

STRATEGIES FOR TACTFUL TIME MANAGEMENT FOR QUANTITY SURVEYORS

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ABSTRACT

More than ever before, today's global competition is driven by time. Many issues constituted problems for construction professionals, among them central issue is the time frame. Especially Quantity Surveyor's day to day work involves management of activities and achievement of the short-term goals of the project. Therefore this study focuses on tactful time management for Quantity Surveying professionals practicing worldwide. Literature synthesis and preliminary survey were undertaken to establish the research problem of this study that emphasised lack of awareness and training among Quantity Surveyors on time management. Survey method was adopted whereby initially a preliminary survey was conducted among 10 Quantity Surveyors who are having vast experience in the field of study. Further questionnaires were distributed among 90 Quantity Surveyors and semi-structured interviews were conducted with 7 experts having specialised knowledge and experience in Quantity Surveying, Time management, Human Resource Management and Project Planning.

The research findings acknowledged Quantity Surveyor's roles and duties in a typical organization followed by critical activities that consume more time among the other duties such as preparation of final accounts and agreements and procurement and coordination of stakeholders etc. while dominant causes were lack of experience in Quantity Surveying practices and type and requirements of clients. The survey findings also offered possible techniques to maximise time management such as effective team work and Key Performance Indicators (KPIs) and identified barriers that could arise in implementing them. MANOVA test was carried out with the aid of SPSS tool, which verified the influence of type of sector, type of organisation, country of practise and managerial position employed on each factor. Further NVIVO software package was used to produce cognitive map to visualise the overall picture of study. Ultimately the solutions that emerged from the research findings were used to formulate guidelines to assist Quantity Surveyors achieving tactful time management in professional career - the aim of this research.

Keywords: Construction Industry; Quantity Surveyors; Tactful; Time Management; Sri Lanka.

1. INTRODUCTION

The construction industry is usually considered to be the backbone in any economy (Enshassiet *et al.*, 2010). The nature of the industry is such that it is not capable of being planned, i.e. its dynamic environment prevents any long and medium term planning (Yisa *et al.*, 1996). Ringen *et al.* cited in Hoffmeister *et al.* (2011) argued that in the construction industry, the tight deadlines and working with and around other trades can create an atmosphere of tension and anxiety. As a result, difficulty with the availability and management of time was the primary cause of stress for the professional groups. Thus, effective time management skills are increasingly important to enhance the performance of professionals (Hawkins and Klas, 1997).

Among the construction professions, quantity surveying is an important discipline (Olatunji *et al.*, 2010). According to Ferry *et al.* cited in Matipa *et al.* (2008) on frequent occasions, quantity surveyors (QS) do not have enough space of time to perform their functions. In addition, Female QS felt that jobs in the construction industry are masculine in nature, are stressful and demanding, and entail long working hours.

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Dainty *et al.* cited Ling and Poh (2004) have also found site work to be time consuming and infringing on social activities and family responsibilities. Moreover, time management will be more difficult for QS in future (Claessens *et al.*, 2007).

As a result, identifying and analysing the time management issues faced by QSs and providing practical solutions to overcome those problems is vital and valuable for the young QSs to succeed in their professional life. As well it will be beneficial for the construction industry as a whole and ultimately for the nation. This paper initially provides a comprehensive literature review in order to mine the background of the profession 'Quantity Surveying' and its relationship to the time management phenomena. Then the findings of the preliminary survey, questionnaire survey and experts' interviews are presented and further subjected to a discussion. Finally, conclusions are drawn from the findings.

2. TIME MANAGEMENT

Time is the most precious, invaluable and limited resource and unless it is carefully managed, nothing else can be (Hassanzabeh and Ebadi, 2007). In addition, Britton and Tesser (1991) argued that for most of the cases time is one of the important factor determine the success of any activity. However in today's society, ability to handle time is becoming more and more critical factor (Harung, 1998). In addition Rehnquist cited in Margol and Kleiner (1989), stressed that the real reason for excelling in managing one's time was to lead as fulfilling a life as possible, but balancing all of the family and personal role with work commitments is not an easy task as timing plays an important part. Therefore it's essential to focus on time management phenomenon for the betterment of professional life as well as personal life. During the last two decades, there has been a growing recognition of the importance of time in the organizational literature. A number of authors discussed the need for better incorporating time in theoretical models and research designs (Claessens *et al.*, 2007). However none of them contemplated time management for quantity surveying professionals. As a result, this research aims to study the time management behaviours of QSs and attempts to develop some general guidelines on tactful time management that can be applicable for QSs working worldwide.

2.1. TACTFUL TIME MANAGEMENT

There is no agreement on the definition of time management in past studies. Several authors described time management in different ways. Therefore, Claessens *et al.* (2007) found it was difficult to determine the exact content of time management in past research. As a result a definition was suggested by them for time management as: "*Time management is a set of behaviours that aim at achieving an effective use of time while performing certain goal-directed activities. These behaviours comprise of assessment behaviours, planning behaviours and monitoring behaviours*". In addition, Oxford Dictionary (2014) defines the meaning of tactful as "having or showing skill and sensitivity in dealing with others or with difficult issues". Accordingly tactful time management can be described as: *having or showing skill and sensitivity on time management*. According to the definition of tactful time management, it's essential to identify time management skills. Time management may be aided by a range of skills, tools, and techniques used to manage time when accomplishing specific tasks, projects and goals complying with a due date (Ahmad *et al.*, 2012). Further time management skills are ones abilities to recognize and solve personal time management problems. Accordingly time management can be presented as a set of time management skills described by Hassanzabeh and Ebadi (2007) as: Goal setting, Planning, Prioritizing, Decision making, Delegating and Scheduling.

2.2. ROLES AND DUTIES OF QUANTITY SURVEYORS

Due to the dynamic environment of the construction industry the quantity surveyor's role has seemingly continual evolution over the years (O'Brien *et al.*, 2014). The prime and essentially, the core role of quantity surveyor rotate around the concept of cost control (Senaratne and Sabesan, 2008). Willis *et al.* (2007) advocated three types of roles to replicate this, namely traditional, evolved, and developing as shown in Figure 1.

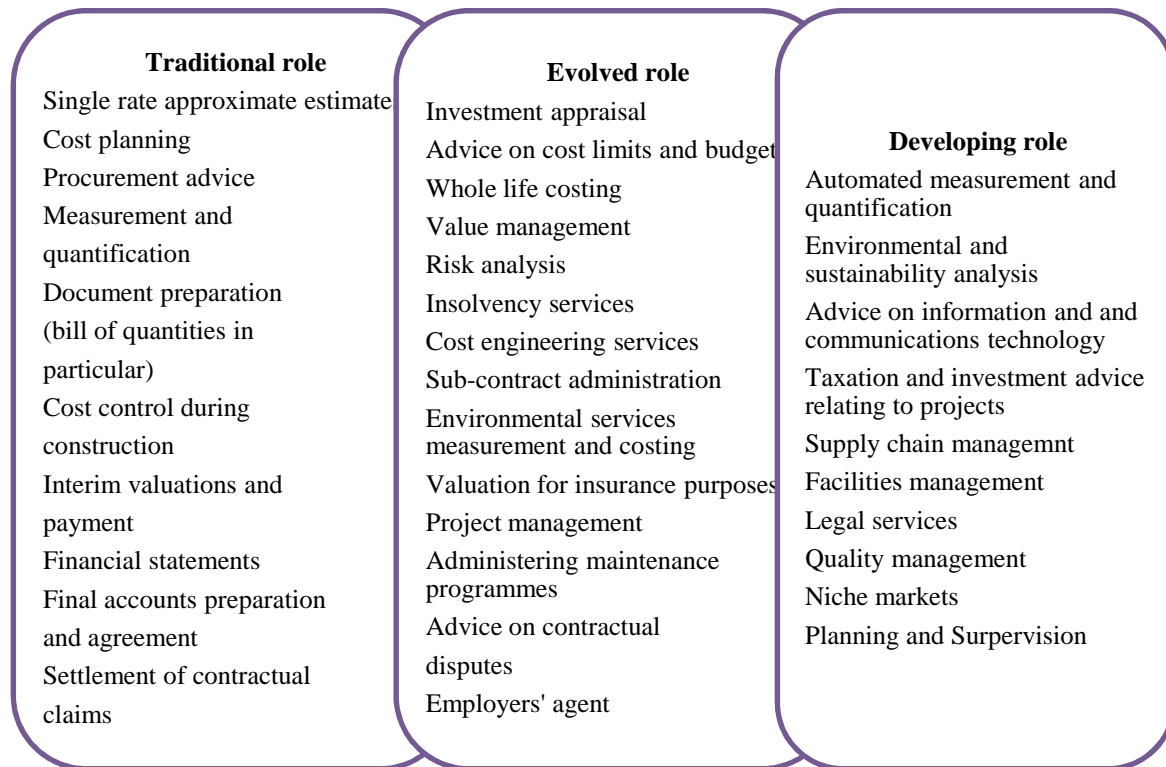


Figure 1: Clusters of Quantity Surveyors' Roles

O'Brien *et al.* (2014) identified some of the duties of QS according to construction phases as illustrated in the Table 1.

Table 1: Quantity Surveyors' Duties based on Construction Phases

Pre-construction Duties	Construction Duties	Post construction Duties
Tendering and winning jobs in a highly competitive market	Scope change and variation management	Agreeing final accounts
Estimating reliably when there is poorly documented design information	Cash flow monitoring and reporting	Obtaining practical/ final completions and Code Compliance Certificates
Cost data integrity and reliability of cost advice	Margin maintenance	Capturing and valuing costs associated with snagging requirements
Accuracy of budgeting and cash flow forecasting	Reconciling and estimate assumptions with onsite cost realities	Management of Defects rectification liability
Effective contract negotiation	Conflict management, negotiations and Dispute resolution	Retentions release
Appropriateness of contingency/ risk margins and allocations	Contract administration	Cost analysis/ cost modelling
Prediction of market trends and their impacts on proposed project	Cost -to-complete forecasts	Liquidated and ascertained damages
Gaining and sustaining clients' confidence	Industry Capitalisation Overdraft/ credit facilities	Arbitration/dispute resolution
Adequacy of tender and contract documentations.	Record keeping	Satisfying client - gaining repeat commissions
Resolving tags in tender evaluation	Communication and reporting	Documenting and sharing lessons learnt for use in future jobs

3. RESEARCH METHODOLOGY

The research initiated with a literature synthesis to establish a theoretical background on the concept of time management phenomenon for Quantity Surveyors using existing knowledge. However it was revealed lack of studies on time management; especially for Quantity Surveyors. As a result preliminary survey was conducted among 10 experts in Quantity Surveying field in order to identify the critical duties that consume more time among the Quantity Surveying functions, possible causes behind poor time management and practical solutions to achieve tactful time management. Consequently the survey approach was adopted as the best suitable method for the research among Quantity Surveying professionals working in Sri Lanka and outside the country to ascertain their perception on the above mentioned aspects. Questionnaire survey and semi-structured experts' interviews were used as two separate techniques to collect data under the survey approach (in addition to preliminary survey). Questionnaires were distributed among 90 Quantity Surveying professionals and semi-structured experts' interviews were conducted among 7 experts having specialised knowledge and experience in Quantity Surveying practice, Human Resource Management, Project Management and Time Management. MANOVA test (to consider the effects of more than one independent variable on combined set of dependent variable) was used to analyse data collected through questionnaire survey, and data collected through interviews were analysed using content analysis with the aid of NVIVO software package to arrive at suitable conclusions and recommendations. Sampling strategy for data collection was convenience sampling under non-probability sampling technique.

4. PRELIMINARY SURVEY

The information lacking from the literature review was collected through preliminary survey conducted among 10 Quantity Surveyors working across client, consultant and contractor organisations. Amongst those 8 were local interviews and 2 were from outside the country surveyed through electronic mail. Initially the critical duties that consume more time compared to other functions were acknowledged as illustrated in Figure 2.

Client Organization	Consultant Organization	Contractor Organization
<ul style="list-style-type: none"> • Getting approvals • Procurement and coordination of stakeholders to the project • Tendering procedures • Evaluation of alternative proposals • Preparation of project budgets • Feasibility studies 	<ul style="list-style-type: none"> • Preparation of tender documents (especially BOQ) • Checking final accounts • Claim report analysis • Evaluation and selection of suitable contractors • Cost planning and estimating • Evaluation of interim payment applications 	<ul style="list-style-type: none"> • Preparation of final accounts and agreements • Estimating & tendering • Preparation of claim reports • Several negotiations • Post contract administration • Preparation of interim applications • Sub contractor selection • Sub contractor evaluation and payments

Figure 2: Critical Duties of Quantity Surveyors that Consume More Time

Consequently the possible reasons behind poor time management were examined and each respondent's answers were collected and compiled into one set of document. Further, those responses have been divided into three categories, as Personal Causes, Organizational Causes and Other Causes are demonstrated in Figure 3.

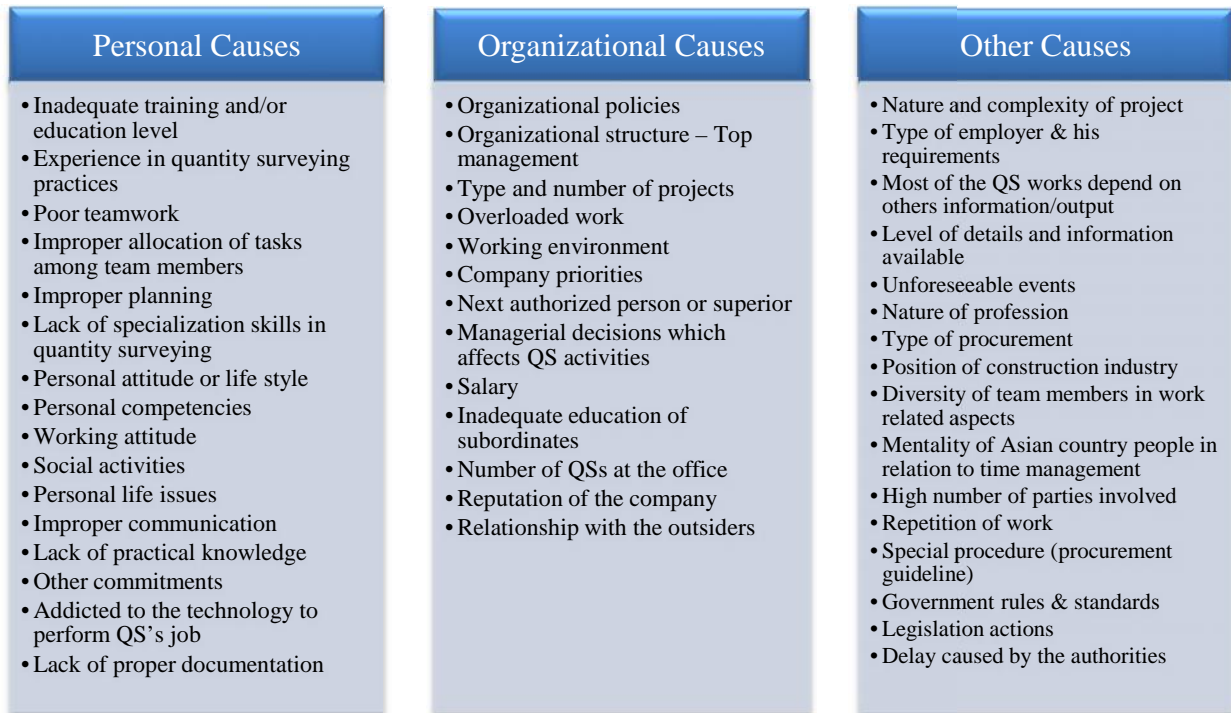


Figure 3: Potential Causes behind Poor Time Management

Finally some suggestions were proposed and listed under two headings (as given under Figure 4) as Personal Strategies and Organizational Improvements to overcome the above mentioned causes.



Figure 4: Practicable Time Management Initiatives

In addition to the solutions for the improvement in time management, the possible barriers that may arise when implementing those time management initiatives were identified through preliminary interviews. The compiled list of potential difficulties includes: Personal attitude to resist the change towards time management, Lack of awareness on time management, Lack of interest of top management, Fear on any issues that may arise after implementing time management initiatives from staff and management, Requirement of additional resources to implement, Requires a significant time to implement and Financial constraints of the employer to support time management initiatives.

5. DATA COLLECTION AND ANALYSIS

Quantitative data for this study were collected through Questionnaire survey conducted among Quantity Surveyors working worldwide. Subsequently the findings were verified through experts' interviews conducted among experts and the qualitative data obtained from interviews were analysed using NVIVO software. Initially the presented data was analysed from various perspectives to understand the inter relationships between variables in order to demonstrate a clear understanding on the research findings.

5.1. PROFILE OF RESPONDENTS

The profile of the respondents of the questionnaire survey are classified according to the type of organisation including the type of sector to which their firm belongs to and managerial position and their working experience and presented in Figures 5 and 6 respectively.

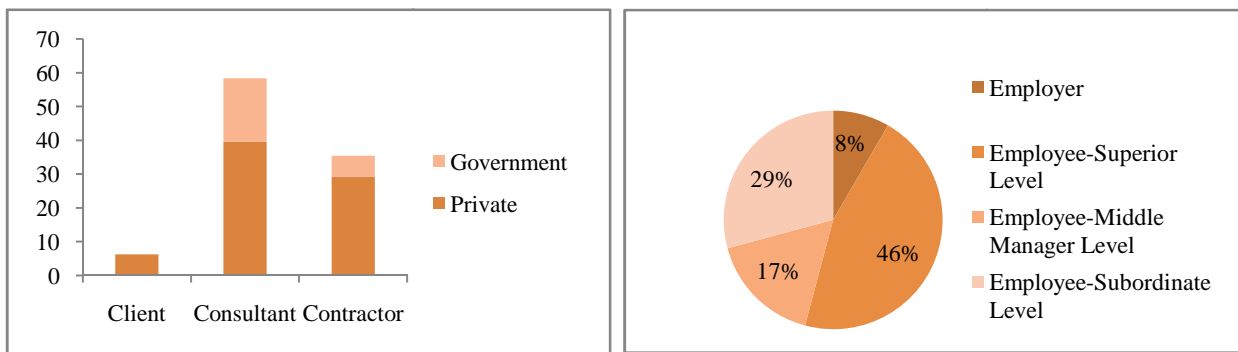


Figure 5: Respondents' Profile Based on Type of Firm and Managerial Position

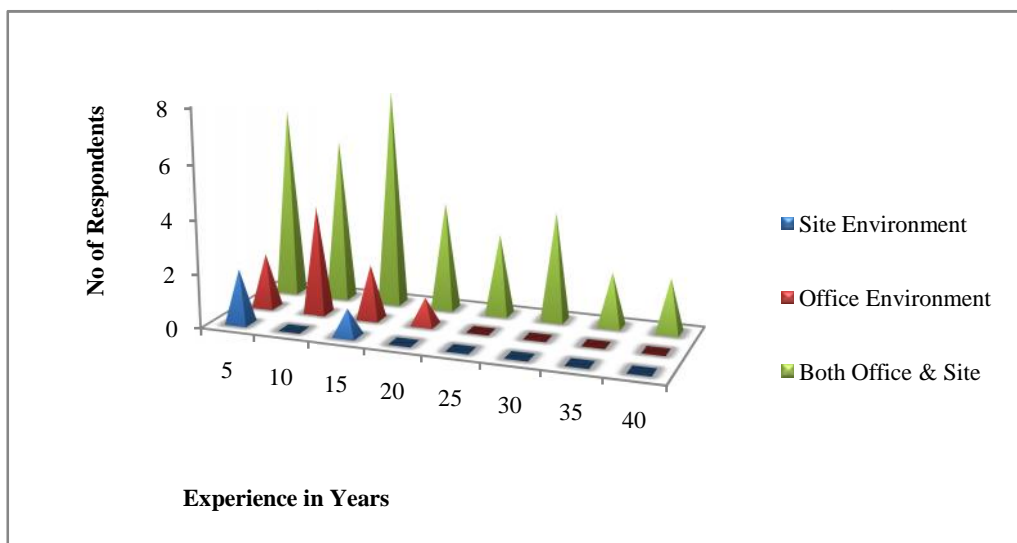


Figure 6: Respondents' Profile Based on Working Environment

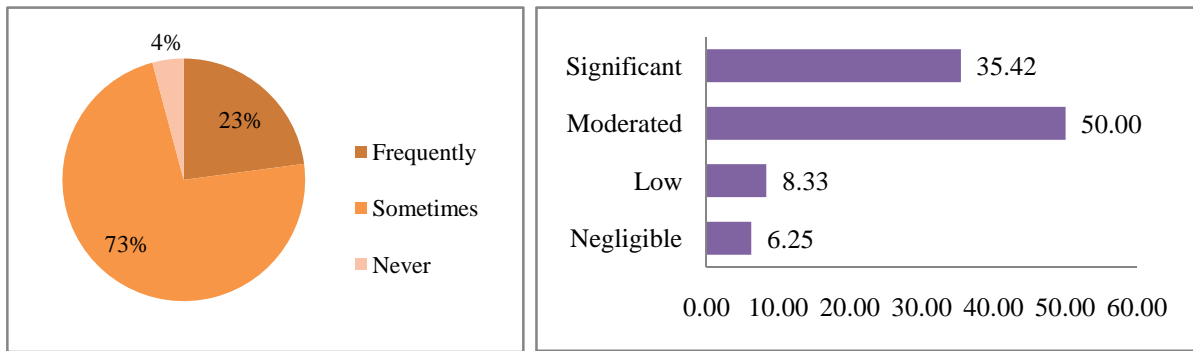


Figure 7: Frequency of Issues Faced by QSs on Time Management and Severity of Poor Time Management

The sample was verified to ascertain if the problem of poor time management is evident in the sample so that conclusions could be drawn for the population. The Figure 7 reports the perception of the Quantity Surveyors with regard to frequency of issues faced by QSs on time management and severity of poor time management in day to day life.

5.2. ESTABLISHING THE PROBLEM OF POOR TIME MANAGEMENT

It proves the existence of time management issues faced by QS to be substantial with 73% of respondents rating the level of existence to be at a sometimes and around 23% of respondents rated as frequently level. Also the severity of poor time management felt by QS has been rated 50% at moderated level followed by 35% of significant level. Therefore it can be concluded that majority of the respondents are experiencing considerable level of time management issues. Based on the results of sample, it can be interpreted that the population has a serious issue on poor time management. On the other hand the time management sessions, workshops, and CPDs on work performance and time management, importance of time management for professionals, scheduling techniques and ethical landscape in Quantity Surveying. conducted among the construction professionals in Sri Lanka were acknowledged.

Having established the problem of time management, the mode of communication was verified to recognize whether these issues are brought to light by Quantity Surveyors to their employers/superiors/top management, if time management issues exist. Figure 8 illustrates that most individuals have discovered time management issues through personal experience and the next majority being through discussion with peers, followed by a small percentage of people through observation. A significant point has to be emphasised on the absence of a proper organisational communication mechanism in Sri Lankan construction firms to report on time management issues.

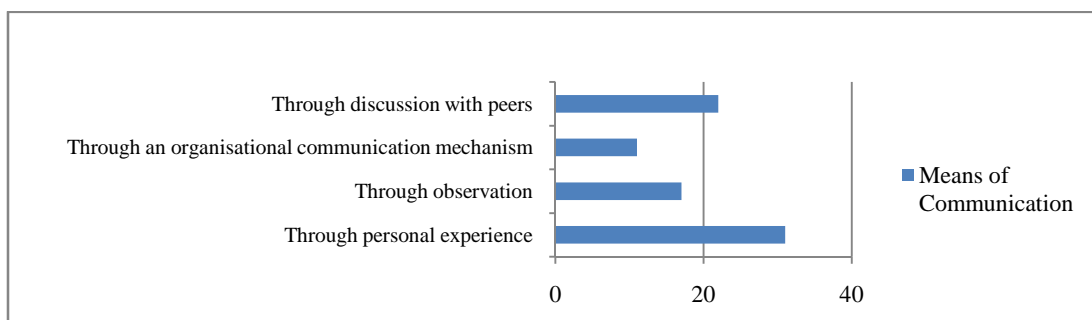


Figure 8: Mode of Communication Used to Identify Time Management Issues

5.3. RESULTS OF MANOVA TEST

MANOVA (Multivariate Analysis Of Variance) was used to explore outcomes from several parametric dependent variables, across more independent variables (each with two or more distinct groups). Since this study attempts to identify the statistically significant differences between and/or among more than

one dependent variable (i.e. critical duties, causes, solutions and barriers) and more than one independent variable (i.e. type of organization, type of sector, country of practise and managerial position), MANOVA was the most appropriate tool among the others. For each MANOVA both the *multivariate effects* (how the independent variables have an impact upon the combination of dependent variables) and *univariate effects* (how the mean scores for each dependent variable differ across the independent variables groups) were explored to study them individually and as a whole.

Initially MANOVA performed the multivariate test and provided Wilks' Lambda value together with associated F value and significance value (p). Wilks' Lambda is a measure of the percent of variance in the dependent variables that is not explained by differences in the level of the independent variable. If the variance (Wilks' Lambda) is close to 1, it can be interpreted that no significant variance between dependent variables with associated F value. Further if the significance value (p) is greater than the benchmark value of p (0.05), there is no significant effect on the group of dependent variables from the independent variables. Subsequently it conducted an univariate test (F test) and offered an F ratio that was assessed against critical (cut-off) F value and statistical significance will be achieved when a F ratio of particular variable is greater than the critical F value. Similarly the level of significance (also known as *p* value for the test) was measured against the benchmarking significance value (also known as alpha (α) value) and statistical significance is attained when a *p*-value is less than the significance level (α). A confidence interval of 95% was adopted based on rule of thumb, which means the benchmarking significance level (α) is 5% (0.05). If the *p* value for a particular variable is less than 0.05 and F ratio is greater than critical F value, it means a significant effect is caused by the categorical variable and vice versa. Statistically this is known as rejecting the null hypothesis H_0 : *the particular categorical variable does not have any significant effect on the dependent variable* or there is less than 5% chance that the result would have been due to random reasoning. Consequently the post hoc test was carried out to arrive at estimated marginal mean value for each dependent variable based on respondents' comments on a 6 point rating scale. This will resemble the Quantity Surveying populations' perception on each factor and rank them accordingly giving priority to the top priority factors. Results of the test on questionnaire survey are tabulated as follows. Data collected from interview are incorporated into the research findings.

6. RESEARCH FINDINGS

6.1. AN OVERVIEW OF TIME MANAGEMENT FOR QUANTITY SURVEYORS

A study was made by Waller *et al.* (2001 cited Wu and Passerini, 2013) that indicates different deadline perceptions and behaviours among construction team members affect the ability of teams to meet deadlines. Although among the construction professionals QSs are the ones who frequently appear to time pressure as argued by several authors. As a result this study attempts to examine the time management phenomenon among Quantity Surveyors. In addition, experts have stressed that QSs time management may be influenced by specified contractual time targets for each critical activity. The reason behind this is all of the Quantity Surveyor's duties are related to construction contracts. Therefore their time shall be proportionately allocated to several projects based on the scope of services they want to provide and nature and complexity of projects they are supposed to do. Despite the lack of awareness on time management, questionnaire survey and expert interview results acknowledged some trainings and workshops at organizational level related to time management. Further the questionnaire survey findings identified that majority of the individuals have discovered time management issues through personal experience while there is an absence of a proper organisational communication mechanism in Sri Lankan construction firms to report the time management issues to superiors.

6.2. KEY FUNCTIONS THAT CREATE TIME MANAGEMENT ISSUES

Literature findings offered a complete set of functions of QSs with reference to Willis *et al.* (2007) and O'Brien *et al.* (2014) for roles and duties respectively. However only less number of literatures has mentioned about critical roles and duties that consume more time compared to others. As a result preliminary survey was undertaken to disclose the critical duties in client, consultant and contractor organisation that consume more time.

However among the critical duties obtained from preliminary survey, only some activities (which satisfied the criteria for selection) have been taken for detailed analysis. Initially it was revealed that there is no influence between the duties in each type of sector and managerial position. Further each activity is not impacted by categorical variables (type of sector and managerial position). Accordingly the key functions that create time management issues include: Preparation of final accounts and agreements, Preparation of tender documents (especially BOQ), Estimating & tendering, Preparation of claim report, Checking final accounts, Procurement and coordination of stakeholders to the project, Value engineering, Turnaround documents, Preparation of cost value reconciliation and getting authorities' approvals. In addition to type of organization, the impact from range of sectors in QS's time management has been acknowledged through preliminary survey. Findings revealed that QSs working for both private and government clients may need performing additional jobs due to project and clients' requirements that may influence on their time management. Moreover preliminary survey has exposed that time pressure reduces from pre-construction to post construction.

6.3. FACTORS THAT CONTRIBUTE TO POOR TIME MANAGEMENT

The prevailing causes for poor time management were acknowledged through literature and preliminary survey. The research carried out by Guoqing and Yongxin (2000); Hassanzabeh and Ebadi (2007) have identified some of the potential causes that may impact on time management as; social activities, personal attitudes, several meetings and sudden crisis. Ultimately it implies that individual factors have a great effect on wasting time than organizational or natural factors. Rightfully majority of the solutions were acknowledged under personal improvements. In addition to the above principal causes for poor time management, some other causes were collected through preliminary survey and classified under three headings as, Personal Causes, Organizational Causes and Other Causes. Similar to the critical activities, the questionnaire survey findings revealed that there is no inner relationship between causes in respect to type of organization, type of sector, country of practise and managerial position. However it was identified that there is a significant impact on some causes from these categorical variables. As a result only those selected causes were analysed in detail and findings are listed as: Experience in Quantity Surveying practices, Lack of specialisation skills in Quantity Surveying, Improper allocation of tasks among team members, Personal competencies (especially time management skills), Type of Employer & his requirements, Diversity of team members in work related aspects, Inadequate education of subordinates and other commitments. Further finding revealed that office work is more time consuming, compared to site environment. Ultimately the findings revealed that these reasons require to be managed in a different manner, i.e. some unique techniques that involve a significant level of personal skills are essential to overcome these causes. As a result tactful techniques that vary from general time management principles are proposed to be adopted by QSs when managing their time due to those unrestrained factors.

6.4. PRACTICALITY OF TIME MANAGEMENT INITIATIVES

Time management is possible by understanding the theories, principles and techniques proposed by scholars and philosophers who have understood its significance. However these tools and techniques are dependent upon the work and the amount of time required for completion in personal and professional life. Moreover literature identified some time management tools as Personal Information Management (PIM) software and Personal Digital Assistants (PDAs) to facilitate the scheduling and prioritising of activities. Literature findings recognised a step by step approach to solve the time management issues as: Getting a clear understanding of the problem, Establishing goals and priorities, Making time to do planning, Delegating unnecessary work, Allocating and scheduling time for important and priority activities, Set yourself at least one major priority each day and achieve it, Frequently review and update the schedule, Eliminate one time waster from your routine each month, Review at the start of each day and make sure your first hour is productive, Try to finish what you start, Give yourself some quality time each week to network outside your business - perhaps attend a seminar, follow-up customers, introduce yourself to potential customers, or talk to business advisors and Take some time for yourself - time to learn, time to relax, and time to live. In addition to time management initiatives, the feedback mechanisms to evaluate the effectiveness of time management initiatives were revealed through preliminary survey as personnel evaluation and performance review. Moreover literature findings

acknowledged that time management will be more difficult for QS in future and accordingly preliminary survey findings confirmed the above literature findings. In addition preliminary and questionnaire survey has attempted to distinguish the difference between QSs working in Sri Lanka and outside the country. Consequently the findings were highlighted that there are pros and cons in working Sri Lanka and overseas. Therefore it will not impact on the time management of individual QS.

6.5. DEVELOPING GUIDELINES

According to the definition given for tactful time management (under section 2.1), it is essential to consider the time management skills and attitudes when developing guidelines for tactful time management. Subsequently the collected data from preliminary survey were categorised under two headings as, Personal Strategies and Organizational Improvements. However among them, only some strategies (which satisfied the criteria for selection) were carried for further analysis using univariate test. Further it shall be noted that to practise tactful time management these guidelines need to be applied together with time management skills. Accordingly the following guidelines were developed based on those selected solutions to achieve tactful time management for QSs.

6.5.1. GUIDELINES TO ACHIEVE TACTFUL TIME MANAGEMENT FOR QUANTITY SURVEYORS

Effective team work, Development in personal skills and attitudes, Updating the knowledge, Use of formats, Proper division of tasks among team members, Continuous reviewing & updating of sequencing and prioritising of activities, sharing of information and knowledge with others, Personal willingness to take opportunities, Use of proper advanced technology, Key performance indicators (KPIs), Use of work studies, research & development etc., Direct communication with immediate superior, Use of master BOQ, specifications, preambles etc., Writing internal memos, letters etc. among the staff and Use of outsourcing resources.

6.6. BARRIERS TO TIME MANAGEMENT INITIATIVES

Literature findings, preliminary and questionnaire survey revealed some potential barriers that influence on time management initiatives as: Requirement of additional resources to implement and requires a significant time to implement. As a result it can be concluded that if QSs are able to prove this is an effective & productive initiative, then top management will approve and allocate the funds.

7. CONCLUSION

Analysis on research findings acknowledged the importance of time management for construction professionals; especially for QSs. Since time management is more towards to personal achievement the initial step has to come from individual level where each QS shall take necessary actions to apply and enhance the time management initiatives at personal level. However individual policies will not become successful unless the working environment or system is favourable to practise those strategies. Therefore top management of the organisation shall ensure that positive and corporative working environment is there to practise time management initiatives at individual levels. Superiors have a significant role to play in creating this culture by maintaining flexible relationships with subordinates, so that they can communicate the issues in achieving time targets. Further human resource division can introduce and execute time management techniques for the entire organisation while providing training and development on these initiatives if necessary. Moreover the professional institutions that govern the conduct of professionals registered under such bodies as members to incorporate relevant guidelines from the given list to enhance the time management behaviours among QSs at industry wide level. Accordingly Institute of Quantity Surveyors Sri Lanka (IQSSL), Royal Institution of Chartered Surveyors (RICS) and other professional institutions need to initiate and endorse the policies on time management to upgrade its members' professional standards to global level. In conclusion, all time management skills and strategies are learnable. With these time management skills and strategies, QSs need to select proper time management techniques that are most relevant for their situation.

The Figure 9 demonstrates the overview of this research that indicates the critical time consuming duties, causes behind them, practicable strategies to tactfully manage the time and possible barriers that may arise when implementing the given strategies.

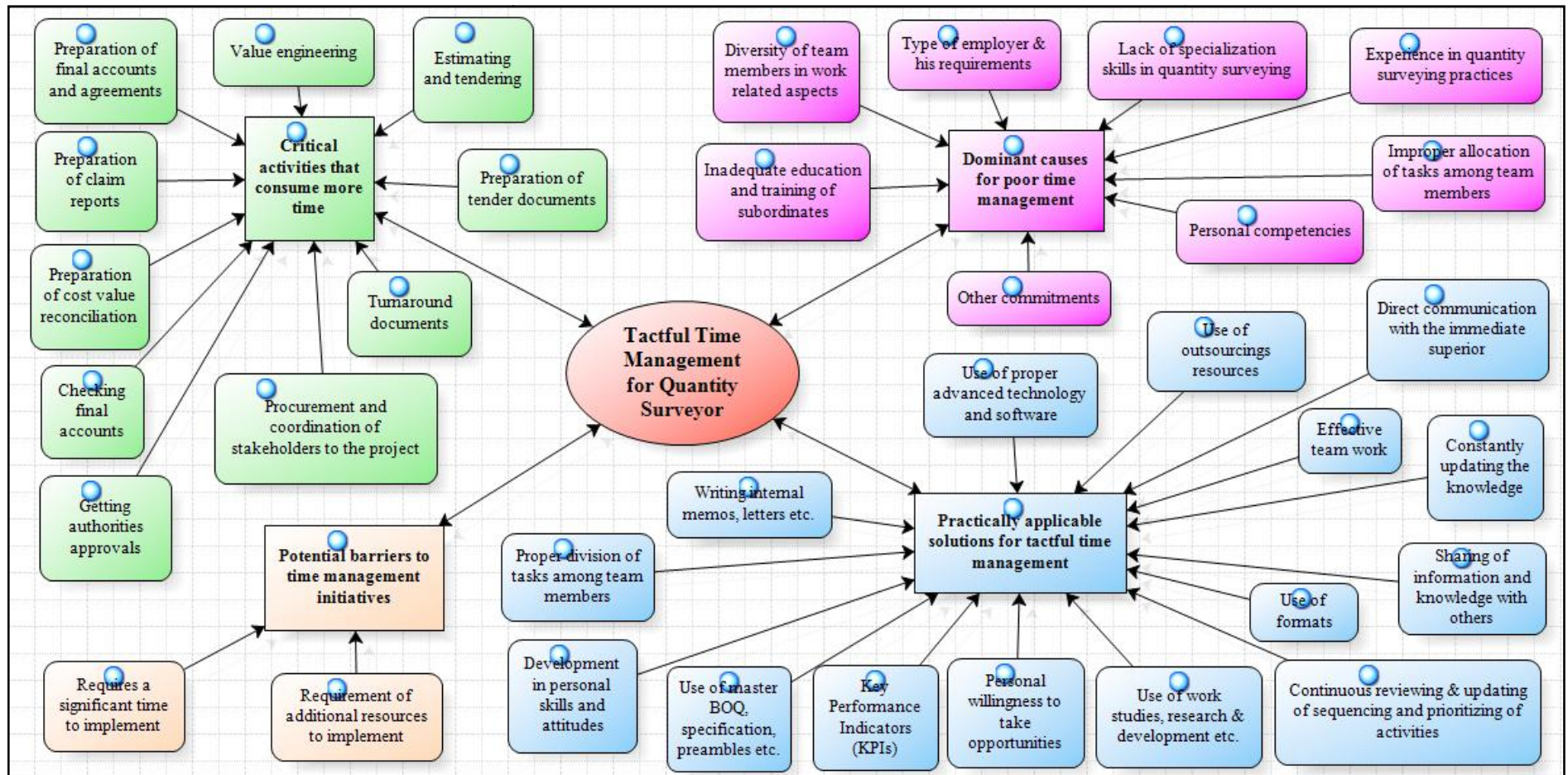


Figure 9: Cognitive Mapping

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