etc. need big investment. That too become a risk in a demand fluctuating economy, which has resulted that most of the professional practices have small offices as very domestic practices in a room or two of rented houses and many are outside city limits.

Labour and tax laws are very strict and do not consider adequately about these difficulties of the entrepreneurship in SME sectors. In the tax system of Sri Lanka, the cars and similar type vehicles' expenditure are not allowable as capital allowance provision but the delivery vehicles. It is obvious that consultants cannot use delivery vehicles for their business and keeping some provision for private use at least a reasonable percentage about 75% should be allowed as capital allowance in tax calculations. The VAT component of such vehicles including repairs and maintenance are disallowable as input VAT. Even the foreign earnings have been subject to taxes. Not only that the currency exchange gain is taxed. The withholding taxes

introduced for rents and individuals have finally come as a cost burden on to the entrepreneur as it resulted increase of the building rents and fees of outsourced human resources.

With the recent tax changes some reliefs are observed. However, as the VAT threshold is increased to 300 million per annum the input costs of services will now be increased. The corporate clients who are registered in VAT may not come to SME sector as SME's prices will be inclusive of VAT unless their low overhead costs compensate over the VAT input cost.

In Sri Lanka it would be difficult to find a consultancy company who does over 300 million turnover per year and if there is any they may enjoy a monopolistic situation.

To become a professional, a person supposed to study about four years in universities after getting through heavily competitive advanced level examination and then spend further period for post graduate studies. To obtain membership from a professional institution it will take a further period. Having invested most part of the young age, till around 30 to 35 years of age, for education to be an entrepreneur or professional. Finally, they end up in heinous and labyrinthine local market conditions and are irked as a result.

Engaging in overseas projects or service export as an alternative is not always a lucrative business since software and communication costs are unprecedented and the demand for services export is intermittent. The frequent breakdowns in power and data infrastructure disturbs efficient service delivery as well.

In the other Asian countries, they have managed to develop corporate level professional service companies with good policy initiatives and have managed to enter into international markets. Singapore has done it with good regulatory mechanism they initiated in due time. Though they have used foreign firms during the development and the growth of local industries have been carefully thought of. The doing business index, paperless trading and other economic indicators published are giving where Sri Lanka is compared to the other countries in the region.

In order to survive in this local market conditions there are two ways as per many practitioners, that is to go into corruption (which is not possible) or migration to another country or industry.

The construction industry contribution to economy has come down in the recent past from around 9% to 6.5% and during this collapse many professionals went out of business.

It is noteworthy that the consultancy services are provided by;

- government institutions / authorities,
- semi government institutions,
- universities with their in-house abilities and subletting arrangements,
- foreign consultants, and
- contractors for design and build projects as well.

The distribution of consultancy services requirements among the above entities shall be made on a more rational basis to have fair share and to ensure level playing field. For an example, universities may do pilot projects with their research outcomes in innovative systems. Further, Design and Build projects should not be promoted to place the foundation stone early or for misappropriation without engaging professionals due to political reasons, but to use such procurement methods for accruing benefits for the public. Some of the practitioners attached to the semi government and universities are enjoying duty free vehicle permits, regular salary and consultancy is done, at low fees, as an additional income source while private consultants are struggling without any such benefits.

Large portion of construction industry turnover (about 60%) in Sri Lanka is in roads, highways, water supply and other infrastructure projects.

The private consultancy firms of small and medium size are not used for the above sectors but large overseas or repeatedly engaged selected local firms only. It would be beneficial to audit such procurement systems adopted by the respective procuring entities for developing more transparent and conducive system, as development of SME sector is an accepted economic policy and to avoid parochial approaches.

In addition, it is necessary to analyse to what extent that the public is duped with payment of various additional cost claims, expenditure due to delays and disputes and price variations payments of construction projects due to errors in documentation done by such procuring entities.

As per the Department of Census and Statistics as stated in their *"Final Report on Survey of Construction Industries"* for years 2016 / 2017 (Published in May 2019) the total value of contracts awards in building sector, where most private consultants are allowed to involve, is only 40% of total contracts. The competition for this 40% is heterogeneous. The government, semi government, foreign consultants and universities secure considerable part of the consultancy services without a fair competition at present. Hence, what is left for tax paying independent private consultants, who are engaged as proper business entities under such laws, is a meager percentage. There is no published or researched data can be found but it may be as low as 15% of total construction industry turnover that the private consultancy firms are allowed to secure. The university education is provided to make job creators than job seekers but our policies are in contrary. Who will opt to be an entrepreneur in construction sector consultancy services in this milieu? Either policy makers and so many

professional and other institutions in the construction industry are not aware of or neglected to address this fundamental issue.

End result is that the private sector consultants are left with very limited work and heavy competition. Certain provisions of recently proposed CID Act amendments too are detrimental and discouraging to the professional practices as per some of the consultants. However, it must be admitted that CIDA has initiated many positive moves to improve the construction industry efficiency through regulatory systems.

All the aforementioned negative impacts have already resulted the consultancy industry to go out of the business and in a rapid pace to the extent of closing down many practices.

The available professionals in the country who are good and contributed to the construction industry may also leave the country if this situation is not rectified by the policy makers soon. The young personnel are supposed to get training under professionals, and now it has become an extreme difficulty to find training places for them.

Many researches done by the universities have not noticeably contributed for the innovations required by local industry or to support it but for international journals in achieving academic requirements.

High expectation of knowledge economy theory will not be realised if the policy framework is poor and not conducive. We will continue sending our knowledgeable youth to other countries free of cost from local universities, in the current; entrepreneurship deprived system, unfavorable living conditions for educated youth and corrupt political and social environment.

INPUTS OF QUANTITY SURVEYORS

Quantity Surveyors in particular are disgruntled and apprehensive of why the government sector is not taking required initiatives to employ them to minimise costs and acquire more value in government ministries and departments, as they are specialised in commercial documentation, without being superstitious in their approach giving to inimical and undesirable elements to manipulate the systems against the public interests.

In the Quantity Surveying education system government has increased the intake in to university substantially. In the case of University of Moratuwa the intake in 1985 was less than 30 and now it is more than 120. The University of Vocational Technology, General Sir John Kotelawala Defence University and many private universities are also allowed to conduct degree courses in Quantity Surveying. Further, some other government universities are also keen to commence degree courses in Quantity Surveying. There are about 144 Quantity Surveying diploma / certificate courses which are conducted by Technical and Vocational Education Commission (TVEC). In addition, there are various other private and public sector education providers offer Higher National Diploma (HND) courses in Quantity Surveying.

The ambivalence of educating youth and not using them in the public sector projects must be removed.

Providing required easy access to educated youth including making required service minutes to identified professions such as Quantity Surveying, deviating from current illogical procedure of requesting from departments and ministries about vacancies for such professionals, is a dire need.

CONCLUSION

It may be late but at least now the policy makers and industry stakeholders must collectively find resolutions for the serious issues encountered in this important industry of the economy at the earliest possible time.

The professional institutions and other various organisations related to the construction industry are making a commendable effort for the development of construction industry. However, they may need to deviate from protectionism attitude of respective profession / sector only or from the compartmentalised vision, but should converge to contribute for a synergetic effect, which will invariably instigate a fair share of a vibrant construction industry for all involved and may ensure better future for next generation.

Join IQSSL Toastmasters Club

After the successful culmination of three Speechcraft programmes, IQSSL has initiated its own corporate IQSSL Toastmasters Club with the support of the Colombo Toastmasters Club.

This valuable opportunity is open for all IQSSL members and the focal points include enhancing communication skills, including public speaking, as well as building confidence and leadership.

Further information is available on the official IQSSL website (iqssl.lk).

IQSSL Journal Article

Construction Business Intelligence - Driven by Big Data

Ch. QS K. Gayani D. Priyangani

INTRODUCTION

The construction industry is one of the sectors of the economy that you wouldn't expect to be touched heavily by digital technology. The same equipment those are used to build and renovate new structures have been around for decades. However, the future of construction is data analytics and big data is having a significant impact on the industry.

Contractors are already beginning to harness the power of information with modern technologies and detailed data collection and reporting solutions.

Thereby, integrating data throughout the organisation and across projects, combined with new, powerful data analytic solutions being brought to the market, construction firms are on the verge of a revolution that will achieve true business intelligence to forecast their future performances.

BUSINESS INTELLIGENCE

In an industry characterised by high-risk, low-margin projects, intelligence is an obvious requisite for anyone wishing to succeed as a contractor. Today, contractors are beginning to complement their intelligence gathered from experience with intelligence born from new techniques and approaches in information technology.

These new technologies and techniques are often grouped under the umbrella term "business intelligence"

Business intelligence in its simplest terms is the gathering of data - largely produced through construction management and project management software - and sorting and analysing it to make intelligent business decisions. Consequently, the contractors that dive deep into and analyse that data to make intelligent decisions about their projects and overall business strategy reap the greatest value for the projects.

Nevertheless, leading construction business intelligence tools are not only simple to use as dragging and dropping data into buckets, they are also integrated into larger construction ERP solutions, making it easy to analyse virtually any data desired.

The companies that have done business intelligence analyses have gained significant benefits of identifying areas where;

(a) Increased project efficiencies and productivity can be achieved;
(b) The ability to more accurately bid and scale for future projects;
(c) Spotting consistent problems on projects and developing strategies to solve them;
(d) Effectively factoring industry trends like building patterns, economic conditions and material costs into project planning; and
(e) Streamlining labor and workflows to maximise overhead costs.

The larger the project, greater the amount of data and potential for unplanned costs and risks. Better tracking and analysis of things like material and equipment, labor deployment and costs for projects, productivity rates for various subcontractors and much more after the project can lead to intriguing post-mortem discussions. Business intelligence software that analyses the same data in real-time creates opportunities to make a difference for those projects.

When it comes to planning, the right business intelligence software can analyse and predict what is needed to be successful future and potential projects. This lets contractors smartly chase and bid for the right projects that provide the best potential for successful bottom lines.

By better understanding construction data and making actionable decisions to improve their operations for today and the future, they're setting themselves up to better manage their organisational risk in an ever-changing environment. The more serious a construction firm is about lean construction processes and innovative building strategies, the more business intelligence software moves from a nice-to-have to a must-have. It's simply an intelligent business decision.

CONSTRUCTION BUSINESS INTELLIGENCE - DRIVEN BY BIG DATA

Since big data can help into reduce waste and remedial work costs, it can also help to boost profit margins of construction companies around the world.

Here are some of the top changes that big data has created for the construction industry.

- **Improving Productivity**

One way the construction industry is using big data is to improve productivity. Let's say that a supervisor wants to make the project site more efficient. One way to do that is to eliminate the time wasted moving around the construction site to retrieve equipment, materials and tools. Wearables, sensors and smartphones can be used to track how things are moving about the construction site.

Once enough data is collected, the supervisor can analyse how workers move and interact with the site. That analysis can help the supervisor develop solutions to reorganise the site to make tools and materials more accessible to workers. The reorganisation will reduce downtime and allow workers to get the job done more quickly.

- **Creating Accurate Budget Estimates**

Big data provides construction companies with knowledge that can be used to improve planning. Better planning means more accurate budget estimates and a better understanding of timelines and costs.

Data analysis can also mean more insight that can be valuable to managers and contractors

- **Safety Management**

Safety management is of the utmost importance on construction sites, and big data is helping in this area, too. Construction companies are using data to improve their best work practices.

Analysing the data available to them, construction companies can predict the risk of future accidents. Companies can make changes ahead of time to eliminate safety risks, particularly for temporary employees and contract workers. These workers are often the weak links in company safety training programs.

- **Reducing Project Risks**

Nothing is ever predictable in the construction industry. There are many variables that are completely out of managers' and workers' control, such as weather conditions, material quality and accidents.

Simulation can be used to project risks and help construction companies better mitigate them. Better risk mitigation leads to a reduced chance of accidents and injuries on the project site.

- **Making Better Business Decisions**

Big data can also be used to help construction companies make better business decisions. The right data tools and the right people can bring new and better insight to projects. It also means that construction companies can make more information-driven decisions.

Big data has also played an integral role in the development of project management software. Programmes that offer real-time project management allow contractors and managers to make quicker decisions and ensure that everyone is on the same page.

- **Keep Everyone Connected**

Managers, contractors and other team members can stay connected at all times and projects can be updated in real-time. Virtual meeting rooms allow everyone to catch up at any time and no matter where everyone is located. People can also work remotely and stay up-to-date on the project. Problems can be resolved as soon as they are identified.

APPLYING BUSINESS INTELLIGENCE IN CONSTRUCTION

As with most new processes or technologies, contractors will get out as much as they put into the adoption of business intelligence in their construction companies. And as with most new things, it is advisable to walk before running. If the firm is yet to adopt personalised dashboards or other "BI basics," it likely does not make sense to dive into the deep end of artificial intelligence. However, here is a seven-step approach to building BI capabilities:

1. Let construction need be the driver.
2. Put a plan in place to capture the data.
3. Evaluate the IT infrastructure.
4. Evaluate software platforms.
5. Start with the BI basics.
6. Share the smarts.
7. Look to the future.

Much of the power of BI lies in its ability to serve up information in different ways to different users depending on their needs. This still requires that the users ask the right questions. However, sometimes contractors simply don't know what they don't know.

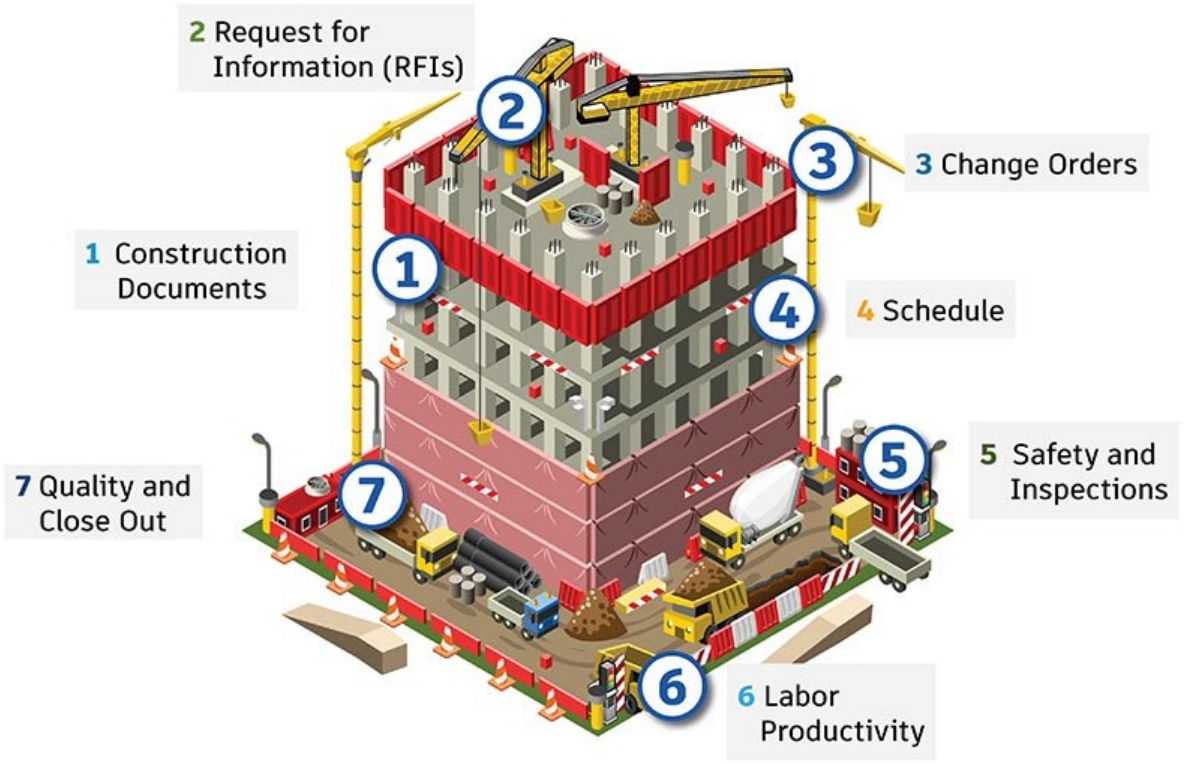
As powerful as BI and predictive analysis can be for the construction industry, it is important to remember that it is just one of the means to an end – profitable and safe project delivery. Construction is a team sport and teams that stay connected—from groundbreaking to top out and from the office to the field—are the teams that tend to win.

Thereby, companies who embrace business intelligence to improve operations by sharing this intelligence across the firm, they help create a more collaborative, productive, and safer work environment for everyone.

CONSTRUCTION KEY PERFORMANCE INDICATORS

Key Performance Indicators (KPIs) are a common kind of benchmark many firms use to help gauge the performance of their employees as well as their own success at meeting operational goals.

Realising that you can only improve what you measure is a good way to think about KPIs in the business intelligence world. Therefore, choosing the right KPI is crucial to make effective, data-driven decisions and measuring performance can be especially precise, quick and easy way to predict the successful construction project closes after passing through following key processes.



7 key process indicators in construction projects

CONCLUSION

Organising building activities is a constantly changing process, which aims to meet the needs of changes in the environment and to utilise the prevailing technology and knowledge. Adjusting to changes in business environment is nowadays a demanding task because changes are likely to become more rapid and demand quicker responses than before. Construction companies have acknowledged this and are therefore increasingly interested in initiating and developing their business intelligence activities, which makes the industry a competitive platform to perform for contractors.

Notice to Corporate Members:
Compliance with Rule 12

Please be informed that compliance with the CPD requirements for IQSSL Members as stipulated under Rule 12 of the Rules of IQSSL formulated under the Act no 20 of 2007 is mandatory for maintaining membership from the year 2020.

Secretary, IQSSL

IQSSL Journal Article

Application of Recent Tax Changes in Contract Administration of Construction Contracts

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This article was originally published in CCI Magazine on 26th December 2019.

GENERAL DETAILS

Government has recently announced various tax changes and some of them are already affective. These tax changes should be contractually managed in the payment certifications of the construction contracts.

In many standard forms of contracts there is a provision to administer such changes under *"Adjustment for Changes in Legislation"*. Please refer Conditions of Contract; Sub Clause 13.6 in CIDA / SBD / 02 and Sub Clause 13.7 of FIDIC First Edition 1999 for details.

The above Sub Clauses in;

CIDA / SBD / 02, Second Edition January 2007 stipulates,

"The Contract Price shall be adjusted taking into account any increase or decrease in Cost resulting from Change in Law in Sri Lanka, during the period commencing 28 Days prior to the closing date of Bids and ending on the date of issuance of the Certification of Completion or termination pursuant to clause 15 and 16 and which affect the Contractor's performance of contractual obligations". Whereas,

FIDIC Conditions of Contract, First Edition 1999, stipulates,

"The Contract Price shall be adjusted to take account of any increase or decrease in Cost resulting from a change in the Laws of the Country (including the introduction of new Laws and the repeal or modification of existing Laws) or in the judicial or official governmental interpretation of such Laws, made after the Base Date, which affect the Contractor in the performance of obligations under the Contract".

Accordingly, it is necessary to refer the definitions of "Laws" and "Base Date" to understand the above provisions. The respective definitions are stated as follows in above contract forms.

"Base Date" means the date 28 days prior to the latest date for submission of the Bid.

Above is as per CIDA / SBD / 02, Second Edition January 2007 and in FIDIC, First Edition 1999 it is the same definition except that, instead of term "Bid" it uses the term "Tender".

The definition of "Laws" is almost similar in both forms of contracts as stated below.

CIDA / SBD / 02, Second Edition January 2007

"Laws" means all national (or state) legislation, statutes, ordinances and other laws, and regulations and by-laws of any legally constituted public authority.

FIDIC, First Edition 1999

'Laws" means all legislation. statutes, ordinances and other laws, and regulations and by-laws of any legally constituted public authority.

Types of Taxes and Concerns

1. VAT

Changes applicable to contract administration are;

1. Reduction in VAT percentage from 15% to 8% with effect from 1st December 2019, and
2. Increase in VAT registration threshold from Rs. 1 million to 25 million per month from 1st January 2020.

The application of reduced VAT percentage in Item 01 above from VAT registered entities is fairly a simple calculation changing the percentage to 8% from the effective date. However, there will be a large number of Small and Medium level contractors and subcontractors who will lose their VAT registrations in January 2020 of not being able to meet the turnover criterion in Item 2 above. Most of the consultants too will be out from VAT registration.

Currently Performing Contracts and Contracts with Base Date prior to 1st January 2020

There can be many scenarios and combinations;

1. Contractor and some Subcontractors / suppliers lose the VAT registration,
2. Contractor doesn't lose but all or some Subcontractors / suppliers or design consultants lose the VAT registration,
3. Subcontractor and some suppliers doesn't lose but Contractor loses the VAT registration,
4. Employer loses the VAT registration, and
5. Employer had no VAT registration before etc.

VAT input means the VAT payments are made to the seller / supplier in buying the inputs required for the products and services by the buyer. VAT output is the VAT received from the customer or client in the transaction of selling the outputs made using the inputs. The difference between output VAT received and input VAT paid goes to the government. VAT invoices showing VAT amount separately are issued by the VAT registered parties. Hence, the rates and prices or do not include VAT or they are net of VAT, the specified VAT percentage is separately added to the value or price of sale in VAT invoices. VAT un-registered parties will include all input VAT component in their rates and prices as part of costing and they cannot issue VAT invoices showing VAT separately. Thus, VAT un-registered parties do not go into VAT input and output calculations to remit the difference but VAT is included in the rates and prices. In other words, if a seller or buyer (Employer, Contractor, Subcontractor, Supplier etc.) is not VAT registered VAT becomes a cost to them. (Readers may get an accountant to advise them on this subject further and the writer is not qualified in accountancy).

The VAT input costs for construction contractors and subcontractors are mainly from formal industries' processed materials such as cement, ready mix concrete, pre-cast concrete items, steel reinforcements, structural steel, aluminium products, steel pipes, valves, metal roofing, bitumen, sanitary fittings, tiles, applicable equipment etc. Raw materials used or cottage industry materials such as sand, earth, rubble etc. and labour may not include VAT. In other words, they are not VAT applied inputs.

If VAT registration is repealed from 1st January 2020 of the contractors and subcontractors, the input VAT will have to be included in the rates and prices as mentioned above. However, in the performing contracts or in contracts with Base Date on or before 31st December 2019 rates and prices are net of VAT as they had a VAT registration prior to 1st January 2020. Hence, all input VAT after 1st January 2020 of such cases would be claimed as additional cost claims. The additional cost

will not be 8% of the payment due but reduced amount to the extent of VAT applicable inputs in the value of works done. Thus, there will be additional cost claims from subcontractors to contractors and directly from contractors, due to deregistration in VAT which will then be passed on to the Employer or client at the end.

If the Employer is a VAT registered entity the input VAT in the rates of all VAT un-registered parties used in the process will become an additional cost. This may be passed on to the end user or customer. If all parties are VAT un-registered VAT becomes a cost to all but at the reduced 8%. When all parties are VAT registered then there will not be a complication. Refer Table 01 below for some combinations of VAT registrations and impacts on currently performing contracts or on the contracts with Base Date on or before 31st December 2019.

VAT Registration Status after 1st January but had registration before that, in Contracts Base Date is on or before 31st December 2019.				Key Has – Still registered in VAT even after 1st January 2020 No - VAT registration revoked after 1st January 2020 due to increased VAT threshold (from 1 million per month to 25 million per month for registration)
Employer	Contractor	Subcontractor	Supplier	Impact on Contracts on Increase of VAT Registration Threshold
Has	No	No	No	All parties input VAT will be an additional cost to the Employer
Has	Has	No	No	Input VAT of un-registered parties will be an additional cost to the Employer
Has	Has	Has	No	Do
No	Has	No	No	Input VAT component of un-registered parties and of VAT registered Contractor will be an additional cost to the Employer.
No	No	Has	Has	Input VAT component of subcontractors and of Contractor will be an additional cost to the Employer.
No	Has	Has	Has	Input VAT component of Contractor will be an additional cost to the Employer.
No	Has	Has	No	Input VAT component of un-registered parties and of registered Contractor will be an additional cost to the Employer.
Has	No	Has	Has	Input VAT component of Contractor will be an additional cost to Employer. Direct contracts with subcontractors would be a possibility.
Has	Has	Has	Has	No impacts
No	No	No	No	VAT becomes a cost, of such inputs but at the reduced 8%

Table 1

Now the calculation with regard to additional costs of relevant contracts will be a tedious task depending on which situation it would be. Firstly, to find whose VAT registration has been revoked in the supply chain and checking such records. Then, if the records are not for the particular project but general purchases for many projects then the calculations will become further complicated.

In any case, purchased quantity will have to be analysed to pay the additional costs. The consultants will have to spend lot of time analysing these records and additional fees may have to be charged. The time to be spent by the contractors, subcontractors, consultants and employers to calculate these will be substantial and cost of which would be more than the adjustment in some projects.

Therefore, VAT percentage reduction with increased threshold in certain cases will increase the cost of construction and reduction in cost may be accrued depending on having VAT registration. *(Refer example calculations given at the end of this article as Appendix A and readers are advised to consult a qualified accountant without depending on the given examples.)*

Corporate clients contracting with SME sector will depend on prices of SME in future where their prices "with VAT" to be less than major contractors "without VAT" prices to be competitive. VAT registered contractors may also tend to do business with VAT registered subcontractors and suppliers to be competitive but not with VAT un-registered SME. If SME's lesser overheads could compensate the added VAT input cost such SME's could offer competitive prices and the Bid invitations should include both types of firms (VAT registered and un-registered) to ascertain the situation. Bid evaluation will have to be done carefully in such cases.

In joint ventures, if one partner, more partners or all of them cannot get registered in VAT after 1st January 2020 it will have impacts, as the case may be.

In price fluctuation payable contracts, this matter will be impacted differently. Initially NBT abolition will decrease certain material prices reducing the respective indices, whereas cost of material will be higher when bought with VAT in actual situation for VAT un-registered entities. Hence, it has be dealt with an additional cost claim. As the indices deal with net increase of inputs it will not be an issue.

NBT

1st November 2019 to 30th November 2019

The NBT applied to Contractor (main contractor) has been removed in the above period. Hence, the 2% NBT included or considered in the performing contracts and contracts with Base Date on or before 31st October 2019 should be deducted from the amount due.

From 1st December 2019

The NBT is abolished from 1st of December hence the NBT related costs in construction inputs will not be there. Further, NBT for contractors also will not be there anymore. Consequently, both NBT components shall be deducted in adjusting the Contract Price of performing contracts and of contracts with Base Date falling on or before 30th November 2019 for the effect.

The adjustment will not be that simple to reduce the above NBT components from the amount due to the Contractor.

The reasons are;

1. Base Dates of the contracts should be checked carefully. Base Date prior to 1st August 2017, after that till 31st October 2019, then from 1st November to 30th November 2019, thereafter from 1st December 2019 should be administered separately. (Refer Table 02 below),
2. NBT is not there in all construction inputs but in some of them. Therefore, such items should be evaluated of the Contractor and Subcontractors,

3. Some NBT applicable items as per previous tax regime would have already been procured or paid for,
4. The NBT component in construction inputs is 2.04% whereas the other NBT applicable now for contractors is 2% when calculated it from the amount due for payment as the base,
5. The retention held from the amounts with NBT before and now what should be done,
6. Variations in future should not include NBT but previously including NBT and monitoring them separately,
7. Materials on Site would include with NBT items and without NBT items depending on when they were bought,
8. Daywork rates in the performing contracts includes NBT,
9. In price fluctuation payable contracts, the NBT reduction of such inputs will be realised with reduction in indices but not the other NBT on contractor as per the NBT applicability since 1st August 2017,
10. In design and build contracts consultancy services NBT also now abolished,
11. Prime Costs defined will now be changed, and
12. If the base value to apply taxes and duties in the imports are changed with this NBT abolition there would be a change in Cost in which as well.

There could be other situations as well. Hence, a proper understanding and agreements, how these should be adjusted is a need to finalise same in avoiding and minimising disputes.

NBT Application Changes

Period	Main Contractor	Sub-Contractor
Prior to January 2011	Exempt form NBT	Liable for NBT
1st January 2011 till 31st July 2017	Exempt form NBT	Exempt form NBT
On or after 1st August 2017 (refer note 1)	Liable for NBT	Exempt form NBT
1st November 2019 till 30th Nov. 2019	Exempt form NBT	Exempt form NBT
After 1st December 2019 – Abolished	NA	NA

Table 2

Notes:

1. Services by a construction contractor if such service is provided under a contract agreement executed prior to August, 1st 2017; - exempted.
2. The gazette notification on above should be checked.

1. Income Tax on Construction Industry

This has been reduced from 28% to 14% and administration of same under the contracts may not be necessary if this change is done to enhance the performance of contracting sector but not expecting reduction in construction cost. A clarification from the authorities are necessary in order to administer the change.

2. Economic Service Charge

The above has been abolished and in administering the contracts the mentioned details (in Item 4) may be considered.

3. Reduction in Telecommunication Levy

This may result in reduction in such costs but administrating will be costlier than paying it.

4. Cancellation of Sand Transport Permits

This will result in reduction in sand prices. In price fluctuation payable contracts, it will be reflected in such payments. In fixed rate and lump sum payment methods this has to be a detailed calculation if it is to be administered.

If contractors intend to claim any additional cost due to the changes in tax laws as mentioned above they shall send notice of claim in due time as per the Conditions of Contract. (Directory notice under CIDA / SBD / 02 Sub Clause 19.1 and mandatory notice under FIDIC Sub Clause 20.1). Employers may also give notice of Contract Price adjustments on account of relevant tax reductions under Employer's Claims.

The best practice would be to administer these changes in a fair and reasonable method for government and private sector construction contracts. Rather than waiting to raise audit queries later, in government contracts a directive may be issued describing how these changes should be administered in a simplified method.

If further changes to come in these taxes in near future, the contract administration will render rather difficult in terms of payment management.

Appendix A

Scenario 01 - All Parties VAT Registered

		At Import	Supplier	Subcontractor	Contractor	Employer
1	Basic Cost	50.00	50.00	120.00	222.00	416.40
2	Value Additions (VA)					
2.1	Processing / finishing with					
	VAT applicable input cost		20.00	35.00	50.00	10.00
	VAT @ 8% of total input cost	9.20				
2.2	Do without VAT applicable					
	or disallowed inputs		30.00	30.00	75.00	5.00
	Net Price		100.00	185.00	347.00	431.40
2.3	OH & Profit (20%)		20.00	37.00	69.40	86.28
	Selling Price		120.00	222.00	416.40	517.68
	VAT @ 8%	4.00	9.60	17.76	33.31	41.41
	Price with VAT	63.20	129.60	239.76	449.71	559.09
	VAT Output		9.60	17.76	33.31	41.41
	VAT Input		4.00	9.60	17.76	33.31
	VAT inputs in 2.1		1.60	2.80	4.00	0.80
	VAT Remittance to IRD	13.20	4.00	5.36	11.55	7.30

IRD - Inland Revenue Department

Assumed; Imports only for item 2.1 and no input VAT in OH & Profit in all examples

Appendix A

Scenario 02 - All Parties VAT Un-registered

		At Import	Supplier	Subcontractor	Contractor	Employer
1	Basic Cost	50.00	63.20	137.76	246.67	450.81
2	Value Additions (VA)					
2.1	Processing / finishing with					
	VAT applicable inputs		21.60	37.80	54.00	10.80
	VAT @ 8% of total input cost	9.20				
2.2	Do without VAT applicable					
	or disallowed inputs		30.00	30.00	75.00	5.00
	Net Price		114.80	205.56	375.67	466.61
2.3	OH & Profit (20%)		22.96	41.11	75.13	93.32
			137.76	246.67	450.81	559.93
	VAT @ 8%	4.00	-	-	-	-
	Price with VAT	63.20	137.76	246.67	450.81	559.93
	VAT Remittance to IRD	13.20				

Appendix A

Scenario 03 - Some Parties VAT Registered and Some are Not

		At Import	Supplier VAT Rgd.	Subcontractor Not Rgd.	Contractor Not Rgd.	Employer VAT Rgd.
1	Basic Cost	50.00	50.00	129.60	236.88	439.06
2	Value Additions (VA)					
2.1	Processing / finishing with					
	VAT applicable inputs		20.00	37.80	54.00	10.00
	VAT @ 8% of total input cost	9.20				
2.2	Do without VAT applicable					
	or disallowed inputs		30.00	30.00	75.00	5.00
	Net Price		100.00	197.40	365.88	454.06
2.3	OH & Profit (20%)		20.00	39.48	73.18	90.81
	Selling Price		120.00	236.88	439.06	544.87
	VAT @ 8%	4.00	9.60	-	-	43.59
	Price with VAT	63.20	129.60	236.88	439.06	588.46
	VAT Output		9.60	-	-	43.59
	VAT Input		4.00	-	-	-
	VAT in 2.1		1.60	-	-	0.80
	VAT Remittance to IRD	13.20	4.00	-	-	42.79

IQSSL Journal Article

Is the Employer entitled to damages other than Delay Damages?

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The doctrine of penalties has no application to a stipulation which provides for the agreed sum on the happening of a specified event other than a breach of Contract. In the case of *Exports Credits Guarantee Department V Universal Oil Products Co.*, the said view has been declared. Accordingly, the reason given for this limitation on the scope of this doctrine is that it has never been the function of the courts to discharge a Party from a contract on the mere ground that it proves to be more onerous and imprudent. Nevertheless, it should be noted that the suggestion of the implementation of an option to terminate a contract which is conditional upon, or associated with, a breach of contract.

Liquidated damages

The Liquidated Damages refers to a definition of 'a genuine pre-estimate of a probable loss'. Nevertheless, the pre-estimate of damages did not have to be reasonable. There had to be a substantial discrepancy between the level of damages stipulated and the level of damages likely to be suffered before the former would become unreasonable.

Whether the sum or sums of money payable by the Contractor in case of a delay are to be treated as liquidated damages is dependent on the intention of the Parties and to be ascertained from the terms of the contract. In *Dunlop Pneumatic Tyre Co. Ltd V New Garage and Motor Co.Ltd.* decided *inter alia* that the essence of a penalty is a payment of money stipulated as *in terrorem* of the offending Party; the essence of liquidated damages is a genuine covenanted pre-estimate of damage.

Failure to grant extension of time – Effect on liquidated damages Clause

In the Case of *Hawlmac Construction V River Co*, the contract provided that the building work should be completed by a fixed date subject to extension granted by the Engineer. The Contractor submitted the request for an Extension of Time two months before the Completion Date but the Engineer failed to consider the application until after the Completion Date. Where the Engineer has failed to review the application made by the Contractor for requesting an Extension of Time, the contractor was no longer obliged to pay liquidated damages. Therefore, if the contract itself does not contain a provision for an Extension of Time for Completion, then the Liquidated Damages Clause is also not alive.

Delay Damages are the Sole damages for delay

The Delay Damages under the Sub-Clause 8.7 are stated to be the only damages due from the Contractor for a failure to comply with his obligations under Sub-Clause 8.2, unless the Employer terminates the Contract under Sub-Clause 15.2 prior to the Completion of the Works. It should be noted that the restriction is only in relation to damages, and no other remedies that may be available at Law.

Procedure

This Sub-Clause applies not only to determine the amount of the delay damages, but also the Employer's right to deduct or set off such amounts from sums otherwise due to the Contractor. Thus, the Employer/the Engineer is required to give notice and particulars of the Claim for delay damages to the Contractor. Then the Engineer is required to proceed in accordance with the Sub-Clause 3.5 to agree or determine amounts due to the Employer. Also it should be further noted that the Employer has no unilateral right simply to set off Delay Damages.

What is the demarcation for the Cessation of Employer's Liability?

The Sub-Clause 14.14 deals with the cessation of the Employer's liability to the Contractor which stipulates;

"The Employer shall not be liable to the Contractor for any matter or thing under or in connection with the Contract or execution of the Works, except to the extent that the Contractor shall have included an amount expressly for it:

(a) in the Final Statement and also

(b) (except for matters or things arising after the issue of the Taking-Over Certificate for the Works) in the Statement at completion described in Sub-Clause 14.10 [Statement at Completion]." [Emphasis Added]

The second paragraph expressly provides that the first paragraph does not limit the Employer's liability under his indemnification obligations, or the Employer's liability in any case of fraud, deliberate default or reckless misconduct by the Employer. This Sub-Clause limits the Contractor's entitlement to make claims against the Employer (but not the Employer's rights as against the Contractor). Hence shall be read with the related Sub-Clauses 11.9 [Performance Certificate] and 11.10 [Unfulfilled Obligations].

In order for the Contractor to maintain his right to a Claim, he must include an amount expressly for any matter or thing for which the Contractor wishes to be paid in the Statement at Completion (if it has arisen by then) and in the Final Statement.

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