

# STRATEGIES TO RECRUIT AND RETAIN PROFESSIONAL QUANTITY SURVEYORS IN THE PUBLIC SECTOR CONSTRUCTION ORGANISATIONS

R.A.H.C. Ranasinghe

International Construction Consortium (Pvt) Ltd, Sri Lanka

Nirodha Gayani Fernando and M.A.C.L. Gunarathna\*

Department of Building Economics, University of Moratuwa, Sri Lanka

## ABSTRACT

*Construction industry has a direct link to the country's economy and development. It is the Quantity Surveyor's (QS) responsibility to ensure that the resources in the construction industry are utilised to the best advantage of the society by providing financial management for project and cost consultancy to the client during the whole construction process. Hence Quantity Surveying (QS) profession is significantly important for any building or civil engineering project. Due to the dynamic nature of the construction industry, an incessant battle has to be competed with the constraints of time, cost and quality. In this scenario, QS has the responsibility to utilise the monetary fund very efficiently and effectively to gain the optimum value for money without having the risk of losing control of money. Therefore, Qs are working as cost planners, cost controllers and cost managers. Their role and the practices are expanding day by day and the industry demands for Qs with variety of experience, distinctive competencies and skills. At present, a precarious shortage of QS professionals can be often evidenced in Sri Lankan construction industry. The tendency of having the aforementioned shortage is tremendously high in the public sector projects due to the extreme governmental influence. Moreover, the probability of government QS professionals leaving work places and join the public sector is highly increased in past few decades. Since Qs are one of the human resource inputs to the construction industry, it can be understood that employee turnover will barricade the sustainable construction practice in public sector by failing to preserve the human resource for the future. Therefore, the aim of this study was to investigate the strategies to recruit and retain professional Qs in public sector organisations.*

*The survey approach was used to investigate the research problem and questionnaires and semi-structured interviews were used as the data collection techniques. Data was collected from two samples; Qs working in public sector and Human Resource Managers (HRM) in public sector construction organisations respectively. Binomial test, Relative Importance Index (RII) and few simple arithmetic formulas were used to analyse quantitative data and content analysis was used to analyse qualitative data. According to the research findings, Qs in public sector are reluctant to retain due to low salary packages, less opportunity to develop their career and insufficient work under their scope. According to the binomial test, the majority of Qs think that proper human resource management will be a good solution to overcome this shortage. According to the perspective of human resource managers, although they have realised the problem, they have to implement the plans and strategies according to the government rules and regulations. As the final outcome of the research, a framework was developed to recruit and retain more Qs in public sector construction organisations.*

**Keywords:** Human Resource Management; Public Sector; Quantity Surveyors; Recruitment; Retention.

## 1. BACKGROUND

Construction industry is a vital part of the economy in any country (Senarathne and Sabesan, 2008). According to ICRA Management Consulting Services [ICRAMCS] (2011), the construction industry occupies an important position in the Sri Lankan economy as in any developing economy. Further, it is evidenced that the construction industry received a sudden rise after the civil war in Sri Lanka (ICRAMCS, 2011). Senarathne and Sabesan (2008) explained that construction is often used as a socio-economic indicator of a country and

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\*Corresponding Author: E-mail - [lakshika.gunarathna@yahoo.com](mailto:lakshika.gunarathna@yahoo.com)

therefore, it is indispensable in the process of socio-economic development. Since, construction sector carries a vital importance in socio-economic development, its success is highly required, hence, the inputs to the industry should be fully utilised (Hendrickson 1998). According to Loosemore *et al.* (2003), human resource is the most valuable asset in construction industry since it is relatively low-tech yet more labour-intensive. Therefore, attracting, retaining and developing the talented employees will be the key to the successful construction (Loosemore *et al.*, 2003).

Public sector currently obtains more consideration and increasing pressure to obtain value for money from each and every service they use and the projects they deliver (Ferdinando, 2012). Hence, the government is required to find the best suited method for achieving their target of having value for money while providing exact facility required by the general public (Jayasena, 2009). Moreover, public sector projects focuses on values such as value for money, transparency and accountability rather than the economic benefits such as profits (Weerawardhana, 2010). Hence, an effective financial management is essential for public sector (Rahmani, 2011). Canadian Institute of Quantity Surveyors (2012) ensured that the best profession for effective financial management and cost control is Quantity Surveying. Moreover, the skills such as project management and value management also help public clients to achieve their needs and expectations (Seeley, 1997). As per the findings of Rahmani (2011), cash flow and credit are dominant factors for public clients so that effective project management is indispensable, therefore, completion of project on predetermined time and within client's budget is essential since public sector most probably deals with the large scaled projects and intensive capital. Hence, Qs have a prior demand in the public sector in order to provide financial advices.

The construction industry everywhere faces difficulties, problems and challenges (Ofori, 2010). Although there is a growth in Sri Lankan construction industry, as a developing country, there are challenges to overcome in this industry as well (ICRAMCS, 2011). ICRAMCS (2011) found that shortage of professional staff is a key issue in Sri Lankan construction industry and it can be highly seen in public sector. According to the SWOT Analysis done by ICRAMCS (2011), it was identified that lack of skilled workers is a weakness of the construction industry as well as the migration of skilled professionals to the Middle East is considered as a threat to the Sri Lankan construction industry. This scenario is completely applicable to the QS profession in public sector construction of Sri Lanka since there is a high tendency of public sector Qs migrate to other countries and walk into private sector due to low salaries, fewer opportunities and poor training and development (Senarathne and Sabesan, 2008).

This research paper addresses about the shortage of professional Qs in the public sector construction organisations. Key issues of construction industry, involvement of the public sector to the whole construction industry, reasons for the shortage of Qs in the public sector, obstacles to recruit and retain Qs in public sector organisations, relationship between Human Resource (HR) functions and the shortage of Qs are discussed through the research. A framework is developed to recruit and retain Qs in the public sector construction organisations as the final outcome. The aim of the study is to investigate the strategies to recruit and retain professional Qs in public sector organisations. In order to achieve the aforementioned aim, following research questions were identified.

- What is the demand for professional Qs?
- What are the reasons for the shortage of professional Qs in public sector?
- What are the obstacles and hindrances to recruit and retain professional Qs in public sector?
- What is the role of Human Resource Managers and their responsibilities in retaining professional Qs in the public sector?
- What is the identical process to recruit and retain more professional Qs in public sector?

## **2. LITERATURE REVIEW**

### **2.1. CONSTRUCTION INDUSTRY**

Construction industry is a large, active and complex industry (Behm, 2008). It is a segment of commercial activity which creates, modify, repair, and demolish a building, civil engineering works, and other similar structures (Faizal, 2010). Further to author, the development of construction industry grows swiftly as well as a triangular connection between cost, quality, and time is maintained to improve benefits. Contribution

of the construction industry to the economy can be seen through various types of concepts. Value addition, trade balance, investment, employment and sectorial linkages are some of parameters which reflect that contribution. Unlike other sectors, construction industry has their unique characteristics (Senarathne and Sabesan, 2008) such as the product is normally manufactured on the client's premises, many of its projects are one-off designs in the absence of a property model, traditional arrangement separates design from manufacture, construction activities are affected by the changing of weather and subject to wider swings of activities than most other industries. Moreover, Ofori (2010) stated that the importance of taking measures to improve the performance of the construction industry has now been recognised in several countries at various levels of socio-economic development.

In Sri Lanka, both private and public sector involve in construction industry (Kariyawasm, 1997; Weddikkara and Devapriya, 2005). Public sector construction organisations are basically divided into two categories called fully government and semi government. In both arrangements, public sector acts as both Contractor and Consultant. Public sector of Sri Lankan construction industry often face challenges such as high raw-material costs, lack of availability of funds, material shortages, shortage of skilled workers and professionals, delays in land acquisition and frequent changes in regulations particularly in development control and approval processes (ICRAMCS, 2011). According to Levy (2000), the shortage of both skilled trades-people and experienced managers will place more weightage on the need to enhance the quality and quantity of training in order to manufacture more effective and productive workers.

## **2.2. PROFESSION OF QUANTITY SURVEYING**

Quantity Surveying is a dynamic process which has Two Hundred and Fifty years of history (Kariyawasam, 1997). QS has the responsibility to manage financial and contractual issues of the construction process (Senarathne and Sabesan, 2008). According to Pheng and Ming (1997), the QSs should foresee the task through the feasibility stage to the completion of the project. Being one of the key professional experts in the construction sector, QSs have the utmost responsibility to address the budget and its related functions (Senarathne and Sabesan, 2008). Therefore, QSs plays a vital role in a construction project. In the past, the role of QS was defined to ensure that the resources of the construction industry are utilised to the best advantage of the society (Pheng and Ming, 1997).

With the identification of new opportunities in the twenty first century, QSs began to explore new potential roles for their services (Pathirage and Amaratunga, 2006). It is a must for the QSs to remain up-to-date in terms of their skills, knowledge, talents and competency in order to face the forthcoming challenges and to find the solutions that would enable the successful completion of the projects (Bucknail, 2012). The key clients of public sector are mostly government organisations. The public service of the QSs includes employment in government departments and agencies, local authorities and some statutory bodies. The QS's main responsibility in public sector is to control the public money and monitoring the way that it is being spent (Rahmani, 2011).

According to Association of South African Quantity Surveyors [ASAQS] (2012), efficiency, innovation and best practices in the private sector are creating a concentration of adequately skilled QSs, while the public sector is struggling with a lack of skills, especially at municipal level. Moodley (2012) argued that, the public sector often fails to attract well-qualified and mature minds and sometimes settles for less-qualified individuals, as there are few well-skilled individuals in the QS field. In Sri Lanka, there is less number of professional QSs who retain in public sector organisations (ICRAMCS, 2011). Although government sector is the main partner of the construction industry, they are not effective as much as required. Hence, most of professionals have not enough responsibilities according to their qualifications. Therefore, the professionals do not retain in public sector organisations.

## **2.3. HUMAN RESOURCE MANAGEMENT**

Human resource management (HRM) is the sense of getting things done by people (Institute of Personal Management [IPM], 2010). Although the history of HRM is very short, the present status of the field of HRM has been achieved after years of evolutionary development. It is an essential part of every manager's responsibilities, yet many organisations find it advantageous to establish a specialist division to provide an expert service dedicated to ensure that the human resource function is performed efficiently. Construction organisations which are functioning in Sri Lanka expect experienced managers in order to manage their

HRM activities and functions efficiently and effectively (Arulrajah and Opatha, 2012). Kodippilarachchi (1997) argued that HRM should be given the highest priority as it is a major resource input to the construction industry. There is a growing emphasis on effective HRM, as people should no longer be treated as a “cost”, yet as a company’s greatest “asset” and central source of competitive advantage (Druker and White, 1997). In order to retain these assets, it is necessary for employees to experience job satisfaction. This means that HRM must be given a more strategic role in organisations (Martell and Carroll, 1995). Normally, HR managers have the responsibility to recruit and retain the employees in any means by using every possible technique (Pomoni, 2009).

### **2.3.1. RECRUITMENT**

Recruitment is one of the critical and important outcomes of Human Resource Planning (IPM, 2010; Clarke and Hermann, 2007). Stone and Raymond (1998) defined recruitment as the process of seeking and attracting a pool of people from which qualified candidates for job vacancies can be chosen. Ghosh (2000) argued that recruitment is the process of announcing job opportunities to the public in such a way that good number of proper employees will apply for organisation. Clarke and Hermann (2007) stated that strategies for recruitment and retention might be expected to vary according to the degree to which skill strategies exist or skill-sensitive nature of different labour markets. The construction industry is likely to have its own recruitment practice, due to the nature and structure of construction work and accordingly informal recruitment approaches have been the dominant approach (Lockyer and Scholarios, 2007). Moreover, effective recruitment methods are necessary to attract and to retain a quality workforce in an organization and this can be achieved if the recruitment process can be made more objective and formal (Ordanini and Silvestry, 2008; Lim and Ling, 2012).

### **2.3.2. RETENTION**

Retention can be defined as a systematic effort by employers to create and foster an environment that encourages current employees to remain at the same employer having policies and practices in place that address their diverse needs (IPM, 2010). In order to retain the employees, the HR managers generally use techniques such as motivation, training and development, rewards and incentives and performance appraisal.

Motivation can be described as an inner generator of actions and reactions which optimises the human resource in the production process (Olomolaiye *et al.*, 1998). According to IPM (2010), motivation is the act of stimulating someone or oneself to get a desired for a course of action and to push the right button to get the desired action done correctly.

Training is needed to meet the challenges inherent in twenty-first century work careers and organisations (Lim and Ling, 2012). Nowadays, employees are required to update continuously their skills and performance (Bucknail, 2012). Extensive orientation training throughout employees’ careers also tends to improve their productivity (Ichniowski and Shaw, 1999). The main motive of having training and development is to increase a person’s knowledge and skills (Hee, 2011). Many firms spend huge sums on training, believing that their employees’ performance will improve after these trainings and thereby, increase the firm’s productivity (Yamnil and McLean, 2001). Training is a systematic process of enhancing knowledge, skills, attitude and technology that is needed to assist a person to perform better in the present job (Colquitt *et al.*, 2000). Development refers to helping an individual to meet up to the expectations and requirements of the demands of the job (Chen and Klimoski, 2007). Furthermore, Colquitt *et al.* (2000) stated that the development is most valuable aspect in employer’s career.

Lim and Ling (2012) stated that reward system should be a package or system that consists of rewards and benefits such as holiday leaves, medical benefits, transport allowance and performance bonus. Further to authors, the main purpose of a reward system is to reward and retain good employees, motivate them to perform at their best and attract the right applicants to the job.

Performance appraisal is a system that is important to a number of important organisational decisions, especially, regarding incentives, rewards and promotion (Wiese and Buckley, 1998). Performance appraisal could be defined as a systematic evaluation process of a particular job performed by an individual during a particular period and giving value to its effectiveness whilst providing feedback to the job incumbent

(Erdogan, 2002). The main purposes of implementing performance appraisal system in an organisation are to ranking the employees, appraising the top performers, and enforcing others to perform well.

Currently in the construction industry, there are less organised staff management programs (Brandenburg *et al.*, 2006). It may be directly affected to organisation performances (Hee, 2011). Lim and Ling (2012) said that construction firms mostly recruit employees through the firm's web site and through press advertisements due to the low cost. Although it is not popular so much, third parties such as job agencies, employee suppliers are used to recruit professionals in public sector construction organisations (Wright and Davis, 2003). Furthermore public sector organisations use internal recruitment as much as possible due to the less cost and less time consumption. In order retain the employees, organisations mostly uses promotions, trainings and employee motivation schemes. Training and development and incentives are most often HR functions which are used to improving staff retention (Navarathne *et al.*, 2008). In some organisations, exit interviews will be undertaken when an employee informs his or her resignation, in order to find the reasons for their resignation yet this is done informally (Lim and Ling, 2012).

### 3. RESEARCH METHOD

Survey approach was selected as the most suitable research approach for this study since it was undertaken to explore the reasons for the shortage of Qs in public sector and steps to be taken to resolve the issue. Accordingly, data was collected through a questionnaire survey and a series of interviews. The questionnaire survey was carried out for a sample consisted of forty five QS professionals. Questionnaire data was analysed by using the RII method and Binomial Test. Subsequently, five semi structured interviews were carried out with Human Resource Managers and Personnel Managers in public sector construction organisations in order to identify their perspective regarding the research problem. Content analysis was used to analyse the data which are collected from interviews which includes data reduction, data display, and conclusion drawing. Eventually, conclusions were drawn and the recommendations were put forward based on the analysis.

Tables 1 and 2 show the details of respondents of both questionnaire survey and semi structured interviews.

Table 1: Details of the Respondents of Questionnaire Survey

Type	No. of Respondents	Percentage of Respondents
Client	9	26.5%
Consultant	16	47%
Contractor	9	26.5%

Table 2: Details of the Respondents of Semi Structured Interviews

Respondent	Designation
Interviewee A	Deputy General Manager (HR)
Interviewee B	Personal Manager
Interviewee C	Deputy General Manager (HR)
Interviewee D	Deputy General Manager (HR)
Interviewee E	Personal Manager

### 4. DATA ANALYSIS AND RESEARCH FINDINGS

#### 4.1. ANALYSIS OF DATA COLLECTED FROM QUESTIONNAIRE SURVEY

Thirty four questionnaires were completed and collected from forty five distributed questionnaires (75.55%). The respondents were selected in such manner that they represent Employers, Contractors and Consultants. This selection was done to obtain that views and perceptions of respondents who are involved

in different types of organisations. Table 3 shows the eligibility of the selected respondents to answer the questionnaire survey.

Table 3: Experience of Respondents

No. of Years	Total Experience		Public Sector Experience	
	No. of Respondents	Percentage	No. of Respondents	Percentage
0-5	12	35%	25	73.5%
5-10	8	23.5%	5	14.7%
10-15	6	18%	1	3%
More than 15 years	8	23.5%	3	8.8%

According to the Table 3, more than two third of QSs have less than 5 year experience in public sector construction organisations and majority of respondents have less than 5 year experience in construction industry. There are only four QSs out of thirty four have more than ten year experience in public sector construction organisation. This indicates the unwillingness of the QSs to retain on the public sector. Moreover, the findings will confirm the general statement which rooted in the Sri Lankan construction industry that public sector is suitable either for a beginner or for a person who close to his or her retirement. The reason for this statement is that as fresh QS, what the employee value is the experience from a reputed organisation which assists his or her future career rather than the salary. On the other hand, a person who close to the retirement value the retirement fund as a stable living for his or her life. These two reasons clearly define that public sector provides low salaries. Therefore, in between QSs who are neither a fresher nor a person who close to the retirement prefer the private sector due to low salary schemes.

Any construction project is carried out according to the Royal Institute of British Architects (RIBA) plan of work. Therefore, the study required to identify whether the public sector QSs follow the RIBA plan of work in order to gain an idea about the opportunities they get to perform as public sector professionals, level of performance and their current standard as QSs. Table 4 indicates the probability of using the stages in RIBA plan of work in the current public sector in Sri Lanka.

Table 4: Results of Traditional Role

Stage	Yes	Cum. Probability	Result
Feasibility Study	11	0.987846745	Not Biased
Outline Proposals	31	$3.83006 \times 10^{-06}$	Biased
Preliminary Design	29	$1.92791 \times 10^{-05}$	Biased
Detailed Design	23	0.028806336	Biased
Final Design	25	0.004520593	Biased
Tender Period	20	0.195764153	Not Biased
Tender Evaluation	20	0.195764153	Not Biased
Award of Contract	20	0.195764153	Not Biased
Construction	17	0.56791688	Not Biased
Completion of project	12	0.971193664	Not Biased

The analysis was done by using binomial test. The purpose of using binomial test is to check whether the results are up to the appropriate standard or not. Probability which less than 0.05 are considered as biased to the answer “Yes”. Rest is neglected due to the less consideration.

According to Table 4, only four stages of RIBA plan of work are frequently implemented in public sector QSs and rest is disregarded. This result shows that there is very less scope of work done by the QSs in public sector organisations due to less delegation of authority. Since the QSs do not get opportunities and challenges which enhance and uphold their career, their willingness to work, creativity, logical thinking, decision making skills and interpersonal skills will be diminished. The ultimate unfortunate result will be

employee turnover from the public sector construction organisations. This scenario is further confirmed by the details shown in Table 3. Table 5 is consisted of the results of the binomial test which conducted to observe whether there are any innovative modern QS related duties are performed in the public sector and whether the opportunity of handling those duties are given to the professional QSs.

Table 5: Results of Modern Role

Evolved Role	No. of Yes	Cum. Probability	Result
Value Management	14	0.885259493	Not Biased
Risk Management	4	0.999999617	Not Biased
Contract Management	17	0.56791688	Not Biased
Dispute Resolution	12	0.971193664	Not Biased
Facilities Management	1	1	Not Biased
Construction IT Management	7	0.999902437	Not Biased

According to Table 5, all modern duties of QSs are not biased to the answer “Yes”. It reveals that the practices of modern functions by the QSs in public sector construction organisation are very less. This is also affected to the shortage of QSs in public sector organisations. The professionals generally walk away from the public sector finding places that they can expand their skills and knowledge due to the natural urge they feel to find challenges. However, it is confirmed that they have less opportunities in public sector organisations. Majority of QSs in public sector do not obtain full satisfaction by working in the public sector construction organisations. Only five respondents mentioned that they are satisfied of working public sector and it 15% of the total respondents. Table 6 consists of the main reasons that the QSs are reluctant to retain in the public sector.

Table 6: Obstacles for QSs in Public Sector Organisations

Obstacles	RII	Rank
Low salary scheme	76.88%	1
Less opportunity to involve with new directions of the profession	75.63%	2
Less opportunity of promotions	73.75%	3
Less opportunity of dealing with various problems	70.63%	4
Less amount of work under scope	68.75%	5
Less motivation	66.25%	6
Ineffectiveness of recruitment process	61.88%	7
Problems of organisational hierarchy	50.63%	8

According to the survey results, the biggest obstacle for job satisfaction is low salary scheme in the public sector. Less opportunity for career development and promotions were also ranked in top positions. It is obvious that in the public sector, the salaries will be normally low when compared to private sector since Sri Lanka is a developing country however, when specifically consider about the wage difference of QSs in both sectors, it is extremely high. Thus, it is the main reason for the public sector QSs to walk away from the public sector construction organisations.

Majority of QSs in public sector hope to leave from the organisations and this situation will affect the organisation when performing QS functions. According to the literature synthesis, shortage of QSs has become a threat for the public sector organisations when they compete with private sector organisations. However, it should be understood that public sector has its own plus points such as reputation, stable income, preferred leave procedures and healthy retirement fund. Therefore, a positive change in the public sector by minimising the root causes of employee turnover will definitely retain more QSs in public sector. Majority of respondents agreed with the fact that proper human resource planning can mitigate the shortage of QSs in public sector. Table 7 consists of HR functions which are currently performing in the public sector construction organisations.



Table 7: Results of Current HR Practices

HR Functions	Yes	Cum. Probability	Result
Recruitment	30	3.08244 x 10 <sup>-06</sup>	Biased
Motivation	6	0.999980721	Not Biased
Reward and Incentives	20	0.195764153	Not Biased
Performance Appraisal	8	0.999589302	Not Biased
Training and Development	24	0.012153255	Biased
Employee Welfare and Grievance Handling	5	0.999996918	Not Biased

According to the Table 7, only recruitment and training and development functions are biased to “Yes”. It means only those two HR functions are implemented in majority of public sector organisations. However, it can be clearly seen that these two functions are insufficient to retain the Qs inside the organisation. Therefore, other means to retain the Qs should be identified with regard to HRM. Rewards and incentive are given in some considerable percentage. However, according to the table 7, motivation, performance appraisal and employee welfare functions are rarely implemented in public sector construction organisations. Therefore, the majority of professionals including Qs are reluctant to work in the public sector. This situation should be eliminated through proper human resource planning in public sector. Table 8 consists of the HR functions identified by the respondents to mitigate the unfortunate situation of the public sector construction organisations currently face.

Table 8: Effectiveness of HR Functions for Job Satisfaction

HR Function	RII	Rank
Training and Development	78.24%	1
Reward and Incentives	75.29%	2
Motivation	74.12%	3
Recruitment	70.59%	4
Performance Appraisal	68.24%	5

According to the survey results of table 8, training and development has the highest RII value and it revealed that it is the most effective HR function for job satisfaction. Reward and incentives and motivation also received higher ranks. Performance appraisal is the least effective factor as per the respondents yet it carries a higher RII value of 68.24%. According to the Table 6, all the HR functions are effective and there is no function that can be disregarded due to ineffectiveness. Therefore, it can be concluded that the majority of Qs in public sector accepts that the effective HR management practices can assist to mitigate the shortage of Qs in public sector organisations.

#### 4.2. ANALYSIS OF DATA COLLECTED FROM INTERVIEWS

Five semi structured interviews were conducted in order to find the current HR practices in public sector construction organisation for retaining more professionals and identify the future plans for recruitment and retention of Qs. Interviewees who contributed in this research were Human Resource Managers and Personnel Managers in public sector construction organisations.

According to the views of all respondents, HR practices are essential for the better performance of construction industry. Further to respondents, managing human resource is one of the most critical challenges often faced by the human resource managers. According to the opinions of five interviewees, it is clear that majority of construction organisations implement HR policies to retain more professionals. Among the HR functions mentioned by respondents, motivation, training and development are frequently used by the public sector construction organisations. Figure 1 consisted of the HR functions which are currently performing in the public sector and their popularity.



Name	Sources	References
Main HR functions to retain Qs	5	5
Motivation	4	4
Training & Development	4	4
Incentives & Promotions	3	3
Performance Appraisal	3	3

Figure 1: Coding Structure of HR Functions in Construction Industry

All the interviewees stated that establishing a separate division for recruitment and retention is valuable for construction organisation. They clarify their view by mentioning that the involvement of human resource for construction industry is relatively higher than other industries. They declared that due to the complexity of HR functions, it is important to establish a separate division and it will enhance the productivity of each HR function. As an initial step to the discussion every respondent gave a brief introduction of HR department of particular organization which includes their structure, roles and responsibilities, governing rules and other general information. According to their descriptions, every organisation has separate HR department under the supervision of a Deputy General Manager (DGM) and sub sections are supervised by HR Executives. Respondent A described about the circulars which are currently used in the division. Respondent C stated that the legal section of the organisation is also governed under the HR department. There is no fixed amount of Qs that should be taken per year in any organisation. In all organisations, recruitment process is implemented according to the existing vacancies. There is no such a fixed recruitment plan in any organisation.

Majority of public sector construction organisations are suffering from the shortage of Qs. This shortage will barricade their high standard performance failing to compete with the private sector skilled professionals. In order to mitigate the shortage, it is useful to investigate the reasons for this shortage. Figure 2 consists of the reasons for the shortage in public sector with regard to the opinions of HR managers who are responsible for attracting suitable gangs of professionals for the organisation.

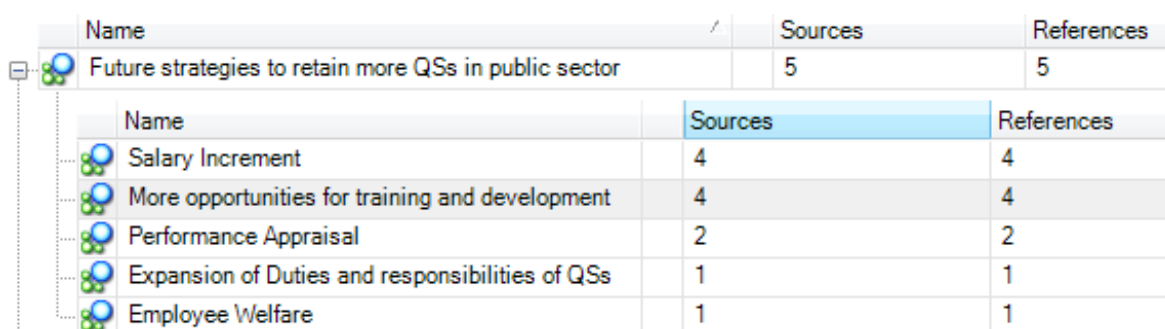
Name	Sources	References
Reasons for shortage of Qs in public secto	5	5
Name	Sources	References
Low salary	5	5
Less opportunity to career development	4	4
Less work under scope	3	3
Weaknesses in recruitment process	3	3
Less delegation of authority	1	1

Figure 2: Coding Structure of Reasons for Shortage of Qs

All the respondents primarily stated that the salary is the main reason for the shortage of Qs in their organisations. Although the critical reason is salary, there are number of tributary reasons for this situation. Respondent A described, “*the other thing is this is not a totally construction organisation. We act as a social services supplier. Because of that the Qs in our corporation have to do some informal activities which are not includes to their scope like social welfare*”. It reveals that there is less work under the scope of Qs. As a result, the Qs are reluctant to work in public sector organizations. Respondent D had a similar opinion on this reason. He said, “*Qs in our corporation have to do some informal activities which are not included in their scope; for example social welfare*”. According to the respondents, all the public sector construction organisations are governed by the circulars passed by the government of Sri Lanka. Therefore, an organisation cannot act individually, and recruit professionals. Hence, they have to face such shortages. Respondent A stated that she required some changes in Management Services Circular No. 30 of 2007 from the Ministry of Finance to recruit more professionals. All the decisions should be approved by the board of directors as well as by the Minister and the Cabinet. According to the respondents, although there is a shortage of professionals, they have to implement the HR practices within the limitations and also there are some delays in approving the decisions from the Parliament.

Retention is a systematic effort to create the job satisfaction of the employees to remain at the same working place. The research problem is also based on the issue that reluctance of QSs to retain public sector. All the HR personals whom interviewed stated that they have implemented the retention procedures up to some extent. Further to respondents, they have implemented some programmes and schedules to retain the professionals including QSs under the limitations of government rules and regulations. As most of QSs resigning from public sector due to the low salary, at this moment public sector organisations have implemented providing some allowances. Respondent A stated that graduate QSs are given the trade allowance of Rs.10000/= per month as financial motivation.

According to the respondents, they had offered the chance for the QSs to attend in training programmes both locally and internationally. According to the literature training and development is very effective to retain construction professionals (Yankov and Kleinar, 2001). Furthermore, the employee welfare is also concerned by the organisations and according to the respondents; they have some financial allocations from their annual budget for the employee welfare. Accordingly, it is clear that HR divisions are currently working on retaining the QSs in their organisations yet require improvements to achieve full retention. Figure 3 shows the future strategies which will be expected to implement by public sector construction organisations in order to retain more QSs.



Name	Sources	References
Future strategies to retain more QSs in public sector	5	5
Salary Increment	4	4
More opportunities for training and development	4	4
Performance Appraisal	2	2
Expansion of Duties and responsibilities of QSs	1	1
Employee Welfare	1	1

Figure 3: Coding Structure of Future Strategies to Retain More QSs

All respondents paid their attention towards the expansion of opportunities for training and career development programmes as well as continuous learning facilities. Respondent A stated that “we hope to give more opportunities for the professionals for their career development. Under this we try to get chances for foreign scholarships as well as training programmes”. Respondent E also pointed out that facilitating for higher studies of professionals will assist to retain them in public sector. Furthermore, respondent B stated that they are willing to expand their employee welfare programmes within the organisation. He further mentioned about bank loans, insurance, medical coverage, educational assistance for children and other welfare facilities which will be supplied in the future as a mean of employee retention. The respondents stated that they are willing to implement new plans and strategies in order to retain more QSs within their organisations as well as enhance the productivity of them. According to the respondents, some changes and revisions of current HR policies will be a catalyst to retain more professionals. Although the HR managers prefer to increase the amount of QSs, they have to work under the rules and regulation of the government so that it will not be an easy task to achieve.

As a summary of whole interview analysis, there is a shortage of QSs in public sector construction organisations. This situation has been arisen due to various issues. Due to this situation, they have to face number of challenges in construction industry to survive. According to the HR experts in public sector, they have implemented some plans to overcome this problem but it seems they are insufficient. Therefore, the necessity of proper framework to recruit and retain QSs is urgent for public sector organisations. After the analysis of data collected from questionnaires and interviews, the framework was developed. The reasons for the shortage of QSs in public sector were identified and proposals for mitigate the issue were discussed in the analysis. The framework consists of the issue and perspectives of two parties who are relating to the issue. Furthermore, it describes the actions to be taken to mitigate the problem and the barriers to implement those plans. According to the framework, the HR managers should concentrate mostly on the salary increments, training and development and offering promotions. The public sector QSs are reluctant to retain in public sector due to low salary, less opportunity for career development and conflicts regarding the delegated authority among them. Due to the shortage of QSs in public sector, they have faced some

critical challenges as the main individual partner of the construction industry. Hence, they seek for a solution of this issue. The HR managers have realised that there should be changes and improvements in current practices. According to their viewpoints, even though they are willing to change the current situation, they cannot exceed the limitations of the government. The framework to recruit and retain professionals QSs in Public Sector is demonstrated in Figure 4.

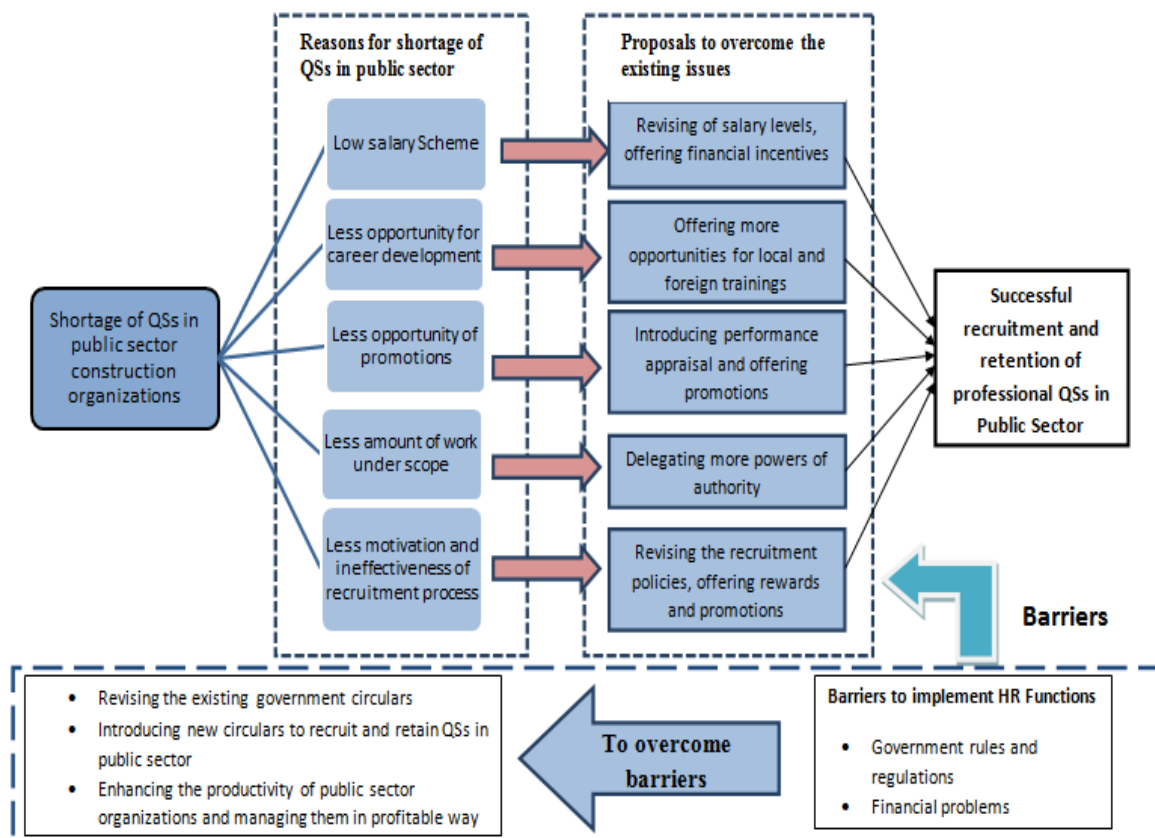


Figure 4: Framework to Recruit and Retain Professionals Quantity Surveyors in Public Sector

Furthermore, it is revealed that implementing new HR functions will be an additional cost for the organisation. As majority of public sector construction organisations are not profit earned ones, they do not have enough financial resources to implement additional HR functions. In addition, they have to request from the ministries to allocate additional funds to recruit and retain more QSs to public sector. As shown in Figure 4, the final solution for the problem is to revise or change the existing circulars and regulations in such a way that the change will positively assist the retention of QSs in public sector. They should be revised to stabilise the profession of Quantity Surveying in public sector as well as to increase the salary levels, career development opportunities, higher education opportunities and other welfare facilities. Furthermore, the allocation of additional financial resource is another solution for the issue.

## 5. DISCUSSION

Research findings clearly revealed that there is a shortage in public sector QS professionals. It further indicated that the QSs obtain very narrow scope of duties as well as the chances to expand their knowledge in public sector is very less compared to private sector. These facts are in line with the findings of Moodley (2012) since the author revealed that there are few well-skilled individuals in QS field in public sector. Similarly, ASAQS (2012) stated that innovation and best practices in the private sector create more job opportunities for QSs than in public sector. According to the survey results, employee job satisfaction is very low in the public sector. Low salary schemes, less opportunity to involve with new trends of the profession and many other reasons were identified as the root causes for the dissatisfaction of QSs in public sector. Similarly, Sugeewan (2009) stated that more than 70% of graduate QSs had gone abroad for higher salaries and rests were willing to employ in private sector. Moreover, ICRAMCS (2011) stated that less amount of professionals in public sector are willing to retain and this situation has become a threat to the

public sector construction organisations. In addition, the findings revealed that more than 80% of the QSs are willing to resign from the public sector.

As per the research findings, more than 90% of professionals think that implementing proper HR practices in public sector will mitigate the shortage of QSs. However, only recruitment and training and development functions are currently implemented in the public sector. Motivation, incentives, rewards, promotions, welfare facilities are not used frequently. Especially, performance appraisal is completely ignored. As mentioned by Kodippilarachchi (1997), HRM should be given a prior consideration since it is a major resource input to the construction industry. Furthermore, Druker and White (1997) stated that people should no longer be treated as a “cost” but as an “asset”. According to the views of respondents, training and development was ranked as the most effective HR function for job satisfaction. As professionals, they are willing to expand their knowledge. This is in line with the findings of Lim and Ling (2012) since they have emphasised the importance of meeting the challenges inherent in twenty-first century by continuously upgrading and uplifting the career life. Further to authors, the main motive of training and development is to increase a person’s skills and performance.

According to the research findings, HRM is essential in construction industry due to the multi-disciplinary involvement and the requirement of high quality. Similarly, Navarathne *et al.* (2012) revealed that the quality of output is totally depended on the job satisfaction of the employees. Furthermore, Arulrajah and Opatha (2012) stated that HR functions are acting as a leading factor of the productivity of any industry. Research findings revealed that HR departments already identified the causes of employee shortage yet they have to implement the plans to avoid the shortage by adhering to the government restrictions. However, the public sector HR managers recognised the strategies to avoid the issue such as conducting training programmes, providing scholarships, allowances and welfare schemes within the boundaries.

The research findings indicate the importance of retaining public sector QSs. In addition, the findings put forward an effective framework to mitigate the employee turnover and attract, recruit and retain the QS professionals. Mitigating employee turnover will enhance the performance of public sector construction organisations by enabling to follow a sustainable construction practice. This is in line with the findings of Hee (2011) as it emphasised the importance of preventing employee turnover by enhancing and uphold the QS profession with proper skills and talents. When consider deeply about employee job satisfaction, it can be understood that well satisfied employees lead to sustainable construction practice. Sustainability can be described as preserving the human resource (professionals) for future generation while effectively taking their service at present. In addition, it is important to increase their willingness to work by mitigating frustration. The basic source of frustration will be unwillingness to work deriving from low salaries, less opportunities and less motivation. Therefore, by following the framework introduced by the study, the public sector can achieve sustainable construction practice.

## 6. CONCLUSIONS

Sri Lankan construction industry has shown an upward trend since 2009, after the ethnic war in some parts of the country. Although there is a rapid development in construction industry, there are some key problems in industry which may be affected to the output. Shortage of the professional staff including QSs is one of the major issues and the public sector is the most affected sector from the very issue. According to the survey results, public sector construction organisations prefer the services of professional QSs yet there is some reluctance of QSs to retain in public sector. Due to this situation, a shortage of QSs has been created in public sector and it has created a big impact to the organisations. The study indicated that more than 80% of QSs in public sector do not obtain the satisfaction of working in the public sector organisations. The reasons are low salary, less opportunity for career development and less delegated works and responsibilities for the profession. Majority of QSs intend to resign from the current public sector organisation and work in the private sector. This situation has created the gap between demand and supply of the QSs in public sector construction organisations.

HR practices are highly impacted on the effectiveness and efficiency of any industry. As mentioned in literature, construction industry is one of the industries which use large gang of human beings including professional staff, labourers, suppliers and manufacturers. Furthermore, HRM should be given the highest priority as it is a major resource input to the construction industry. According to the results of survey, majority of QSs stated that the existing shortage of QSs in public sector can be eliminated by using proper

HR practices. Moreover, they pointed out main HR functions such as motivation, training and development, employee welfare and rewards and incentives which should be implemented to retain more QSs. Being one of the key professional experts in the construction sector, QSs have the utmost responsibility to address the key cost, financial and contractual issues of the construction process. The main responsibility of QSs is to control the public money and monitoring the way it was spent. Due to the shortage of QSs in public sector, they have to face various challenges. Mostly they have to use private sector consultants for a higher price and some private contractors have earned unfairly from public sector projects as there are no QSs to control the situation. Furthermore, disputes are regularly arising due to the less advice on cost related issues. Due to this unfortunate situation, public sector had to face financial crisis.

It was revealed that only few HR practices have been implemented in public sector and this situation has created the dissatisfaction of QSs of their job. Moreover, it was recognised that HR functions will assist in mitigating the shortage of QSs in public sector. The HR managers in public sector organisations have implemented programmes to attract and retain QSs in their organisations yet they are not sufficient to fully manage the situation. As a solution, HR divisions have now discussed with the government to revise the government circulars in order to attract more QSs as well as they have planned to offer more programmes which assist the career development. The HR managers often have to implement HR functions within the boundaries declared through circulars of the government. Although they have identified some weak points in these circulars, they are restricted to take actions until those circulars are revised by the Parliament. Furthermore, revising those circulars will take more time so that, there is a shortage of QSs in public sector construction organisation. However, the study introduced a framework which is ideal to attract, recruit and retain the QSs in government sector by pointing out the root causes of shortage of professional QSs, strategies to prevent the causes, barriers for implementing the strategies and methods to overcome those barriers. The study firmly recommends providing a vital importance to employee satisfaction in public sector and using the introduced framework to retain the QSs in public sector. Further, the study recommends the HR divisions to pay more attention regarding employee turnover and take actions against it following the government rules and regulations. If the employee turnover will be eliminated from the public sector, it can be identified as a sustainable construction practice since they preserve human resource for future use by utilising it currently in a proper manner.

## 7. REFERENCES

- Arulrajah, A.A. and Opatha, H.H.D.N.P., 2012. An exploratory study on the experience requirements of key HRM jobs in Sri Lanka. *Sri Lankan Journal of Human Resource Management*, 3(1), 1-18.
- Association of South African Quantity Surveyors, 2012. *A career as a Quantity Surveyor* [online]. Available from: [http://www.asaqs.co.za/?page=career\\_as](http://www.asaqs.co.za/?page=career_as). [Accessed 3 April 2014].
- Behm, M., 2008. Rapporteur's report. *Construction Sector*, 39(2), 175-178.
- Brandenburg, S. G., Haas, T. C. and Byrom, K., 2006. Strategic management of human resource in construction. *Journal of Management in Engineering*, 22(2), 89-96.
- Bucknail, D., 2012. The RICS new rules of measurement: A toolkit for cost management [online]. *RICS Construction Journal*. Available from: <http://www.rics.org/lk/knowledge/journals/construction-journal/construction-journal-april-may-2012/>. [Accessed 3 April 2014].
- Canadian Institute of Quantity Surveyors, 2012. *Quantity Surveying and cost consulting services: Schedule of Services and Recommended Charges* [online]. 6<sup>th</sup> ed. Available from: [http://www.ciqs.org/english/doc/Recommended\\_Fee\\_Schedule\\_%20FINAL\\_%202012.pdf](http://www.ciqs.org/english/doc/Recommended_Fee_Schedule_%20FINAL_%202012.pdf). [Accessed 5 April 2014].
- Chen, G. and Klimoski, R.J., 2007. Training and development of human resources at work: is the state of our science strong? *Human Resource Management Review*, 17(2), 180-190.
- Clarke, L. and Herrmann, G., 2007. Skill shortages, recruitment and retention in the house building sector. *Personnel Review*, 36(4), 509-527.
- Colquitt, J.A., LePine, J.A. and Noe, R.A., 2000. Toward an integrative theory of training motivation: A meta-analytic path analysis of 20 years of research. *Journal of Applied Psychology*, 85(5), 678-707.
- Druker, J. and White, G., 1997. Constructing a new rewards strategy: reward management in the British construction industry. *Employee relations*, 19(2), 128-146.

- Erdogan, B., 2002. Antecedents and consequences of justice perceptions in performance appraisal. *Human Resource Management Review*, 12(4), 555-578.
- Faizal, N., 2010. Construction industry and its characteristics [online]. *Peta map*, 13 November. Available from: <http://www.kumahauing.wordpress.com>. [Accessed 6 April 2014].
- Ferdinando, D.R.N., 2012. *Mitigation of disputes in construction contracts* [Handout]. Institute of Construction Training and Development, Colombo 07, Sri Lanka.
- Ghosh, B., 2000. *Human resources development and management*. Delhi: Vikas Publication House Pvt Ltd.
- Hee, C.H.S., 2011. Strategies for reducing employee turnover and increasing retention rates of quantity surveyors. *Construction Management and Economics*, 29(10), 1059-1072.
- Hendrickson, C., 1998. *Project management for construction: Fundamental concepts for Owners, Engineers, Architects and Builders*. USA: Prentice Hall.
- Ichniowski, C. and Shaw, K., 1999. The effects of human resource management systems on economic performance: an international comparison of US and Japanese plants. *Management Science*, 45(5), 704-721.
- ICRA Management Consulting Services, 2011. *Industry report on Sri Lankan construction*. Colombo 01, Sri Lanka: ICRA Lanka Limited.
- Institute of Personal Management, 2010. *Human resource management – Study Pack*. Colombo: HR House Publications.
- Jayasena, H.A.E.C., 2009. *Factors affecting construction procurement selection: private sector vs. public sector*. Thesis (B.Sc.). Department of Building Economics, University of Moratuwa, Sri Lanka.
- Kariyawasam, G.S.K., 1997. *Future demand for Quantity Surveyors in Sri Lanka*. Thesis (B.Sc.). Department of Building Economics, University of Moratuwa, Sri Lanka.
- Kodippilarachchi, S.N., 1997. *Strategies for managing human resources in a changing environment for a contracting organization*. Thesis (B.Sc.). Department of Building Economics, University of Moratuwa, Sri Lanka.
- Levy, S.M., 2000. *Project management in construction*. New York: McGraw-Hill.
- Lim, J.W.L. and Ling, F.Y.Y., 2012. Human resource practices of contractors that lead to job satisfaction of professional staff. *Engineering, Construction and Architectural Management*, 19(1), 101-118.
- Lockyer, C. and Scholarios, D., 2007. The 'rain dance' of selection in construction: rationality as ritual and the logic of informality. *Personnel Review*, 36(4), 528-548.
- Loosemore, M., Dainty, A. and Lingard, H., 2003. *Human Resource Management in construction projects: Strategic and operational approaches* [online]. Available from: [http://www.petronet.ir/documents/10180/2323250/human\\_resource\\_management\\_in\\_construction](http://www.petronet.ir/documents/10180/2323250/human_resource_management_in_construction). [Accessed 5 April 2014].
- Martell, K. and Carroll, S.J., 1995. How strategic is HRM? *Human Resource Management*, 34(2), 253-267.
- Moodley, S., 2012. Public sector lacking skilled quantity surveyors [online]. *Engineer's News*. 16 November. Available from: <http://www.engineeringnews.co.za>. [Accessed 10 April 2014].
- Navarathne, N.N.J., Silva, G.R.P., Atapattu, A.W.M.M. and Wijewardhana, K.D.T.K., 2008. *The Effects of Human Resource Practices on Labour Productivity: A Case of Selected Industrial Estates in Sri Lanka*. Colombo, Sri Lanka: University of Colombo, Department of Human Resource Management.
- Ofori, G., 2010. *Challenges of construction industries in developing countries: lessons from various countries*. Singapore: University Press of Singapore.
- Olomolaiye, P.O., Jayawardane, K.A.W. and Harris, F.C., 1998. *Construction productivity management*. Essex: Addison Wesley Longman.
- Ordanini, A. and Silvestri, G., 2008. Recruitment and selection services: efficiency and competitive reasons in the outsourcing of HR practices. *The International Journal of Human Resource Management*, 19(2), 372-391.
- Pathirage, C. and Amaratunga, R.D.G., 2006. A vision for the Quantity Surveying education in the 21<sup>st</sup> century: United Kingdom perspective. *Customising the Quantity Surveyor to face challenge in year 2020*. Moratuwa, Sri Lanka: University of Moratuwa, department of building economics.
- Pheng, L.S. and Ming, K.H., 1997. Formulating a strategic marketing mix for Quantity Surveyors. *Marketing intelligence and planning*, 15(6), 273 –280.

- Pomoni, C., 2009. *The importance of Human Resources Management (HRM) in modern organisations* [online]. Available from: <http://voices.yahoo.com/the-importance-human-resources-management-hrm-in-2687128.html>. [Accessed 9 April 2014].
- Rahmani, F., 2011. *Importance of quantity surveyors for public sector organizations in the prevailing recession*. Brisbane: CIB WB Congress.
- Seeley, I. H., 1997. *Quantity Surveying Practice*. 2<sup>nd</sup> ed. London: MacMillan Press Ltd.
- Senarathne, S. and Sabesan, S., 2008. Managing knowledge as quantity surveyors: An exploratory case study in Sri Lanka. *Built Environment Sri Lanka*, 8(2), 41-47.
- Stone, J., and Raymond, H., 1998. *Human resource management* (3rd ed.). London, UK: Oxford.
- Sugeewan, S., 2009. *Competencies required for Sri Lankan Quantity Surveyors in Middle East construction industry- specially in UAE* (Unpublished bachelor's Dissertation), Department of Building Economics, University of Moratuwa, Sri Lanka.
- Wedikara, C. and Devapriya, K., 2005. Demand and supply trends and construction industry development: a case study in the Sri Lankan construction industry. *Australasian Journal of Construction Economics and Building (AJCEB)*, 1(1), 91-105.
- Weerawardhana, I. A.D.S.S., 2010. *Factors affecting construction procurementselection – disaster reconstruction projects* (Unpublished master's thesis). Department of Building Economics, University of Moratuwa, Sri Lanka.
- Wiese, D.S and Buckley, M.R., 1998. The evolution of the performance appraisal process, *Journal of Management History*, 4(3), 233-249.
- Wright, B.E. and Davis, B.S., 2003. Job satisfaction in the public sector. *The American Review of Public Administration*, 33(1), 70-90.
- Yamhill, S. and McLean, G.N., 2001. Theories supporting transfer of training. *Human Resource Development Quarterly*, 12(2), 195-208.
- Yankov, L. and Kleinar, B.H., 2001. Human resource issues in the construction industry. *Management Research News*, 24(3), 101-105.