



Improvement of Job Satisfaction and Organisational Commitment through Work Group Identification: An Examination of the Quantity Surveyors in Hong Kong

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Abstract

Though extant literatures in other sectors point to the fact that job satisfaction and organisational commitment are important for determining individual and organisational outcomes, limited related research has been conducted amongst Hong Kong quantity surveyors. Given cooperative working arrangement in the profession, work group identification is regarded as an important antecedent for determining job satisfaction and organisational commitment. The aim of this study is to examine whether work group identification improves job satisfaction and organisational commitment. A questionnaire survey is conducted to collect data from quantity surveyors working in private sector. A total of 71 valid responses are obtained from 509 contacted quantity surveyors in Hong Kong and used for the study. Bivariate correlation and multiple regression analyses are performed for indicating the significance of relationships amongst the variables. Data analysis results support most hypotheses. Work group identification is found to have significant positive influence on job satisfaction, affective and normative commitment. The finding is a step for surveying companies towards improving quantity surveyor's job satisfaction and commitment level. The roles of other contextual and organisational factors on job satisfaction and organisational commitment need to be subject to future research.

Keywords: Work group identification, Job satisfaction, Organisational commitment, Social exchange theory, Quantity surveyors

Introduction

Job satisfaction and organisational commitment have drawn great attention from scholars and researchers in different disciplines for several decades (e.g. Lok and Crawford, 2001; Meyer and Allen, 1997; Poon et al. 2007; Robbins, 2005; Spector, 1997). The two constructs are also an area of concern for most organisations, primarily for the reason that they significantly affect major organisational outcomes such as staff turnover intentions, absenteeism, organisational citizenship behaviour, and effectiveness etc. (e.g. Cheng and Francesco, 2000; Laschinger, 2001; Lu et al. 2005; Martin and Roodt, 2008; Moorman et al. 1993; Rafferty and Griffin, 2009; Sagie, 1998).

Job satisfaction is commonly regarded as a constellation of employee's feelings about various job elements. Organisational commitment, is about individual's attachment to the working organisation. The importance of job satisfaction and organisational commitment in facilitating the well-being of the construction industry has also been highlighted (Lingard and Francis, 2004; Loosemore et al. 2003). However, despite the wealth research into job satisfaction and organisational commitment, little research has been undertaken for the improvement of job satisfaction and organisational commitment in the quantity surveying context.

Social exchange theory (SET) is applied to provide conceptual underpinnings for the study. Sarantinos (2007) asserts that commitment is directly tied to the psychological contract, which describes the implicit agreement between employees and the organisation with

regards to their reciprocal obligations and perceived expectations. Work group identification is about the identification with the work unit in which individuals conduct most of their day-to-day activities (Van Dick et al. 2008). Within quantity surveying consultant firms, a quantity surveyor usually has two identities: an employee of his working organisation and a member of his work group. Usually, a quantity surveyor is assigned into work group for handling construction projects and project tasks are divided among work group members. Generally, quantity surveyors would have better communication and information attainments among work group members, which also improves quantity surveyor's feeling to the job task and working environment. Because the work group is also part of the organisation, the employee who has a positive feeling about working experience in the work group may extend this belief to the organisation and develop a reciprocal behaviour that benefits the organisation. This research postulates that job satisfaction and organisational commitment are social exchange outcomes because the two constructs reflect a perception of the exchange quality (Van Knippenberg and Sleebos, 2006) of which the employee and the working organisation are required to fulfill their obligations to each other and establish ongoing reciprocity. Through this study, it is proposed that work group identification is likely to have a positive impact on job satisfaction and organisational commitment.

The purpose of this paper is to report on a study examining the role of work group identification in the development of job satisfaction and organisational commitment of quantity surveyors working in the Hong Kong construction industry. Quantity surveyors are one of the important players in the construction industry as they provide a wide range of professional services from project feasibility till completion (e.g. preliminary cost advice, cost planning, tender evaluation, cost monitoring and financial management) to the client for the decision making. The objectives of this study are (1) to investigate the perception work group identification of quantity surveyors and (2) to examine if work group identification enhances job satisfaction and organisational commitment level of quantity surveyors. This study hypothesizes that work group identification would be positively associated with two factors of job satisfaction (i.e. intrinsic and extrinsic job satisfaction) and three factors of organisational commitment (affective, normative and continuance commitment). The approach in this study is to test the association of work group identification with the two job satisfaction and three organisational commitment levels of quantity surveyors.

Literature Review

Social Exchange Theory (SET)

Social exchange theory (SET) is used to provide the theoretical basis for this study. According to Blau (1964, p. 91), social exchange is defined as '*voluntary actions of individuals that are motivated by the returns they are expected to bring and typically in fact bring from others.*' The theory suggests that when a person gives another person a reward, resource or other perceived commodity, there is an expectation of future return from the other party (Bernerth and Walker, 2009). In recent years, SET has received increased attention in organisational research context as it provides the conceptual underpinnings for understanding employee's workplace attitude (e.g. Setton et al. 1996; Tse and Dasborough, 2008; Wayne et al. 2002) and is able to provide explanations of employee's positive outcomes (e.g. Barlett, 2001; Kang and Stewart, 2007).

Within quantity surveying consultant firms, quantity surveyors in different position hierarchy are assigned to work group for handling different construction project of which project tasks are divided among group members. Through the cooperative and collaborative working practice, concurrent working relationship is built among work group members. Quantity surveyors in different position hierarchy are used to help each other within the work group for project tasks completion (goal attainment within the work group). Exchange relationships are built among work group members in undertaking project tasks to attain the goals. The content of exchange is not limited to the requirement of project task completion, but also

extends to the exchange of valued resource and support that goes beyond what is required for task completion (e.g. sharing of knowledge / past experience learnt from other projects, information attainment). To the quantity surveyor, goal attainment within the work group creates a positive influence to be a member of the group. Hence, quantity surveyors are likely to gain or maintain their membership in the group.

Because a work group is also part of the organisation, the employee who has positive perception of the work group may extend this belief to the organisation and develop a reciprocal behaviour that benefits the organisation. Previous studies (e.g. Coble, 2002; Van Dick et al., 2004) have shown that employee's positive perception of being members of the work group has positive influence on individual and organisational outcomes such as job satisfaction and organisational commitment. Several studies (e.g. Moreland and Levine, 2001; Van Knippenberg and Sleebos, 2006) have established that job satisfaction and organisational commitment as social exchange outcomes because the two constructs reflect a perception of the exchange quality of which the employee and the working organisation are required to fulfill their obligation to each other and establish ongoing reciprocity. Thus, it is considered that work group identification, job satisfaction and organisational commitment can hence be linked through the framework of social exchange.

Work Group Identification, Job Satisfaction and Organisational Commitment

Since 1990s, social and psychological researchers have expressed extensive interest in organisational identification as the construct has been shown to provide positive influence to various work outcomes such as increased job satisfaction, commitment and lowered turnover intention (e.g. Riketta and Van Dick, 2005; Tyler and Blader, 2001; Van Knippenberg et al., 2000). Ashworth and Mael (1989) suggest that as individuals often have multiple identities within work organisations, research should focus on identification with salient sub-groups such as work group, instead of simply examining organisational identification. It is because work group identification plays a crucial role in affecting employee's attitude and behaviour in organisations.

The concept of work group identification was initially defined by Tolman (1943) as '*a personal cognitive connection between an individual and the work group. It is the individual's perception of oneness with the group and the tendency to experience the group's successes and failures as one's own.*' Foote (1951), Mael and Tetrick (1992), Riordan and Weatherly (1999, p. 311) support this definition and declare that '*when an individual identifies with a group, that individual defines himself or herself by the same attributes (e.g. qualities, faults, common destinies) that define the work group.*' Riordan and Weatherly (1999) point out that there are three perceptions included in work group identification. Firstly, individuals within the group perceive themselves to be psychologically intertwined with the fate of the work group (Foote, 1951; Gould, 1975; Riordan and Weatherly, 1999). Secondly, when individuals identify themselves within the group, they can personally experience the successes and failures of the group (Foote, 1951; Tolman, 1943). Thirdly, when individuals identify themselves within the group, the individual's self-definition are strongly influenced by the work group attributes (Riordan and Weatherly, 1999). In this study, the Van Dick et al. (2008) definition about work group identification is employed, i.e. – 'work unit in which individuals conduct most of their day-to-day activities.' It provides a consistent and clear meaning about the term 'work group identification', which is easy for people to understand.

The concept of job satisfaction is initiated by Hoppock (1935) study, which is defined as '*any combination of psychological, physiological and environmental circumstances that causes an employee to be satisfied with his / her jobs.*' Broadly speaking, job satisfaction is regarded as a constellation of employee's attitudes about various job aspects (Lu et al. 2005). It is found that the facets included are generally related to the employee's feeling about the intrinsic and extrinsic job elements. In addition, several approaches are adopted by a number of

studies (e.g. Cranny et al. 1992; Moorman, 1993; Weiss et al. 1967) to classify job satisfaction dimensions. In this research, the intrinsic-extrinsic dimension suggested by Weiss et al. (1967) is taken to classify job satisfaction. It is because both psychological and physical issues are included in the two dimensions for classifying employee's job satisfaction. According to Martin and Roodt (2008), intrinsic satisfaction is derived from performing the work and consequently experiencing the feelings of accomplishment, self-actualization and identity with the task. On the other hand, extrinsic satisfaction is derived from the rewards bestowed upon an individual by peers, supervisors or the organisation, and can take the form of recognition, compensation and advancement (Martin and Roodt, 2008). In other words, intrinsic job satisfaction is about how individuals feel about the nature of job task; whereas extrinsic job satisfaction is about how individuals feel about the aspects of work situation (Hirschfield, 2000). Generally, previous findings (e.g. Fellows et al. 2003, Rad and Yarmohammadian, 2006) have shown that the two dimensions of job satisfaction are significantly affected by work-related issues such as leadership style and power relations, this study tends to examine whether they are influenced by work group identification.

The concept of organisational commitment is initially explored by Porter et al. (1974) study, who noted that organisational commitment was characterized by '*...a strong belief in and acceptance of organisational goals and values; willingness to exert considerable effort on behalf of the organisation, and define desire to maintain organisational membership*' (Porter et al., 1974, p. 604). Generally speaking, organisational commitment is about individual's attachment to the working organisation. Researchers have variations in defining the concept because they look into the concept from three approaches. Some researchers (e.g. Becker, 1960; Farrell and Rusbult, 1981 and Sheldon, 1971) look into the commitment concept from a cost approach and regard it as a side bet i.e. non-transferable investments such as time, effort and money. To other researchers such as Kanter (1968), Mowday et al. (1982) and Porter et al. (1974), organisational commitment represents an individual's emotional response to the organisation, as well as its goals and values. On the other hand, researchers such as Wiener and Vardi (1980) focus on the obligation that an individual believes he has to stay in the organisation.

Based on these three approaches, Meyer and Allen (1991) categorize organisational commitment into three components: affective, normative and continuance commitment. Affective commitment is used to reflect the employee's emotional attachment, identification with and involvement in the organisation, which is also similar to Mowday et al. (1982) definition of attitudinal commitment. Normative commitment is about an employee's feeling of obligation to stay in the organisation. Continuance commitment is about the cost associated with the employee leaving the organisation. In this research, this three-component model is taken for studying organisational commitment as it is the leading multidimensional model used to study the concept in the past two decades. Moreover, the model has been widely adopted to account for multiple foci of workplace commitment (Meyer et al. 2004). Therefore, this study adapts the three-component model to further examine the ways in which it is influenced by work group identification.

Overview of research about Work Group Identification and Hypotheses Development

Although work group identification has been defined by scholars for more than 60 years, it has just generated interest from researchers in the past three decades. Since 1980s, researchers (e.g. Guzzo and Shea, 1992; Park et al., 2010; Van Knippenberg and Van Schie, 2000) have expressed the need to understand work group identification because it can provide positive influence on interpersonal relations and foster desirable outcomes to organisations. Empirical research conducted by a number of researchers (e.g. Ollkonen and Lipponen, 2006; Van Dick et al. 2008; Van Knippenberg and Van Schie, 2000) show that work group identification has strong influence on employee's job-related attitudes and

behaviour towards the organisation such as job involvement, in-role and extra-role behaviour, organisational citizenship behaviour, turnover intention and absenteeism etc.

Regarding job satisfaction and organisational commitment, a few empirical studies show that there is a positive relationship between work group identification and the two constructs. Van Dick et al. (2004) studied the relationship of work group identification and job satisfaction in the education and banking sectors in Germany. Social identity and social categorisation theories are adopted to explain the relationship between work group identification and job satisfaction. In the study, it is observed that university teachers and bank accountants' perception of work group identification have positive influence on their job satisfaction level. In their meta-analysis of 40 studies on the relationship between employee's attachment to a broad range of work-related attitudes and behavior, Riketta and Van Dick (2005) report that work group identification seems to have a positive influence on an attitudinal construct like job satisfaction. However, the results are considered as preliminary as the number of analysed samples for conducting the meta-analysed comparison is small. In a study of the effects of tenure and work group on organisational commitment of employees working in a multi-line financial service organisation, Coble (2002) found that work group identification has positive influence on organisational commitment. However, the adoption of secondary data for examining the relationship between the construct restricts the ability of the researcher to test the validity of the measurement instrument. The validity of the constructs is thus questionable. Moreover, Coble (2002) report that the data are gathered for the purpose of another study of which only affective commitment is explored in terms of organisational commitment.

However, it is noticed that even though there are studies that look at the relationship between work group identification and, job satisfaction and organisational commitment, all of them are not conducted in Hong Kong or construction-related contexts. Moreover, SET has not been applied to explain for the relationships. Hence, it is postulated that the quantity surveyor's work group identification positively affects his job satisfaction and commitment level to the organisation. Generally, previous findings (e.g. Beck and Wilson, 2000; Bishop and Scott, 2000; Rafferty and Griffin, 2009; Sagie, 1998) have also shown that organisations benefit from a workforce that has a high level of job satisfaction and organisational commitment as the employees tend to be absent less, make positive contributions and stay with the organisation. Thus, an understanding of the relationship between work group identification and, job satisfaction and organisational commitment is desirable. Relevant hypotheses and Sub-hypotheses are developed as follows:

- Hypothesis 1: Quantity surveyor's organisation-based work group identification positively affects his job satisfaction in an organisation.
 - Hypothesis 1.1: Quantity surveyor's organisation-based work group identification positively affects his extrinsic job satisfaction level in an organisation.
 - Hypothesis 1.2: Quantity surveyor's organisation-based work group identification positively affects his intrinsic job satisfaction level in an organisation.
- Hypothesis 2: Quantity surveyor's organisation-based work group identification positively affects his commitment to the organisation.
 - Hypothesis 2.1: Quantity surveyor's organisation-based work group identification positively affects his affective commitment to the organisation.
 - Hypothesis 2.2: Quantity surveyor's organisation-based work group identification positively affects his normative commitment to the organisation.
 - Hypothesis 2.3: Quantity surveyor's organisation-based work group identification positively affects his continuance commitment to the organisation.

Research Context and Methodology

This paper reports a study on the role of work group identification, in the development of job satisfaction and organisational commitment of quantity surveyors working in the Hong Kong construction industry. While the research objectives are not limited to any specific region, this study focuses on the Hong Kong context. Hong Kong has a commercialized economy and its business environment is more similar to the West than to China (Wong, 2001). Construction industry in Hong Kong accounts for around 4% of the GDP and encompasses nearly 300,000 registered construction workers (Census and Statistics Department, 2008). The construction industry is a labour-intensive industry where different types of professionals are involved in, such as architects, engineers and surveyors. Since the working nature and practice of different construction professions is rather diverse, focusing on a single profession can eliminate research result variations that may be related to the type of profession (Swales, 2004).

In Hong Kong, chartered quantity surveyors are one of the important players in the construction industry (Liu et al. 2007). Although the professional services provided by quantity surveyors have expanded from take off of quantities to project and contract management, which is getting more diverse, stressful and complicated in nature; the working duties, roles and job duties of chartered quantity surveyors are more standardized as compared with other construction professionals. In other professions, the variation / deviation in daily job duties will have an effect on the professional's job satisfaction and organisational commitment, which may vary the result of the hypothesized relationships. In order to minimize the variation that is caused by job-related issues in mapping out the relationships between the variables, the target population for this study is confined to chartered quantity surveyors. Whilst the studies focusing on job satisfaction and organisational commitment among quantity surveyors are scanty in Hong Kong, this is also an attempt to contribute to knowledge to fill the gap.

Data Collection Method and Survey Sample

A quantitative approach using questionnaire survey is employed in this study for data collection. The questionnaire is sent to the chartered quantity surveyors working in consultant companies in the construction industry in Hong Kong. "Chartered quantity surveyors" refers to those quantity surveyors who have obtained professional membership from the HKIS or the Royal Institution of Chartered Surveyors (RICS) (i.e. quantity surveyors who are full members in at least one of the professional institutions). Each quantity surveyor is asked to complete one self-administrated questionnaire. The contact information of the chartered quantity surveyors is sorted out from the Royal Institute of Chartered Surveyors (RICS) Member List book. Although a total of 884 chartered quantity surveyors are found in the member list book, only 509 are contacted with correct mailing address. Thus, the 509 contacted quantity surveyors become the target respondents for this study.

Questionnaire Design and Measures

The questionnaire is divided into three sections: (1) work group identification, (2) job satisfaction and (3) organisational commitment and (4) demographic information.

The work group identification measurement scale used in this study is developed by adaptation of statements in several existing scales. The reason for combining the existing measurement statements developed from various measurement scales is because different weaknesses (e.g. the scale put too much focus on affective aspects but ignore other aspects that constitute the identification, the scale is not originally used for measuring work group identification, the wordings are too ambiguous for people to understand etc.) are found in different existing measurement scales. The existing instruments involved in the new scale development are Ashforth and Mael (1989), Lipponen et al. (2003) and Van Dick et al.

(2004). The new measurement scale contains 10 statements, with three statements are modified statements and the rest of the statements are directly adopted from existing scales. The statements are used to measure the respondent's view about the cognitive connection between oneself and the work unit in which one carries out day-to-day activities. The respondents are asked to indicate their level of agreement with each statement on a seven-point Likert scale ranging from "*Strongly Disagree*" to "*Strongly Agree*".

The short form of the Weiss et al. (1967) Minnesota Satisfaction Questionnaire (MSQ) - MSQ20 is used in this study for the measurement of job satisfaction. The MSQ 20 originated from MSQ long version, which uses 100 items to assess 20 facets of job satisfaction (each facet contains 5 items). The item that loaded the highest on each facet in the long version is selected to represent the facet in the short form. Thus, the MSQ20 includes 20 facets of job satisfaction and are classified into two factors/dimensions: intrinsic satisfaction (IJS) and extrinsic job satisfaction (EJS) (Hopper, 2009). Intrinsic job satisfaction refers to the nature of job tasks and how people feel about the job task that they are assigned (characteristics associated with the task) (Weiss et al. 1967). On the other hand, extrinsic job satisfaction concerns other aspects that have little direct linkage with the job tasks (non-task characteristics of the job). In the instrument, those of intrinsic nature are – activity, independence, variety, social status, moral values, security, social service, authority, ability utilization, responsibility, creativity and achievement. Those of extrinsic nature are – supervision-human relations, supervision–technical, company policies and practices, compensation, advancement, working conditions, co-workers and recognition. The items use a seven-point Likert-type response scale ranging from "*Very Dissatisfied*" to "*Very Satisfied*" to indicate respondents' level of job satisfaction.

The Organisational Commitment Scale developed by Allen and Meyer (1990) is used in this research. The commitment scale consists of three dimensions, namely affective, continuance and normative commitment; of which each contains eight items. The affective commitment (AC) refers to the employee's psychological attachment, identification with and involvement in the organisation (Meyer and Allen, 1991). The continuance commitment (CC) refers to the investments (e.g. time, cost and effort) that an individual would be lost when leaving the organisation. The normative commitment (NC) is about the employee's feeling of obligation to remain with the organisation (Allen and Meyer, 2000). Seven items in the scale are written in negative wording to ensure respondents read the questions carefully before providing answers. The remaining ones are written in positive wording. All items employ a seven-point Likert-type response scale ranging from "*Strongly Disagree*" to "*Strongly Agree*" to indicate respondents' level of commitment to the organisation.

A demographic information section is included in the survey to collect some background information for the data analysis. The demographic information section contains ten questions. Both structured and filled-in questions are used. Seven questions (e.g. education qualification, age and gender etc.) are structured items of which multiple options are provided for respondents to select. Three filled-in questions (e.g. Years of working experience in the construction industry) ask the respondents to fill in appropriate answers.

Questionnaire Pretesting

Before the main survey is conducted, questionnaires were sent to 36 chartered quantity surveyors through personal contacts for pretesting. It was felt necessary to carrying out the pilot for two reasons. First, the measurement scales adopted were either developed from western scholars or specifically developed for the study. Thus, the pretesting was to ensure the questions set in the measurement scales were well-defined understood by the research target and, suitable to be applied in the Hong Kong construction context. Second, the reliability of the measurement scales would be established and any item in the measurement scales that needed to be modified or eliminated for the main study could also be identified.

In the 10 statements developed for measuring work group identification, one statement was eliminated after the pretesting due to its inconsistency with other items. The alpha coefficient of the revised work group identification scale is 0.851, indicating acceptable reliability. Regarding the MSQ20 used to measure job satisfaction, three items used to measure intrinsic job satisfaction were eliminated due to their low consistency with other items. The alpha coefficient of the revised scale is 0.901, indicating good reliability. On the other hand, the items used to measure extrinsic job satisfaction achieved a good reliability score with an alpha value of 0.920. Concerning the OCS scale that used to measure the three dimensions of organisational commitment, the pretesting result shows that a total of six items (two for each dimension) should be eliminated because of their low consistency with other items. The alpha coefficient of the revised scale is acceptable (0.708 for affective commitment, 0.790 for normative commitment and 0.849 for continuance commitment). Those revised scale are used in the main study questionnaire survey for data collection.

Statistical Methods for Data Analysis

To examine whether work group identification improves job satisfaction and organisational commitment, bivariate correlation and multiple regression (MR) analysis are performed. The bivariate correlation test is performed to identify and understand the strength, direction and significance of associations amongst the variables. For the regression analysis, the hierarchical multiple regression technique is adopted. MR has been extensively used as data analytical tools for indicating relationships among variables in social science research (e.g. Cohen et al. 2003; Wong, 2006 and Wu, 2009). In this study, two reasons account for the choice of MR. The first and most important reason is that the number of questionnaire responses obtained is able to fulfill the minimum sample number requirements proposed by different researchers (e.g. Hair et al. 1998; Howell, 2002 and Stevens, 1996) for a MR analysis. The second reason is that MR is a simpler technique than other statistical techniques and is able to serve the research objectives adequately. That is, the independent variable – work group identification – can be evaluated in terms of its predictive power, over and above that offered by all other variables that exist in the model for enhancing job satisfaction and organisational commitment (Ho, 2006). According to Best and Smith (2005) and Westen and Rosenthal (2003), a primary principle for the selection and use of statistics for data analysis is to use a simple and minimally sufficient statistics. The choice of MR in this study is accorded to this rule.

Main Study Results and Discussion

There are 71 returned questionnaires from a total of 509 contacted survey sample; giving a response rate of 13.95%. All returned questionnaires are acceptable for analysis as the number of missing data is small and affect a few questionnaires only. The demographic variables (tenure, age, gender and education level) are included in the correlation matrix as control variables to restrain the effects of possible respondent bias on ratings of other variables (Pallent, 2001; Yip, 2007) and to check for the problems of multicollinearity. The results of the bivariate correlation analysis are summarized in Table 1.

Table 1 shows that the bivariate correlations between the variables are less than 0.70, indicating that multicollinearity is unlikely to cause problems in formulating the multiple regression model for analysis. The correlation results show that at the 0.01 significance level, work group identification is significantly correlated with both extrinsic job satisfaction ($r = .484$), intrinsic job satisfaction ($r = .474$), affective commitment ($r = .404$) and normative commitment ($r = .458$). However, work group identification does not show significant correlation with continuance commitment. Accordingly, continuance commitment is not considered in the regression analysis.

VARIABLES	Mean	S.D.	TENURE	GENDER ²	AGE ²	EDCUATION ²	WGI ³	EJS ³	IJS ³	AC ³	NC ³	CC ³
TENURE	11.54	8.95	-									
GENDER ²	.14	.35	-.101	-								
AGE ²	.49	.50	.646**	-.237*	-							
EDCUATION ²	.51	.50	-.023	-.168	.183	-						
WGI ³	5.61	.89	.125	-.094	.058	.053	-					
EJS ³	4.95	1.02	.170*	.015	.102	-.009	.484**	-				
IJS ³	5.08	.88	.135	.034	.087	-.004	.474**	.000	-			
AC ³	4.24	1.33	.239*	-.050	.135	-.111	.404**	.333**	.170	-	.000	.000
NC ³	4.15	1.08	.038	-.128	.116	-.060	.458**	.396**	.289*	.000	-	.000
CC ³	4.46	1.11	-.050	-.056	-.040	-.060	-.197	-.050	-.290*	.000	.000	-

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Table 1: Correlation1 Matrix between study variables

NOTES:

- 1 Correlations involving age, gender and education level are Spearman rank-ordered statistic, all others are Pearson product-moment statistics, pairwise, N = 71
2. Variable Coding is as follows: Gender is recorded as 0 = Male, 1 = Female. Age is recorded as 0 = less than or equal 40, 1 = more than 40. Education level is recorded as 0 = undergraduate or below, 1 = postgraduate. N = 71.
3. Except demographic variables, all other variables are scored on a 7-point Likert-type scale: 1 = strongly disagree / dissatisfied, 7 = strongly agree / satisfied. N = 71.
4. EJS = Extrinsic Job Satisfaction; IJS = Intrinsic Job Satisfaction; AC = Affective Commitment; NC = Normative Commitment; CC = Continuance Commitment

Table 2 shows that work group identification has significant positive influence on both extrinsic (beta = 0.488, $p < 0.001$) and intrinsic (beta = 0.482, $p < 0.001$) job satisfaction. This means that work group identification explained as much as 20.2% and 20.6% of the variance in extrinsic job satisfaction and intrinsic job satisfaction respectively. This also means that Hypothesis 1 has received full support (as sub-hypotheses 1.1 and 1.2 are supported) from the sample data collected in the questionnaire survey. This implies that work group identification is a predictor of job satisfaction. In essence, similar perceptions for the positive relationship between work group identification and job satisfaction are also found in some previous studies. For example, Van Dick et al. (2004, p. 353) point out that '*individuals who are strongly identified with their work group will perceive their working condition and situation positively, leading to higher job satisfaction.*' In the quantity surveying profession, cooperation and collaboration is a common practice among work group members, which imposes a positive feeling on the quantity surveyors that they are not working alone. Moreover, quantity surveyors in different position hierarchy are used to help each other within the work group for project task completion (goal attainment within the work group). Exchange relationships are built among work group members in undertaking project tasks. The content of exchange is not limited to the requirement of project task completion, but also extends to the exchange of valued resources and support that goes beyond what is required for task completion (e.g. sharing of knowledge / past experience learnt from other projects, information attainment). This is especially important when difficulties or problems occur in the project which can be solved together. When the problems are solved, this also induces feelings of success among work group members. The work group members would be happy and their job satisfaction level would also be improved. In this study, one possible reason for the positive relationship is because the work group identification induce chartered quantity surveyors' positive perception and feeling about the working condition and the job task, such as better working environment (e.g. better communication among colleagues; able to seek help from each other) or feeling involvement in the project, which contributes to high job satisfaction level.

Predictors / Variables	EJS	IJS	AC	NC
Control Variables				
Age	.100	.101	.139	.073
Gender	.078	.082	-.006	-.067
Education level	-.039	-.125	-.146	.012
Work Group Identification	.488***	.482***	.404***	.447***
Adjusted R²	.202	.206	.151	.175
F	5.444***	5.552***	4.121**	4.721**

Table 2 Regression Results on Job Satisfaction and Organisational Commitment

** . Correlation is significant at 0.01 level (2-tailed)

***. Correlation is significant at 0.001 level (2-tailed)

EJS = Extrinsic Job Satisfaction; IJS = Intrinsic Job Satisfaction; AC = Affective Commitment; NC = Normative Commitment

Concerning commitment, the results in Table 2 show that work group identification has positive influence on both individual's affective (beta = 0.404, $p < 0.001$) and normative commitment (beta = 0.447, $p < 0.001$) to the organisation. Work group identification explained around 15.1% and 17.5% variance in affective commitment and normative commitment respectively. This also means that sub-hypotheses 2.1 and 2.2 have received support from the sample data collected in the questionnaire survey. One possible reason for the positive relationship is because work group identification can induce in the chartered quantity surveyor positive feeling about the working experience within the work group and working environment. As the work group is also part of the organisation, quantity surveyors who have

positive perception about the work group and working environment would extend this belief to the organisation and develop a reciprocal behaviour that benefits the organisation, which become a motivation for quantity surveyors to stay with the organisation. In essence, similar perceptions for the positive relationship between work group identification and organisational commitment are also found in some previous studies. For instance, Coble (2002, p. 62) points out that

Employee's relationship with co-workers and membership in the work unit may contribute to an employee's perception of the social and emotional habitat in which they work... The experience that the employee has within the local work group may account for the difference in individual commitment level to the organization.

The correlation results show that work group identification does not have significant relationship with continuance commitment. This means sub-hypothesis 2.3 is not supported. There are two possible reasons for this. First, the number of quantity surveyors involved in a project work group is small, which implies that chartered quantity surveyors working in the construction industry think that not much time and effort is needed for building working relationships again in the newly joined work group. Thus, work group identification does not constitute the cost for quantity surveyors to leave the company. Second, the projects that the quantity surveyor mostly is involved are not exceptionally big and well-known. In general, the involvement in the work group has no implication for quantity surveyors' working status, as the job duties that they handle in every work group and company are routine and repetitive (such as preparation of Bills of Quantities and Schedule of Rates, cost planning, monthly payment validation etc.). However, the situation may be different when the quantity surveyor is involved in well-known big projects. It is because the involvement can improve the professional value of the quantity surveyor and has positive implications for his future career prospects. In this situation, work group identification constitutes a cost for quantity surveyor's decision to leave the organisation.

Conclusion, Implication and Future Research Direction

Job satisfaction and organisational commitment have been widely studied in different disciplines for several decades. However, there are limited investigations in the quantity surveying context. The purpose of this paper is to report on a study examining the role of work group identification, in the development of job satisfaction and organisational commitment of quantity surveyors working in the Hong Kong construction industry. SET is applied to provide conceptual underpinnings for the study. Work group identification is about the identification with the work unit in which individuals conduct most of their day-to-day activities. Job satisfaction is used to reflect employee's feeling about job elements. Organisational commitment is about an individual's attachment to the organisation.

Quantitative research approach and survey data collection method are adopted in this study to achieve the stated objectives. The empirical results from this study positioned work group identification as a potential antecedent of job satisfaction and organisational commitment. Further analysis show that work group identification has positive influence to job satisfaction and the two dimensions (affective and normative) of organisational commitment. Thus, this study provide initial evidence supporting the premise that work group identification plays a role in raising job satisfaction and bringing about organisational commitment in the Hong Kong quantity surveying profession.

This study is the first to apply the SET to study the relationship between work group identification and, job satisfaction and organisational commitment. The adoption of SET provides a new approach to understanding the improvement of job satisfaction and organisational commitment in the company. Implications of the findings of this study are that organisations / senior managers should focus their efforts on fostering the work group identification among quantity surveyors by establishing positive relationships in the work

place and implementing other non-work related activities (e.g. regular group meeting; lunch gathering; happy hour etc.) for enhancing communication between work group members and understanding between each other.

Whilst the present regression analysis provides a basis to support that work group identification has positive influences on job satisfaction and organisational commitment, other contextual factors that may also influence job satisfaction and organisational commitment are not taken into consideration. Future model development is therefore suggested for a more comprehensive understanding of other possible antecedents of job satisfaction and organisational commitment. It is suggested that the model can be tested by means of structural equation modeling based on larger scale data collection. In addition, this study is also limited by its cross-sectional design. Therefore, it fails to address the causality of the relationship between individual's work group identification, job satisfaction and organisational commitment and the stability of the relationship across time. The longitudinal research design is recommended for future research as it can provide an in-depth analysis about the causality of the relationships across variables and observe whether changes occur over time, which would complement the results obtained in this study.

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