

METAMORPHOSIS OF QS PROFESSION : A REVOLUTIONARY JOURNEY IN MALAYSIA

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ABSTRACT

The current scenario in the construction industry in Malaysia has changed dynamically and this has caused the quantity surveying profession developed. The roles of quantity surveying profession have evolved as the Clients not only employ for the basic and supplementary services but also for the revolutionary services such as adjudication, risk management, value engineering and development appraisal. As a result, quantity surveying profession has developed from the normal production of Bills of Quantities and administration of contract to the diversified ever-widening scope of services. This paper is a presentation of the changes in quantity surveying profession roles in Malaysia based on review of the basic and supplementary services and the new frontier services. It also gives an insight of the new competencies that are needed to stay relevant in the Malaysian construction industry.

Keywords: Malaysian construction industry, Quantity surveying profession, Roles of quantity surveyors.

INTRODUCTION

The quantity surveying profession in Malaysia has started since the early 1930s. Since then, it has progressively developed as the construction industry has increased in volume and complexity over the last decades. The first firm, Waters and Watsons was formed in 1932 and since then has played an important role as one of the earliest quantity surveying practice. The first institution that offered quantity surveying course was Maktab Teknik Kuala Lumpur in 1951.

Seeley (1997) described Quantity Surveyor as a profession who would prepare accurate bills of quantities to be priced by tendering contractors and who would measure and value any variations that might occur during the progress of the works. Throughout the world, Quantity Surveyors are working on as diverse residential, commercial developments and infrastructure works. In Malaysia, the profession is governed by the Quantity Surveyors Act 1967(incorporating all amendments up to 28 February 2002) and Quantity Surveyors (Amendment) Rules 2004 in relation to the Act. As of January 2016, 1099 registered QSs, 1776 registered QSs and 357 QS Practices registered with the Board of Quantity Surveyors (BQSM).

PROFESSIONAL SERVICES BY QUANTITY SURVEYORS IN MALAYSIA

In Malaysia, the services provided by the Professional Quantity Surveyor can be categorized under the following tables:

Table 1 : Scope of Basic Services of Professional Quantity Surveyor

Code	Basic Service
A1	Preparation of Preliminary Cost Estimates and cost plans of the development project
B1	Advise on cost estimates in relation to design development of a project
C1	Advise on procurement, tendering and contractual procedures and arrangement
D1	Preparation of the Bills of Quantities of Specification document for tender
E1	Organise the calling of tenders
F1	Evaluation of tenders received in the form of tender reports
G1	Preparation and execution of the formal contract
H1	Preparation of financial statement
J1	Settlement of the final accounts of the project

Table 2 : Scope of Supplementary Services of Professional Quantity Surveyor

Code	Supplementary Service
A2	Preparation of feasibility studies of a project
B2	Projection of estimated project or development expenditure and income cash flows
C2	Evaluation of contractors registered for prequalification
D2	Comparative cost studies on the economics of the project during design stage
E2	Project management of construction project
F2	Pricing of Bills of Quantities or negotiating and agreeing Schedule of Rates
G2	Valuation or auditing of contractual claims for arbitrations or litigation cases
H2	Valuation of auditing of insurance claims for fire damaged buildings
J2	Auditing of contracts and their related budgets and expenditure
K2	Application of the full scope of quantity surveying services in Turnkey or Privatisation Contracts

It was observed that the roles of quantity surveyors changed during end of the 1970s. The shift is seen from cost to value and recognition of the importance of procurement. With the emerging of new technologies to the construction industry, the role of Quantity Surveyor has also expanded. As a result, quantity surveying practices have expanded and diversified their scope of services to meet the demands from the industry.

Planning and supervision and facilities management are two areas which could become the potential future direction of the Quantity Surveying profession. Arbitration has been a dispute resolution tool in the industry has also emerged among quantity surveyors as part of their services. With the Construction Industry Payment and Adjudication Act has come into operation in 2014, the interest in Alternative Dispute Resolution has created more opportunities for Quantity Surveyors to provide adjudication services. The roles of Quantity Surveyors have been diversified in areas such as oil and gas services, civil engineering services, technical auditing, PFI consultancy, rehabilitation works, risk analysis insolvency services, building information modeling, maintenance administrator and several other areas. Thus quantity surveyors need to expand and include an ever-widening scope of services. Apparently, the roles of quantity surveyors are expected to develop in few other industries such as banking, aeronautical, manufacturing and mining.

The followings, but not limited to, are the *new services* offered by the quantity surveyors in Malaysia:

Table 3 : Scope of *New Services* of Professional Quantity Surveyor

Code	New Service
A3	Civil Engineering Services
B3	Oil and Gas Services
C3	Value Management
D3	Technical Auditing
E3	PFI Consultancy
F3	Arbitration
G3	Adjudication
H3	Rehabilitation Works
J3	Sub-Contract Administrator
K3	Planning and Supervision
L3	Risk Analysis Insolvency Services
M3	Building Information Services
N3	Maintenance Administrator
P3	Construction Accountants
Q3	Facilities Management

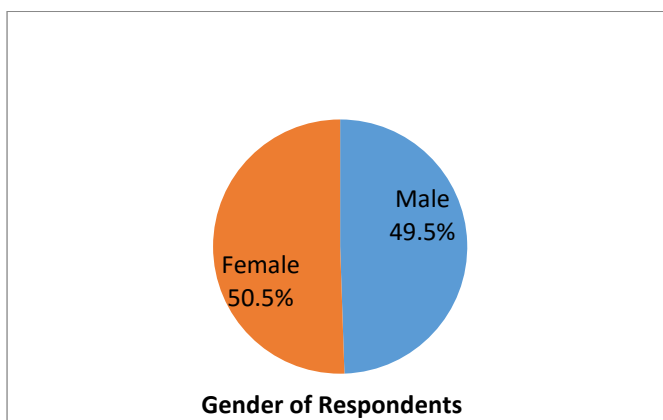
SURVEY ON PROFESSIONAL SERVICES BY QUANTITY SURVEYORS IN MALAYSIA

For the purpose of this paper, a questionnaire was developed and sent out to respondents who are involved in the quantity surveying services in Malaysia. The questionnaire comprises of three sections. The first section requested the general information of the respondents. The second section requested the respondents to agree or to disagree with a statement by ticking the assessment scale of 1 to 10 to the basic services, supplementary services and new services. The third section concentrated on the ranking of the basic services, supplementary services and new services in order of preference of the respondents.

GENERAL INFORMATION

Gender of Respondents

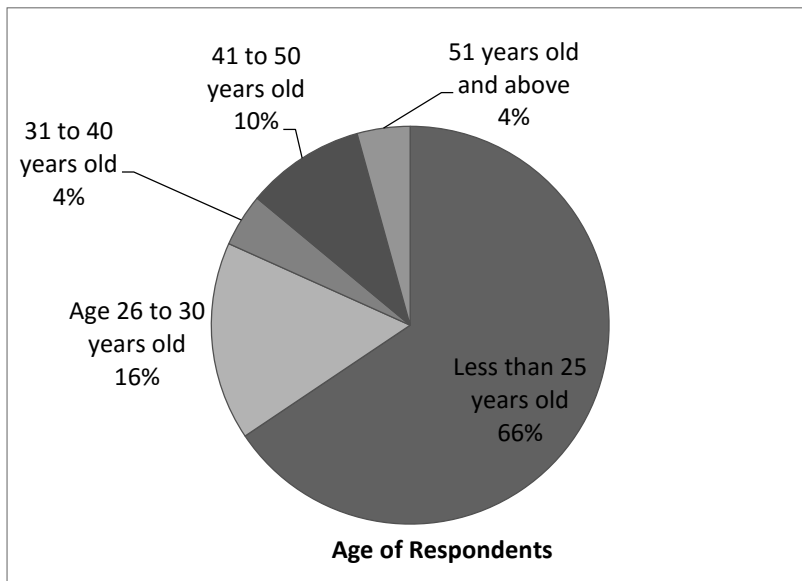
Figure 1: Gender of Respondents



From 93 respondents, 46 respondents were male and 47 respondents were female.

Age of Respondents

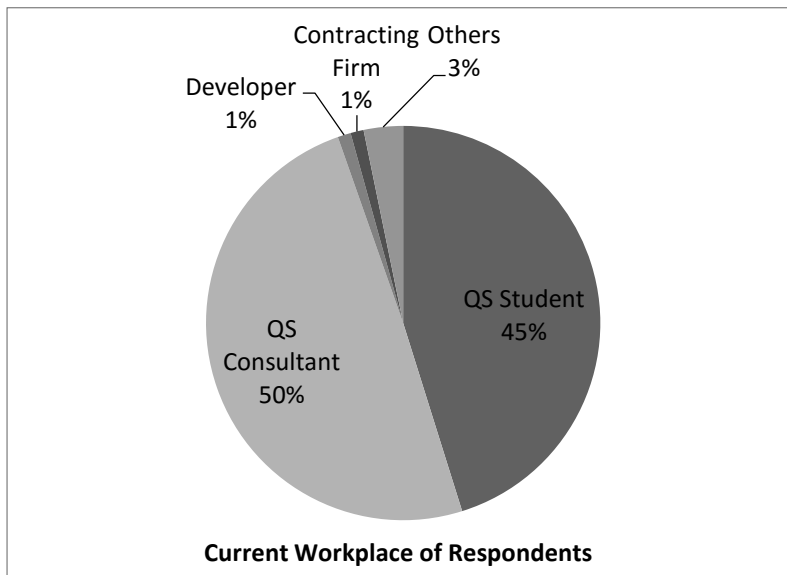
Figure 2: Age of Respondents



From 93 respondents, 61 respondents were less than 25 years old, 15 respondents were between 26 to 30 years old, 4 respondents were between 31 to 40 years old, 9 respondents were between 41 to 50 years old and 4 respondents were more than 51 years old.

Current Work Place of Respondents

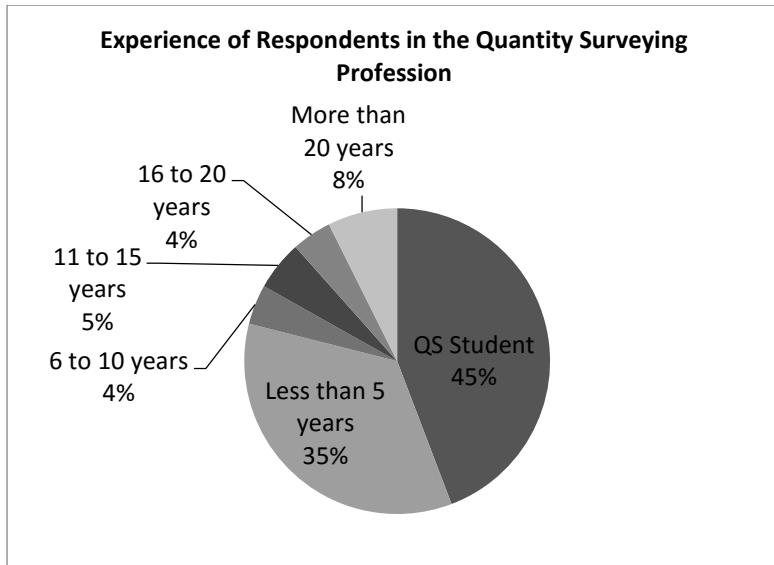
Figure 3: Current Working Place of Respondents



From 93 respondents, 42 respondents were Quantity Surveying students, 42 respondents were Quantity Surveying Consultants, 1 respondent was a Quantity Surveyor from a Contracting Firm, 1 respondent was a Quantity Surveyor from a Developer and 3 respondents were from other workplace, i.e. Quantity Surveyor from Software Provider, Public Sector and University.

Experience of Respondents in the Quantity Surveying Profession

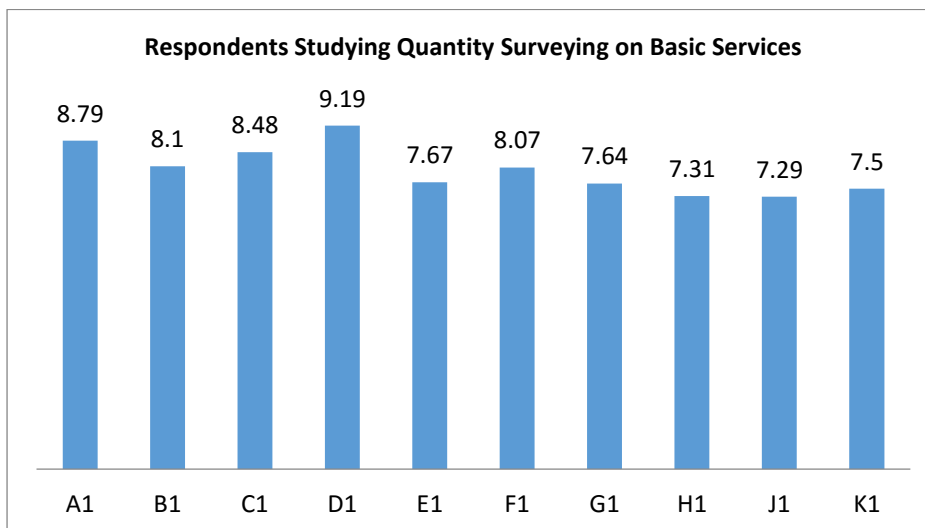
Figure 4: Experience of Respondents in the Quantity Surveying Profession



From 93 respondents, 42 respondents were Quantity Surveying students, 33 respondents have less than 5 years of experience, 4 respondents have between 6 to 10 years of experience, 5 respondents have between 11 to 15 years of experience, 4 respondents have between 16 to 20 years of experience and 7 respondents have more than 20 years of experience.

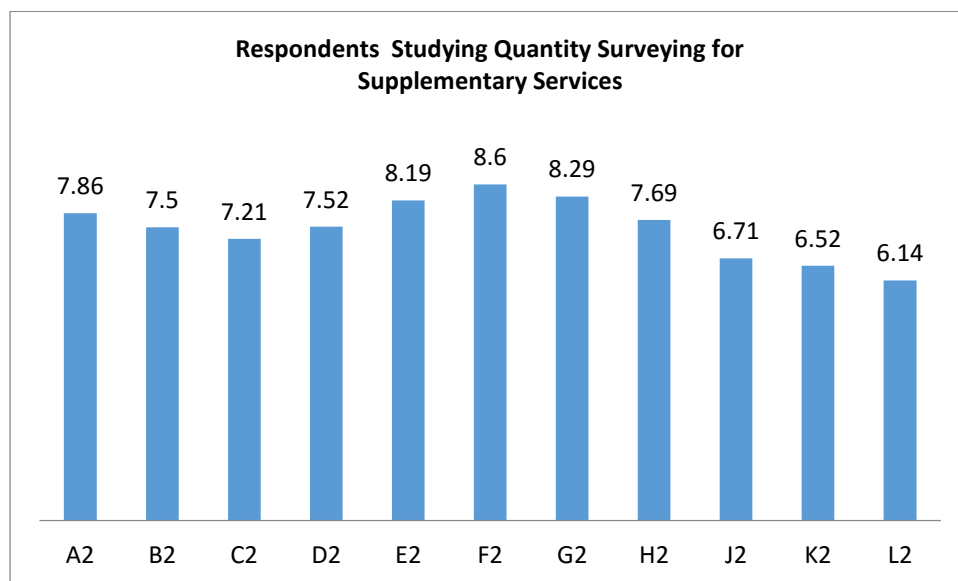
EXPOSURE OF QUANTITY SURVEYING SERVICES DURING STUDY FOR RESPONDENTS WHO ARE STUDENTS STUDYING QUANTITY SURVEYING

Table 4: Responds from Students Studying Quantity Surveying on Basic Services



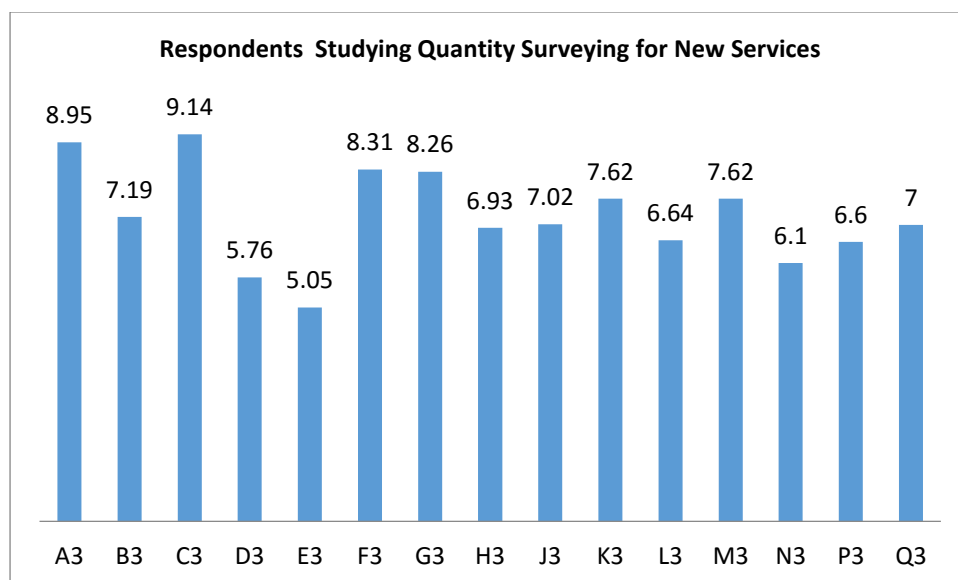
Respondents were required to assess the listed basic services based on their knowledge during their study based on the assessment scale 1 to 10, 1-4 being Never Heard/Not Sure of the services, 5-6 being May Have Heard and 7-10 being Heard/Sure of the services. Refer to Table 1 for the Codes. It is noted that the respondents were aware of the basic services of Quantity Surveyors with assessment of 7.29 being the lowest and 9.19 being the highest.

Table 5: Responds from Students Studying Quantity Surveying on Supplementary Services



Respondents were required to assess the listed supplementary services based on their knowledge during their study based on the assessment scale 1 to 10, 1-4 being Never Heard/Not Sure of the services, 5-6 being May Have Heard and 7-10 being Heard/Sure of the services. Refer to Table 2 for the Codes. It is noted that some respondents may have heard of the supplementary services, namely J2, K2 and L2. It is also noted that for other supplementary services, the respondents were aware with assessment of 7.21 being the lowest and 8.6 being the highest.

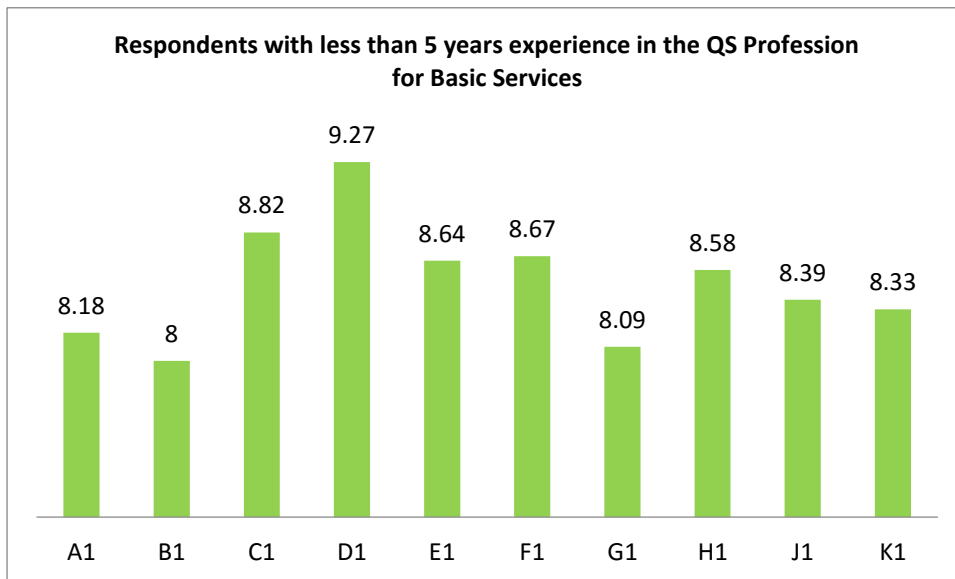
Table 6: Responds from Students Studying Quantity Surveying on New Services



Respondents were required to assess the listed new services based on their knowledge during their study based on the assessment scale 1 to 10, 1 to 10, 1-4 being Never Heard/Not Sure of the services, 5-6 being May Have Heard and 7-10 being Heard/Sure of the services. Refer to Table 3 for the Codes. It is noted that some respondents may have heard of the supplementary services, namely D3, E3, H3, L3, N3 and P3. It is also noted that for other new services, the respondents were aware with assessment of 7 being the lowest and 9.14 being the highest.

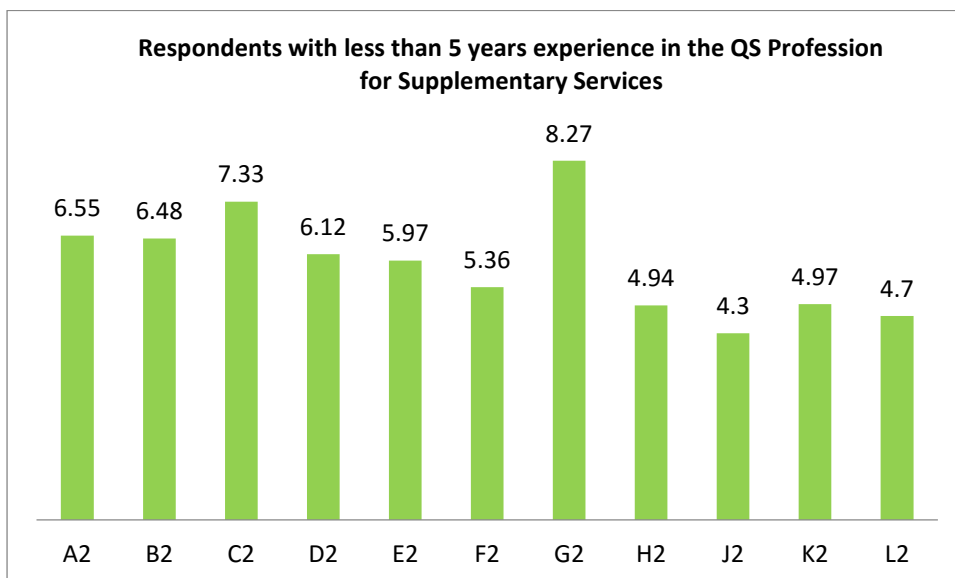
EXPOSURE OF QUANTITY SURVEYING SERVICES FOR RESPONDENTS WITH LESS THAN 5 YEARS OF WORKING EXPERIENCE AS A QUANTITY SURVEYOR

Table 7: Responds from Respondents with Less than 5 Years of Experience on Basic Services



Respondents were required to assess the listed basic services based on their knowledge during their less than 5 years of working on the assessment scale 1 to 10, 1-4 being Never Heard/Not Sure of the services, 5-6 being May Have Heard and 7-10 being Heard/Sure of the services. Refer to Table 1 for the Codes. It is noted that for the respondents were aware of the basic services of Quantity Surveyors with assessment of 8 being the lowest and 9.27 being the highest.

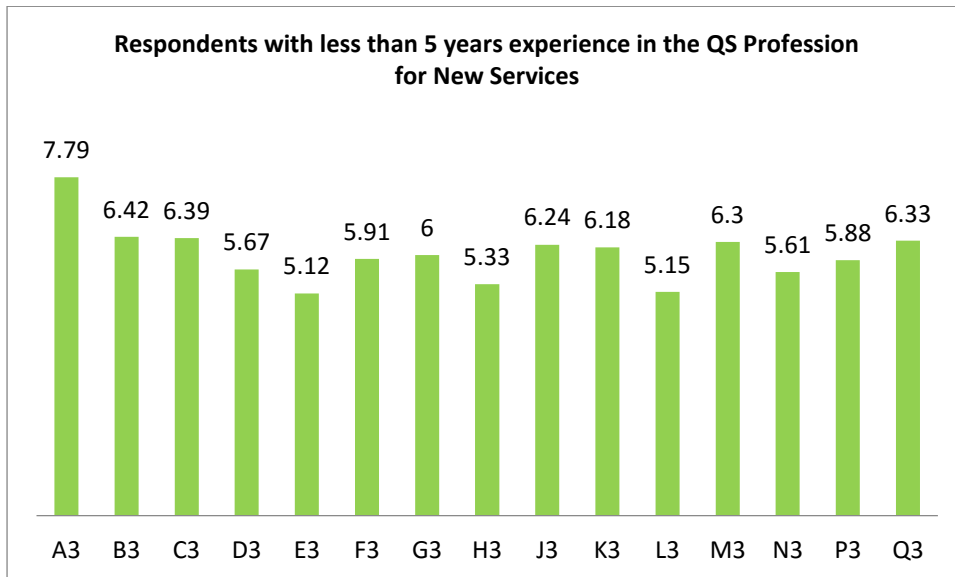
Table 8: Responds from Respondents with Less than 5 Years of Experience on Supplementary Services



Respondents were required to assess the listed supplementary services based on their knowledge during their less than 5 years of working on the assessment scale 1 to 10, 1 to 10, 1-4 being Never Heard/Not Sure of the services, 5-6 being May Have Heard and 7-10 being Heard/Sure of the services. Refer to Table 2 for the Codes. It is noted that some respondents never heard/not sure of the

supplementary services, namely H2, J2, K2 and L2. It is also observed that some respondents may have heard of the supplementary services, namely A2, B2, D2, E2 and F2. It is also noted that for other supplementary services, the respondents were aware with assessment of 7.33 being the lowest and 8.27 being the highest.

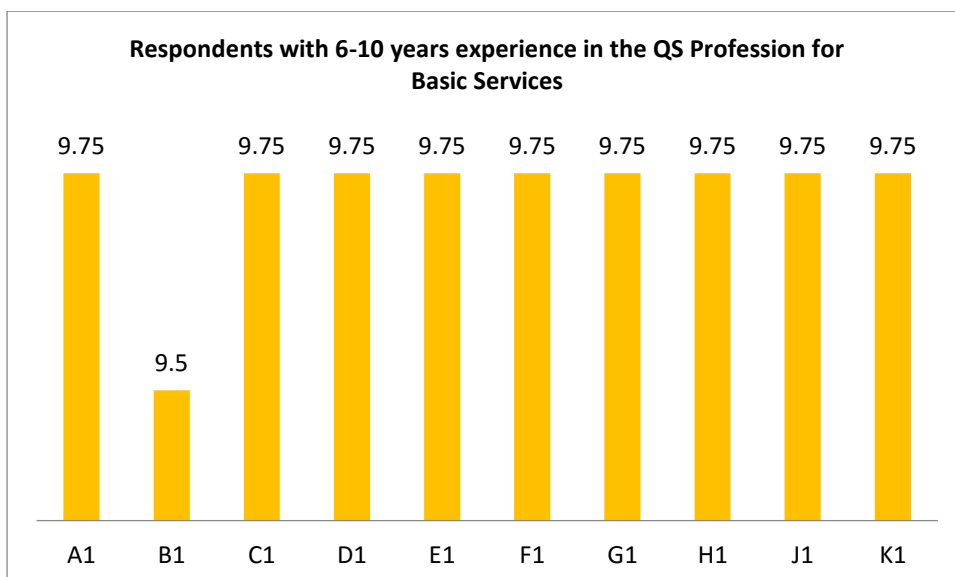
Table 9: Responds from Respondents with Less than 5 Years of Experience on New Services



Respondents were required to assess the listed new services based on their knowledge during their less than 5 years of working on the assessment scale 1 to 10, 1 to 10, 1-4 being Never Heard/Not Sure of the services, 5-6 being May Have Heard and 7-10 being Heard/Sure of the services. Refer to Table 3 for the Codes. It is noted that all respondents may have heard of all of the new services except for A3 which the respondents were aware of the service with the assessment of 7.79.

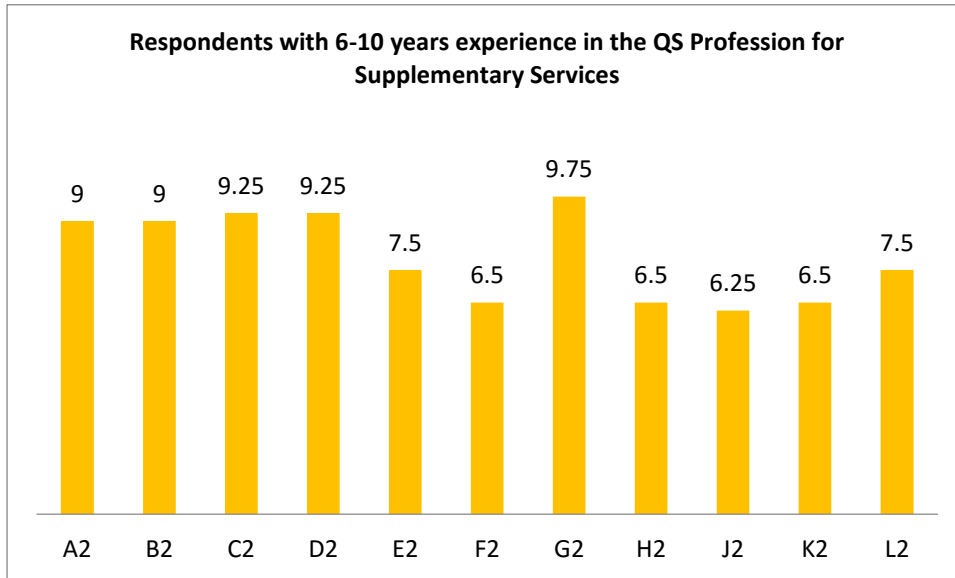
EXPOSURE OF QUANTITY SURVEYING SERVICES FOR RESPONDENTS WITH WORKING EXPERIENCE BETWEEN 6 TO 10 YEARS AS A QUANTITY SURVEYOR

Table 10: Responds from Respondents with Working Experience Between 6 to 10 Years on Basic Services



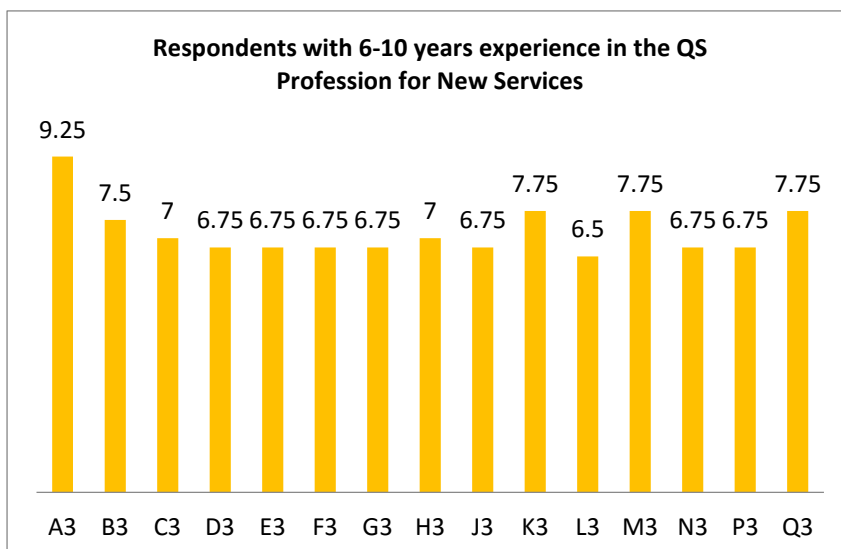
Respondents were required to assess the listed basic services based on their knowledge during their 6 to 10 years of working experience on the assessment scale 1 to 10, 1-4 being Never Heard/Not Sure of the services, 5-6 being May Have Heard and 7-10 being Heard/Sure of the services. Refer to Table 1 for the Codes. It is noted that for the respondents were aware of the basic services of Quantity Surveyors with assessment of 9.5 being the lowest and 9.75 being the highest.

Table 11: Responds from Respondents with Working Experience Between 6 to 10 Years on Supplementary Services



Respondents were required to assess the listed supplementary services based on their knowledge during their 6 to 10 years of working experience on the assessment scale 1 to 10, 1-4 being Never Heard/Not Sure of the services, 5-6 being May Have Heard and 7-10 being Heard/Sure of the services. Refer to Table 2 for the Codes. It is noted that some respondents may have heard of the supplementary services, namely F2, H2, J2 and K2. It is also noted that for other supplementary services, the respondents were aware with assessment of 7.5 being the lowest and 9.75 being the highest.

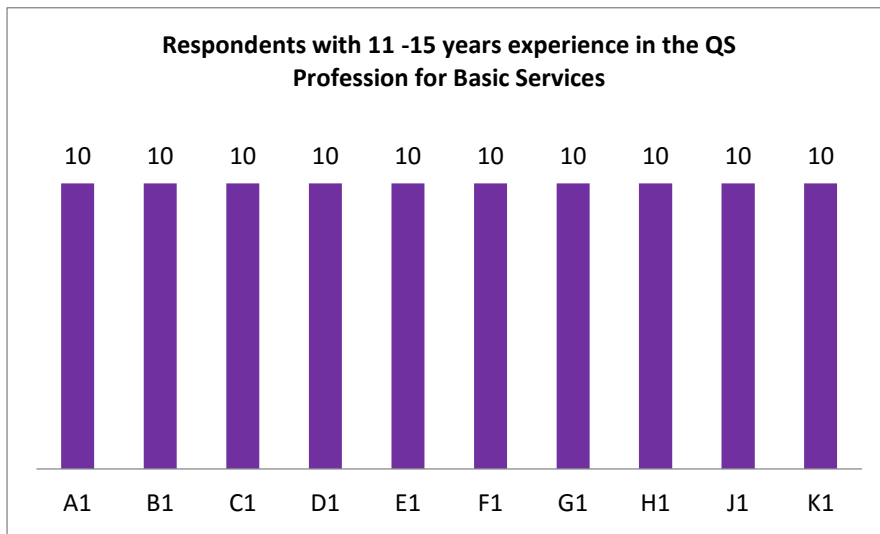
Table 12: Responds from Respondents with Working Experience Between 6 to 10 Years on New Services



Respondents were required to assess the listed new services based on their knowledge during their 6 to 10 years of working experience on the assessment scale 1 to 10, 1-4 being Never Heard/Not Sure of the services, 5-6 being May Have Heard and 7-10 being Heard/Sure of the services. Refer to Table 3 for the Codes. It is noted that some respondents may have heard of the new services, namely D3, E3, F3, G3, J3, L3, N3 and P3. It is also noted that for other new services, the respondents were aware with assessment of 7 being the lowest and 9.25 being the highest.

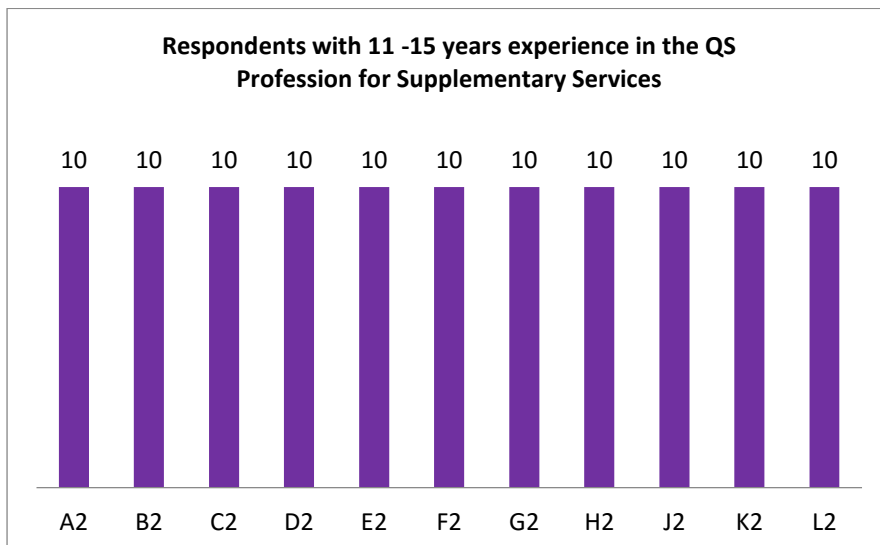
EXPOSURE OF QUANTITY SURVEYING SERVICES FOR RESPONDENTS WITH WORKING EXPERIENCE BETWEEN 11 TO 15 YEARS AS A QUANTITY SURVEYOR

Table 13: Responds from Respondents with Working Experience Between 11 to 15 Years on Basic Services



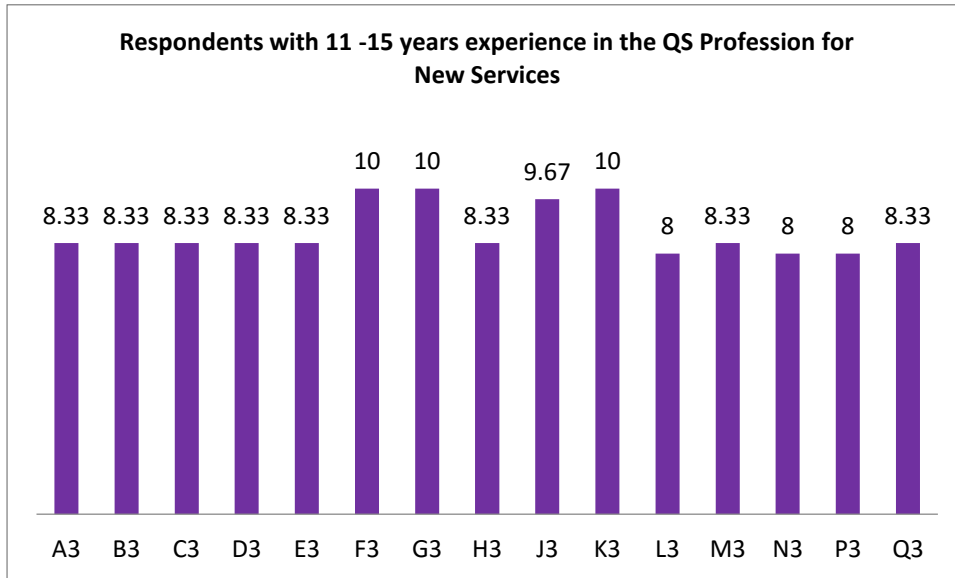
Respondents were required to assess the listed basic services based on their knowledge during their 11 to 15 years of working experience on the assessment scale 1 to 10, 1-4 being Never Heard/Not Sure of the services, 5-6 being May Have Heard and 7-10 being Heard/Sure of the services. Refer to Table 1 for the Codes. It is noted that for the respondents were aware of the basic services of Quantity Surveyors with assessment of 10 for all services.

Table 14: Responds from Respondents with Working Experience Between 11 to 15 Years on Supplementary Services



Respondents were required to assess the listed supplementary services based on their knowledge during their 11 to 15 years of working experience on the assessment scale 1 to 10, 1-4 being Never Heard/Not Sure of the services, 5-6 being May Have Heard and 7-10 being Heard/Sure of the services. Refer to Table 2 for the Codes. It is noted that for the respondents were aware of the supplementary services of Quantity Surveyors with assessment of 10 for all services.

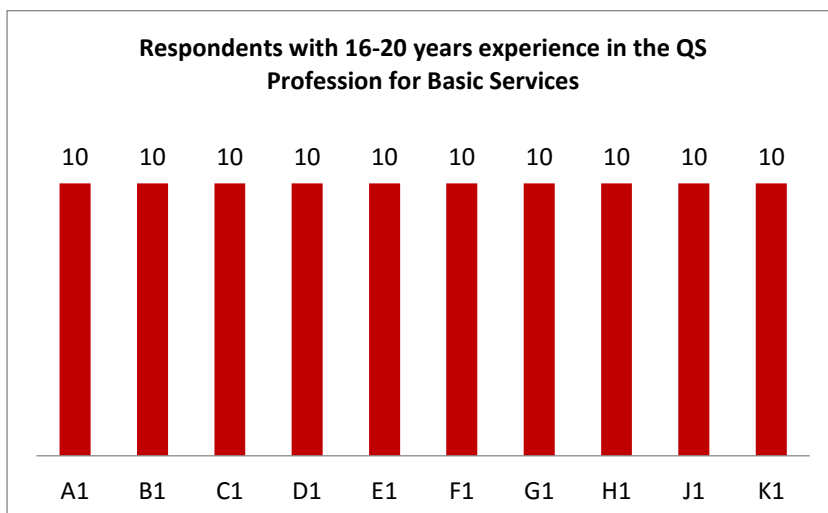
Table 15: Responds from Respondents with Working Experience Between 11 to 15 Years on New Services



Respondents were required to assess the listed new services based on their knowledge during their 11 to 15 years of working experience on the assessment scale 1 to 10, 1-4 being Never Heard/Not Sure of the services, 5-6 being May Have Heard and 7-10 being Heard/Sure of the services. Refer to Table 3 for the Codes. It is noted that for the respondents were aware of the new services of Quantity Surveyors with assessment of 8 being the lowest and 10 being the highest.

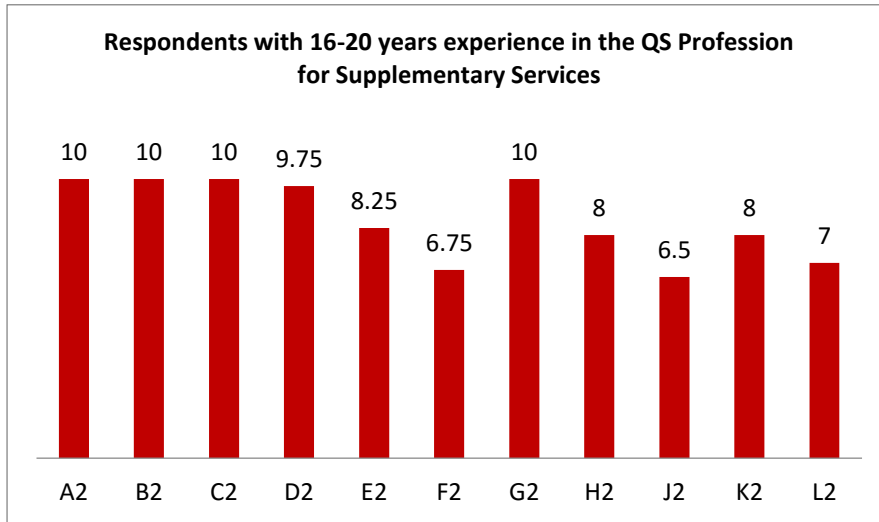
EXPOSURE OF QUANTITY SURVEYING SERVICES FOR RESPONDENTS WITH WORKING EXPERIENCE BETWEEN 16 TO 20 YEARS AS A QUANTITY SURVEYOR

Table 16: Responds from Respondents with Working Experience Between 16 to 20 Years on Basic Services



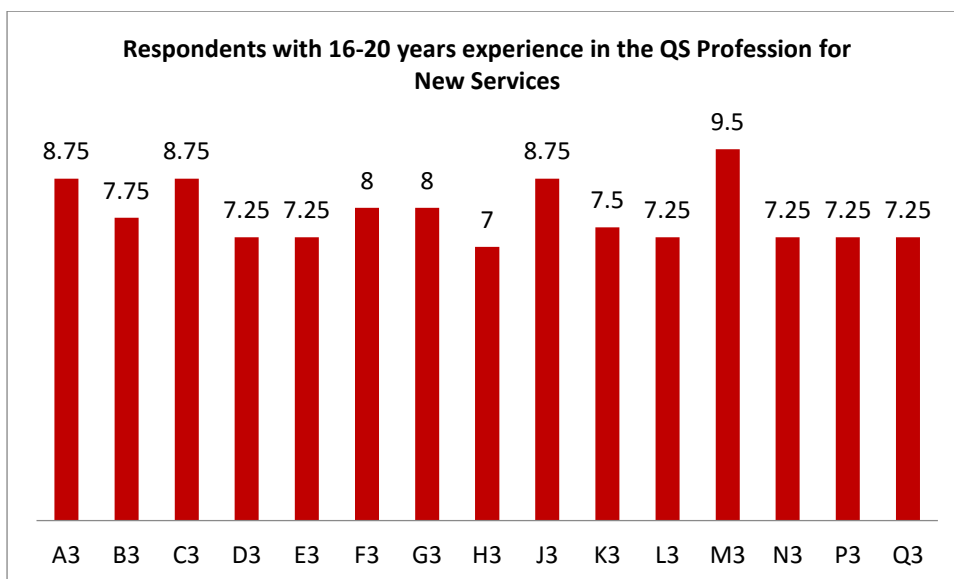
Respondents were required to assess the listed basic services based on their knowledge during their 16 to 20 years of working experience on the assessment scale 1 to 10, 1-4 being Never Heard/Not Sure of the services, 5-6 being May Have Heard and 7-10 being Heard/Sure of the services. Refer to Table 1 for the Codes. It is noted that for the respondents were aware of the basic services of Quantity Surveyors with assessment of 10 for all services.

Table 17: Responds from Respondents with Working Experience Between 16 to 20 Years on Supplementary Services



Respondents were required to assess the listed supplementary services based on their knowledge during their 16 to 20 years of working experience on the assessment scale 1 to 10, 1-4 being Never Heard/Not Sure of the services, 5-6 being May Have Heard and 7-10 being Heard/Sure of the services. Refer to Table 2 for the Codes. It is noted that some respondents may have heard of the supplementary services, namely F2 and J2. It is also noted that for other supplementary services, the respondents were aware with assessment of 7 being the lowest and 10 being the highest.

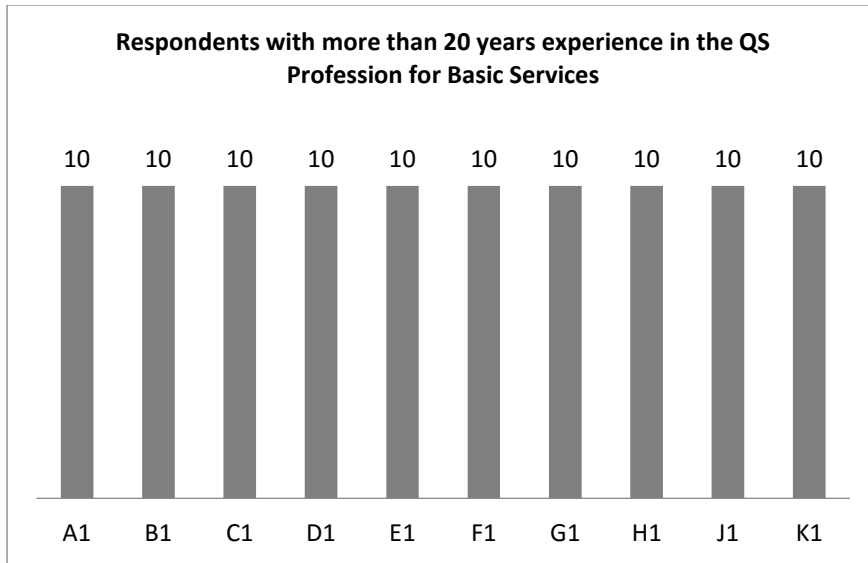
Table 18: Responds from Respondents with Working Experience Between 16 to 20 Years on New Services



Respondents were required to assess the listed new services based on their knowledge during their 16 to 20 years of working experience on the assessment scale 1 to 10, 1-4 being Never Heard/Not Sure of the services, 5-6 being May Have Heard and 7-10 being Heard/Sure of the services. Refer to Table 3 for the Codes. It is noted that for the respondents were aware of the new services of Quantity Surveyors with assessment of 7 being the lowest and 9.5 being the highest.

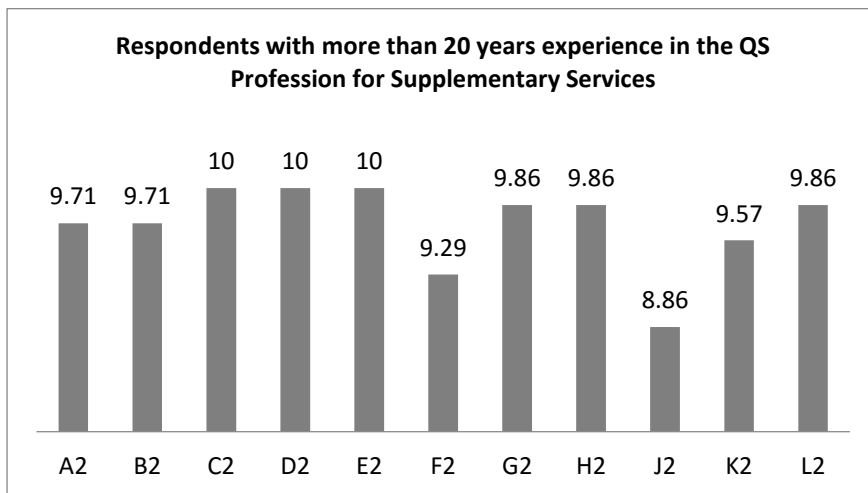
EXPOSURE OF QUANTITY SURVEYING SERVICES FOR RESPONDENTS WITH WORKING EXPERIENCE BETWEEN 16 TO 20 YEARS AS A QUANTITY SURVEYOR

Table 19: Responds from Respondents with Working Experience More Than 20 Years on Basic Services



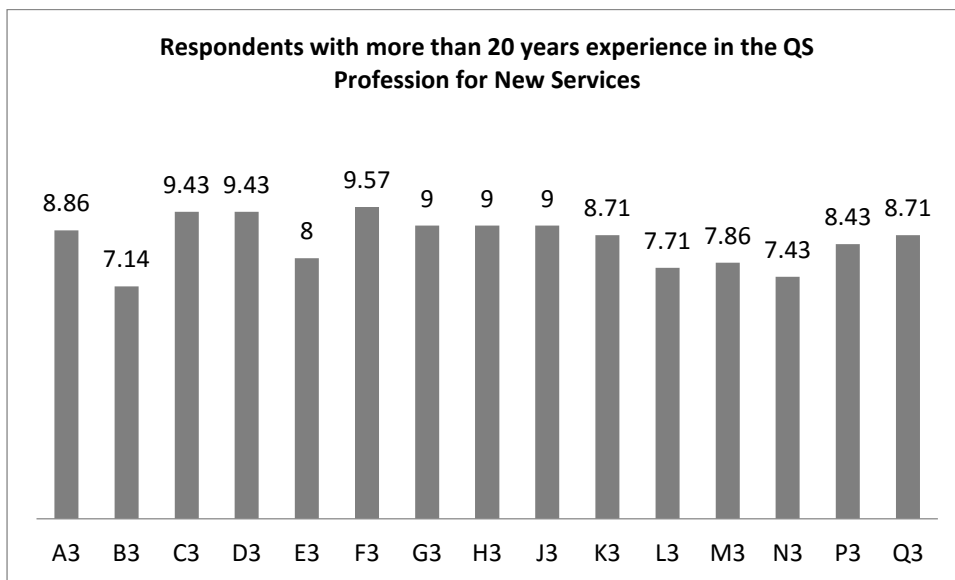
Respondents were required to assess the listed basic services based on their knowledge during their more than 20 years of working experience on the assessment scale 1 to 10, 1-4 being Never Heard/Not Sure of the services, 5-6 being May Have Heard and 7-10 being Heard/Sure of the services. Refer to Table 1 for the Codes. It is noted that for the respondents were aware of the basic services of Quantity Surveyors with assessment of 10 for all services.

Table 20: Responds from Respondents with Working Experience More Than 20 Years on Supplementary Services



Respondents were required to assess the listed supplementary services based on their knowledge during their more than 20 years of working experience on the assessment scale 1 to 10, 1-4 being Never Heard/Not Sure of the services, 5-6 being May Have Heard and 7-10 being Heard/Sure of the services. Refer to Table 2 for the Codes. It is noted that for the respondents were aware of the supplementary services of Quantity Surveyors with assessment of 8.86 being the lowest and 10 being the highest.

Table 21: Responds from Respondents with Working Experience More Than 20 Years on New Services

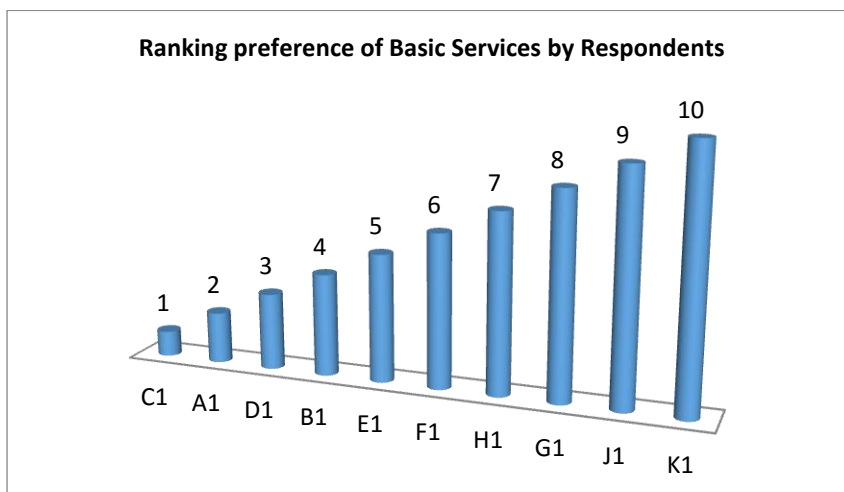


Respondents were required to assess the listed new services based on their knowledge during their more than 20 years of working experience on the assessment scale 1 to 10, 1-4 being Never Heard/Not Sure of the services, 5-6 being May Have Heard and 7-10 being Heard/Sure of the services. Refer to Table 3 for the Codes. It is noted that for the respondents were aware of the new services of Quantity Surveyors with assessment of 7.14 being the lowest and 9.57 being the highest.

RANKING OF QS SERVICES BASED ON PREFERENCE OF THE RESPONDENTS

Ranking of Basic Services

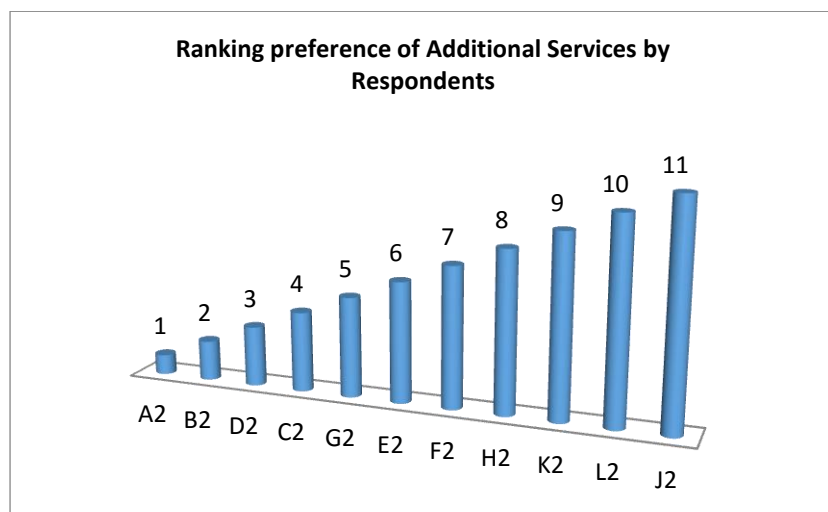
Table 22: Ranking of Basic Services based on Preference of the Respondents



It is observed that the top three preferred basic services ranked according to preferences by the Respondents are Advise on procurement, tendering and contractual procedures and arrangement, Preparation of preliminary cost estimates and cost plans of the development project and Preparation of the Bills of Quantities or Specification document for tendering purposes. The least preferred basic service ranked by the Respondents is the Settlement of final accounts of the project.

Ranking of Supplementary Services

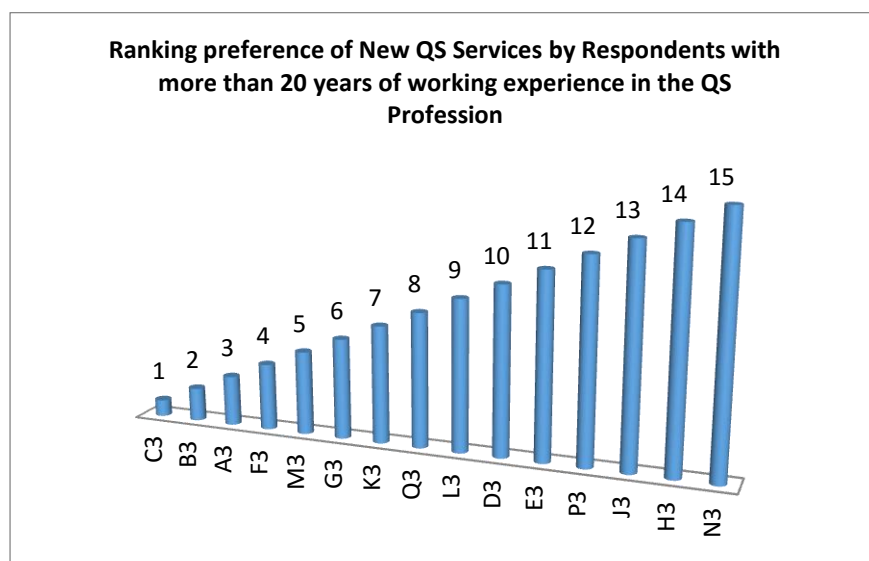
Table 23: Ranking of Supplementary Services based on Preference of the Respondents



It is observed that the top three preferred supplementary services ranked according to preferences by the Respondents are Preparation of feasibility studies of a project, Projection of estimated project or development expenditure and income cash flows and Comparative cost studies on the economics of the project during design stage. The least preferred supplementary service ranked by the Respondents is the Auditing of contracts and their related budgets and expenditure.

Ranking of New Services

Table 23: Ranking of New Services based on Preference of the Respondents



It is observed that the top three preferred new services ranked according to preferences by the Respondents are Value Management, Oil and Gas Services and Civil Engineering Services. The least preferred new service ranked by the Respondents is Maintenance Administrator.

FINDINGS FROM QUESTIONNAIRE

From the questionnaire, it is observed that the experienced quantity surveyors were more experts in the basic services, supplementary services and new services as compared to the least experienced quantity surveyors. It is also noted that the quantity surveying students' assessment on their knowledge of the supplementary services and new services is rather on the lower scale ranging from 5 to 9. It is best to summarize that the profession matures through experience while working.

METAMORPHOSIS OF QS PROFESSION: A REVOLUTIONARY JOURNEY

It has been a long way since the day of arriving at an estimated cost to be carried out in measuring the quantities of all materials and labour to complete the work manually with scale ruler or a hand drawn drawing and slip sort paper to the usage of computer aided measurement with the current emergence of BIM in the past decade. The quantity surveyors in the 21st century not only have to provide the basic and supplementary services but also have to provide new specialised services to maintain their competencies. Additional specialisation to the profession should be considered by the quantity surveying practices by providing training or courses to their personnel. In Malaysia, training to become certified arbitrator or adjudicator is available and should become a value added service for the existing and potential clients. This is hoped that the quantity surveying practices will be able to provide basic and supplementary services as well as new services.

The quantity surveying profession is a changing and must further change since the industry which may need quantity surveyors are changing and developing. While the core competencies must be maintained, the adaptation of latest technologies must be taken into consideration. This may include the usage of latest softwares for measurement, digital documentation as well as digital filing and electronic tendering. As the number of parties in the construction industry using computers increased, the integration of data is very much encouraged.

Besides that, we also witnessed in the last decade the availability of the latest standard form of contracts in the Malaysian construction industry. The Public Works Department of Malaysia (PWD) has issued the latest PWD Conditions of Contract (Revision 2010). The Pertubuhan Arkitek Malaysia (PAM) also issued the latest PAM Conditions of Contract (2006). Both of these latest conditions of contract require contractual consideration in order for the quantity surveyor to fulfill their duties.

Communication has also dramatically evolved for the past three decades. The usage of digital communication instead of the normal method of telecommunication such as faxes, telephone and postage has improved the quality of services as the deliverance of services seems to be faster.

The BQSM has imposed that members must undergo a minimum continuous professional development (CPD) hours of training every year. This is genuinely believed to benefit the members of continuous education and learning so to enhance their services. A good CPD event should improve the quantity surveyor's services.

CONCLUSION

In conclusion, this paper has shown that the quantity surveying profession matured through experience. It is also noted that the roles of quantity surveyors has expanded and diversified. This has resulted quantity surveyors need not only to provide basic and supplementary services but also to provide ever-widening scope of services to fulfill the demand for this changing industry.

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