

## Facility Management in Singapore: Training and Education

Lawrence Chin, PhD

Department of Real Estate  
National University of Singapore  
4 Architecture Drive  
Singapore 117566  
Email: [rstckh@nus.edu.sg](mailto:rstckh@nus.edu.sg)

### **Abstract**

*Facility management is one of the fastest growing areas of specialization within the real estate industry that is gradually evolving into a managerial science. With increasing urbanisation and rising expectations of users, facility managers of today need to have at their fingertips the knowledge, communication skills and technical expertise in order to be effective managers. They must also be versatile as they may be called on to act in a variety of situations. Interpersonal skills are becoming a prerequisite if they are expected to deal effectively with building owners, tenants, employees and others in the real estate business.*

*The facility manager is expected to understand the socio-economic forces at work given the rapid technological changes and increasing globalisation of the real estate market. He or she must be able to evaluate the property in terms of operating income, forecast its potential for the future, and construct a management plan that reflects the owner's objectives while remaining flexible enough to adapt to future changes.*

*This paper examines the professional training and education of facility managers in Singapore. This study using empirical research seeks to better understand certain behavioural traits that might lead a facility manager to the success of job effectiveness and performance.*

**Keywords:** *Education, facility managers, job fit, behavioural traits*

---

### **Introduction**

Facility management (FM) is one of the fastest growing areas of specialization within the real estate discipline which combine people, property and process management expertise. Facility managers are responsible for many of the building and facility services vital for business control and operations. As a professional, the facility manager of today needs to have at their fingertips the knowledge, communication skills and technical expertise in order to be effective and successful. They must also be versatile as they may be called on to act in a variety of situations. Interpersonal skills are becoming a prerequisite if facility managers are expected to deal effectively with owners, tenants, employees and authorities in the real estate business.

It is the role of FM to ensure that everything is available and operating properly for building occupants to do their work. The facility manager generally has the most influence upon the quality of life within a facility. FM may range in scope and function from a single smallest building to mega size projects like the upcoming Integrated Resort. FM can also cross border on an international scale such as providing global service to a multinational corporation. Some facility management companies (e.g. Regus) have grown to simply provide environments which other organisations may rent on demand in order to do business in a "hotel" environment.

This paper examines the professional training and education of facility managers in Singapore. This study using empirical research seeks to better understand certain behavioural traits that might lead a facility manager to the success of job effectiveness and performance.

## **Education and Curriculum Design**

In real estate education, the basic issue at hand is the curriculum design or 'What knowledge and skills should be taught?' In other words, the real estate curriculum has to keep pace with the recent changes in focus on university education where the new paradigm is to design and develop a curriculum which equips a student with specialist knowledge and, at the same time, the need to impart a well-rounded education.

Chong (2002) highlighted the five desired outcome of a good curriculum design:

- Broad-based education
- Specialized knowledge in a particular field
- Multi-disciplinary exposure
- A creative and innovative mind
- Passion for life-long learning

FM is defined by the International Facility Management Association (IFMA) as:

"A profession that encompasses multiple disciplines to ensure functionality of the built environment by integrating people, place, process and technology."

Another broader definition provided by the IFMA is "The practice or coordinating the physical workplace with the people and work of the organization; integrates the principles of business administration, architecture, and the behavioral and engineering sciences." Hence in FM, we can break down the services into "hard services" and "soft services." Hard services include the technical support things like mechanical and electrical services. Soft services include the cleaning and conservancy works, lease management and tenant relations.

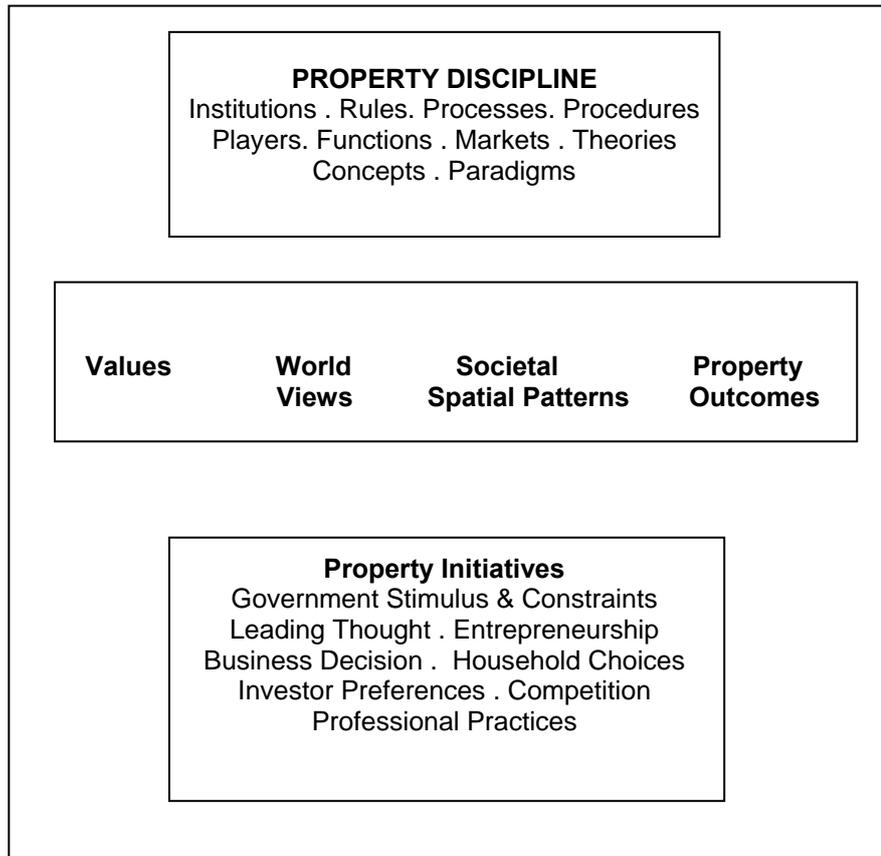
In real estate education, the program requirements will provide the student the specialized knowledge and depth of study in that discipline. As shown in Figure 1, the property discipline employs multiple perspectives for effective property involvements and, hence students are required to take modules that cut across technology, planning, finance, economics, marketing, management to public policies.

## **Behavioural Characteristics**

In any given field or profession, a person who possesses the set of characteristics that correspond to a given endeavour is more likely to succeed in that effort than the person who lacks them. Hence, a person making a career commitment to FM would do well to examine those behavioural traits that are conducive to becoming a successful manager.

Walters (1979) identified ten desirable behavioural characteristics for a manager. First of all, sociability is recognised as an important behavioural characteristic because property management is essentially a people-oriented business. While a manager needs not necessarily be a naturally gregarious person, he should be able to work effectively with others and display a level of confidence when dealing with staff, tenants or other businessmen.

Figure 1 The Property Discipline Framework



Source: Roulac (2002)

Attentiveness to detail is required in property management as it is also a detail-oriented business. This means that a manager has to respond to problems of tenants and visit the estate or premises regularly to verify that everything is in order. The facility manager who ignores the details of a property's operation will not likely be successful.

A successful facility manager should have a competitive attitude that enables him to overcome resistance and be a firm negotiator when the situation calls for one. This characteristic will be called upon whether negotiating with an owner, tenant, subordinate employee, or client for a new contract or a lease renewal.

Assertiveness is a desirable characteristic in a facility manager. He needs to be self-assured and have a determined attitude toward getting results by personally initiating action and following through. However, his assertiveness should preferably be used for solving problems rather than in dealings with people.

A typical FM firm has a formal operational structure and set of procedures. It is important that a facility manager is able to work within the organisation and that he sees himself as a team player.

FM is a fast-paced activity. The practitioner should be energetic and be able to handle a variety of tasks simultaneously and make decisions quickly. His confidence and determination that result from his high energy level will help to contribute to his overall effectiveness and to achieve the organisational goals.

Being a manager means making decisions. Very often, a facility manager is required to make policies or judgements that are unpopular with tenants or employees. Decisiveness is important here since tenants and employees alike are entitled to prompt answers to questions or decision to their problems.

Entrepreneurship is needed to rise to the executive level. An entrepreneur is a person who makes things happen and assumes the consequent risks. However, an entrepreneur tends to be more aggressive than would be preferred and his independent attitude may not be conducive to working in a structured environment. On the other hand, the entrepreneurial facility manager is likely to solve problems himself rather than have someone solve them for him.

Important to a facility manager's ability to achieve is a commitment to continued learning. Even as experience is gained, knowledge is refreshed through attendance of seminars and courses available to the facility manager. Without continued exposure to new ideas and practices, the manager could become less effective or even obsolete. Therefore, continuing study in laws, finance management, technical improvements and social changes is a necessity for anyone who wants to keep abreast with his profession.

Last but not least, integrity is another important management trait. It refers to a moral soundness that tests steadfastness to truth, purpose, responsibility and trust. No matter how knowledgeable or experienced the facility manager is, if he lacks integrity, he would undermine the purpose and honour of the profession.

### **Job Behavioural Fit**

In reality, people resist changing and being changed. Hence, changing people to fit their jobs do always not work, but on the other hand, allowing jobs to be changed to fit preferences could be disastrous if carried too far. What would likely to work then is to put people in jobs that match their traits. When an individual's natural behaviour tends to match up with the kind of behaviour primarily required in a given job, there exists a condition in which there is "job behavioural comfort". It is important to select people for job behavioural fit and comfort as they are easier to train and manage and are thus more productive overall.

The measurement of the manager's knowledge, skills and abilities is essentially an interaction between the behavioural construct, as well as the task construct (Schmitt and Chan, 1998). Knowledge refers to the foundation upon which abilities and skills are built; it involves an organized body of information – usually facts, rules and procedures that if used make good job performance possible. Skills refer to the capability to perform tasks with ease and precision. Abilities usually refer to the cognitive capabilities necessary to perform a job function and it often assumes the application of some knowledge base.

During the past few decades, many researchers have contributed significantly to the development of models for understanding human behaviour. In 1986, the Institute of Real Estate Management Foundation (IREM) commissioned Potential Unlimited, Inc. to develop a Career Potential Analysis (CPA) for behavioural description of facility managers and evaluation of how they behave at the workplace.

The CPA system is based on four primary vectors to describe behaviour, namely dominance, affiliation, restraint and conformity (Potential Unlimited, Inc., 1986). Although behavioural scientists have identified scores of behavioural traits, these four vectors have been found to be practical, sufficiently accurate and highly descriptive when applied to an analysis of human behaviour in the workplace. They are described as follows:

- Dominance is a very active value. It measures an individual's inclination to actively engage with or move toward a difficult problem or relationships with the intention of producing results. It also relates to a desire to be in control and embodies a willingness to take risks or chances in uncertain or antagonistic situations. Dominance also

encompasses an intention to control or shape the events and people in one's environment, without having to engage in overly aggressive behaviour. Individuals showing characteristics of dominance tend to be achievement oriented, directive and controlling with people, situation and ideas. They overstep their prerogatives and are risk takers, as well as challenge seekers.

- Affiliation is the key to the people oriented values and activities within an individual's behavioural makeup. It is also called sociability: a measure of tendency to engage in or move toward social activity as part of one's job. It also has to do with an individual's interest in establishing and using relationships in the workplace. Individuals with high affiliation tend to be socially active and initiating, establish rapport and have a high need for active attention, recognition and visibility in their work.
- Restraint is a passive characteristic that reflects an individual's tendency to want to control emotional experience and its external expression, to moderate the pace of activity and to limit contact with vulnerability to highly changeable or unpredictable elements in the workplace. Individuals showing restraint often strive to maintain security, are comfortable with routine, and are stable and methodical.
- Conformity is also a passive core dimension, reflecting a willingness to subordinate personal drive, intentions, goals or agendas to a body of expectations or requirements outside of the individual. In a way, conformity is the information gathering function within an individual's behavioural pattern. People with this trait tend to find out what is going on and what is expected of work and comply with what they have learned. They give in or comply with the demands of people or situations to avoid contention, conflict, and criticism. They are also very dependent on structure and established policy and procedure in their work.

### Research Methodology

Having specified the behavioural characteristics and the task statements, the next step is to operationalise the variables and make them empirically measurable.

Table 1 shows the behavioural construct using the four core dimensions. The mean scores of each of these dimensions will be used to determine the behavioural make-up of the facility managers. The general behavioural profile of a facility manager will be analysed and discussed. Following that, we will examine whether there exists any significant distinction in behavioural characteristics between male and female facility managers.

**Table I: Core Dimensions of a Facility Manager**

Core Dimension	Characteristics
Dominance	<ol style="list-style-type: none"> <li>1. I am demanding of others in my work.</li> <li>2. When I disagree with others at work, I do not hesitate to let them know.</li> <li>3. On the job, I dominate those around me.</li> <li>4. I persist in my work till it is done.</li> </ol>
Affiliation	<ol style="list-style-type: none"> <li>1. I am persuasive.</li> <li>2. I am enthusiastic in my job.</li> <li>3. I am confident in what I do at work.</li> <li>4. I motivate people to do work.</li> </ol>
Restraint	<ol style="list-style-type: none"> <li>1. I am reserved in my working relationships.</li> <li>2. I am timid in expressing my thoughts to others.</li> <li>3. I am a calm person.</li> <li>4. I do things cautiously.</li> </ol>

Conformity	<ol style="list-style-type: none"> <li>1. I follow instructions to the letter.</li> <li>2. I do everything I can to please people.</li> <li>3. I am disciplined in my work.</li> <li>4. I am methodical in what I do.</li> </ol>
------------	--

Source: Adapted from Potential Unlimited, Inc. (1986).

The job behavioural fit will be tested using the Spearman's Rank Correlation Test (Croxtan and Cowden, 1939). This method is used to measure the coefficient of agreement between the subject facility managers' behavioural characteristics and what they expect to be the standard behavioural characteristics of a facility manager. This non-parametric statistical method is useful because although these observations are susceptible to an order, they cannot be easily measured on a quantitative scale.

The correlation coefficient obtained from Spearman's test indicates the degree in which certain behavioural characteristics tend to be found to correlate with certain values of the other variable i.e. its degree of agreement. It provides a numerical indicator of both the strength and the direction of that relationship.

The Spearman's Correlation Test is given in the equation below:

$$Rho = 1 - \frac{6\sum d^2}{N(N^2-1)} \dots\dots\dots (1)$$

where d = Difference in rank between the two series  
N = Number of pairs

If the Rho is positive, the result will indicate that the subject facility manager's behaviour is positively correlated with the facility manager that will most likely excel in the job. Hence, such a correlation indicates that the facility managers are actually productive and performing in their jobs. The converse is also true.

**Measurement of Performance**

In most research on job performance, ratings by supervisors, peers and subordinates, as well as self-ratings have been used to measure performance. Ratings are usually scored based on the Likert scale. In this study, a 5-point Likert scale is used where 1 represents "strongly disagree" and 5 represents "strongly agree".

The rating method has, however, some criticisms. Firstly, there is the notion that people tend to be more lenient than others. Secondly, raters are sometimes unwilling to provide extreme ratings which may give rise to a central tendency error. Last but not least, it is believed that individuals tend to make their ratings primarily on the basis of one dimension that is particularly important to them. This is also known as the halo error.

According to Cardy and Dobbins (1994), self-ratings will contain fewer halos compared to supervisor ratings. This implies that self raters are often more familiar with their own performance and are thus in a better position to make more accurate self evaluations. Here, the drawback is that self-raters may evaluate themselves more leniently. However, leniency does not necessarily reduce the utility of self-ratings because, if self-raters evaluate themselves leniently across the board, their ratings will still be accurate in terms of rank ordering (Cardy and Dobbins, 1994)

The use of Behavioural Anchored Rating Scales (BARS) was not considered for this study since this method is highly complex and requires raters to be trained before the rating formats could be applied effectively. Latham and Wexley (1993) found that if appraisers perceive the instruments to be difficult and cumbersome in use, then they would probably not be used properly.

## **Survey Results**

A structured questionnaire was designed and employed for this study. Facility managers targeted for the survey were selected from the members' directories of the Association of Property and Facility Managers and the Singapore Institute of Surveyors and Valuers, as well as directories of statutory bodies that provide property management services. A pilot survey was carried out on 10 facility managers to test the survey questionnaire. A systematic sampling in terms of age, gender, educational level, work experience, and work sector was used to include these practitioners for the sample. The questionnaire was then sent to 60 randomly chosen facility managers. Twenty returns were eventually received. Therefore, a total of 30 completed responses were used for the analysis.

Half the sample size is made up of facility managers in the age group from 21 to 30 years age group, while 40% belong to the 31 – 40 age group and the remaining 10% are in the age group of above 40 years. This means that the facility managers surveyed are mostly young professionals. This result is attributed to the fact that economic growth and rapid urbanisation in Singapore during the past two decades have fuelled the demand for professional property management services. In terms of gender, 53% of facility managers surveyed were males and the remaining 47% were female.

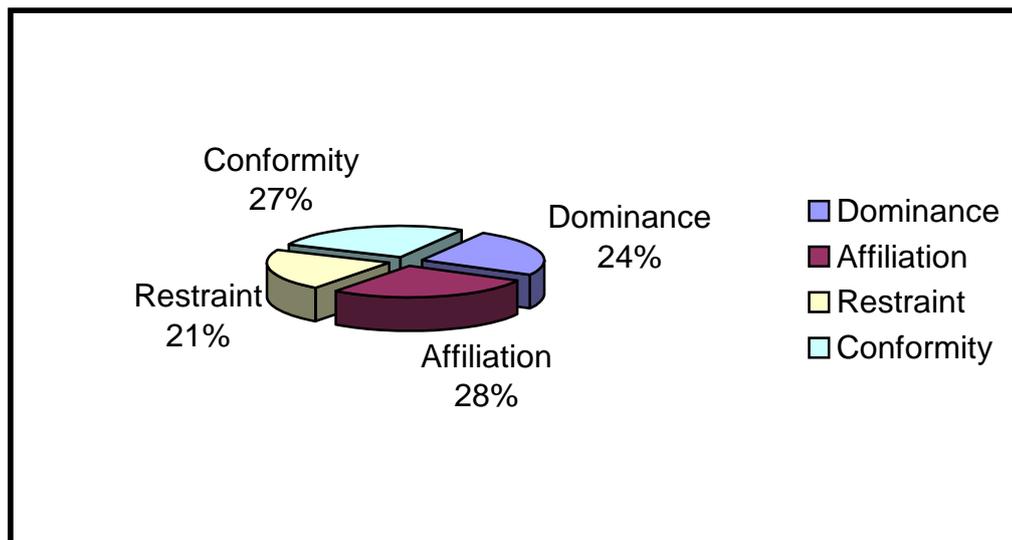
Where educational level is concerned, majority of the respondents (57%) are graduates while the rest are diploma holders (23%) and postgraduates (20%). These results imply that facility managers are suitably educated and trained. However, it is essential for facility managers to upgrade their skills and acquire the latest knowledge and know-how in the profession with respect to new practices and legislations. When asked about their plan for further education or training, a high percentage surveyed (93%) indicated their intention to do so through Continued Professional Development courses or higher education.

In terms of property sectors, majority of the respondents (56%) manage residential projects such as apartments, condominiums and public housing. Office buildings and shopping centres constitute 17% and 19%, respectively, while industrial properties account for the remaining 8%. These proportions correspond fairly close to the size of the different market sectors in Singapore.

## **Behavioural Profile of Facility Managers**

Each of the four core dimensions of behaviour, namely dominance, affiliation, restraint and conformity, carries information about a single aspect of the facility manager's behavioural makeup. The responses of 30 facility managers were aggregated and their mean scores in each of the four core dimensions were calculated, as shown in Figure 2.

**Figure 2: Behavioural Profile of Facility managers**



Source: Authors' survey

In terms of the four core dimensions, the behavioural profile of a typical facility manager is characterised by relatively high levels of Affiliation (28%) and Conformity (27%) and lower levels of Dominance (24%) and Restraint (21%). This implies that the facility manager is strongly attracted to social activity on the job and that he or she is probably very comfortable with and rewarded by job duties that involve people-focused issues or problems. The low level of “dominance”, however, indicates that the typical facility manager will not be comfortable in using aggressive behaviour, which would be diametrically inconsistent with the strong sociability displayed in the Affiliation dimension of behaviour.

The low level of “restraint” reveals a person who responds quickly to the environment and is comfortable with change and unpredictability. Again, the low “dominance” and “restraint” combines with high “affiliation” indicates that the facility manager tends to be pleasant, gregarious, energetic, and quick to respond.

High conformity indicates that the facility manager is someone who gathers a lot of information in the course of the day. Given the relatively high level of affiliation, he is someone whose interest in pleasing people is strictly within the confines of a technical specialty that offers little or no social contact. However, despite his desire to please, he will be very much concerned with purely task related matters.

The high level of conformity also indicates that the facility manager prefers to rely on a structure and rules. Without appropriate procedures and guidelines, the facility manager will lose focus and have little way of knowing whether he or she is doing the right thing.

The above findings reinforce the point that the facility manager needs to constantly interact with their tenants and subordinates. Therefore, a facility manager should be sociable and possess good communication skills. On the other hand, he should also be assertive as there are times when hard or unpopular decisions are required to be made. A high level of conformity indicates that the facility manager is keenly aware that organisational procedures and statutory rules are important requirements in the course of managing properties.

It is now worthwhile to examine whether there exist any major differences in behavioural traits between male and female facility managers. Female facility managers are found to comprise high levels of Affiliation (27%) and Conformity (27%) and low levels of Dominance (23%) and Restraint (23%). This implies that they are motivated by high social conformity and strong interest in people (high affiliation). Their low restraint makes them comfortable in changeable

business environments. They are likely to be less aggressive in their own terms and may have difficulty behaving aggressively even though when they are representing authority.

Male facility managers are found to make up of 28% for Affiliation, 26% for both Dominance and Conformity, and 20% for Restraint. The relatively higher levels of affiliation and dominance imply that the male facility manager is more likely to control and use social skills as his primary tools in his dealings with people. In addition, the male facility manager exhibits a higher level of dominance when compared to the female facility manager. This means that he is likely to be more aggressive and assertive. In that sense, the male facility manager is more comfortable in authority positions that demand the attainment of specific objectives.

However, a slightly lower level of conformity indicates that he is less socially dependent on or inhibited by the information he collects during the course of his work. This implies that they could be less sensitive in the social arena. Their comparatively lower level of restraint shows them to be restless and seek multiplicity in the projects and problems with which they deal.

### **Spearman's Rho and Job Behavioural Fit**

Spearman's Rho measures the degree of agreement between the behavioural characteristics of the subject facility manager and those of a facility manager most likely to excel in the job. The results would then be applied to a list of twenty behavioural characteristics that typically needed to describe the job scope of a facility manager. Spearman's Rho was then computed using Equation (1).

The value of Spearman's Rho is found to be 0.857. This represents a relatively goodness of fit where the behavioural characteristics of the respondent facility managers are positively correlated with those traits of a facility manager that would help him to succeed in the job tasks. To excel in the job, the ten traits that are deemed to be most desirable include confident, sociable, enthusiastic, calm, tactful, assertive, systematic, tolerant, persuasive and careful.

### **Conclusion**

Facility management education and training are continually challenged to prepare students for entry into an increasingly competitive and complex working environment. Buildings have never been considered central to business performance. This attitude, however, is rapidly changing as buildings and facilities are increasingly regarded as an asset that needs to be positively managed like the other main corporate resource upon any organisation relies. Hence, the role and functions of facility managers need to be evolved and professionally equipped with the skills and training to develop innovative solutions to the management of buildings in a rapidly evolving knowledge-based global economy.

Training programs and development have to recognise that there are individual differences in the knowledge, skills and other characteristics that workers bring to jobs and that these individual differences manifest themselves in job performance. Therefore, it is necessary to examine and understand the types of traits required to achieve the effectiveness of their job performance.

The results show that educational level and years of working experience are important factors. The knowledge acquired from higher education will put the facility manager in good stead when it comes to dealing with highly complex technical problems. Working experience is also important as the concepts acquired from education will be tried and tested. Commitment to continuous education and training is also part of the facility manager's career development.

The behavioural profile of a facility manager was found to exhibit high levels of affiliation and conformity, but low level of dominance. These findings are consistent with the nature and demand of the real estate management profession in which a facility manager is required to deal very often with people, and at the same time, there are rules and procedures to follow.

## References

- Blake, R.R. and J S Mouton (1999), "The Developing Revolution in Management Practices", *Skyhooks for leadership: a new framework that brings together five decades of thought from Maslow to Senge (ed.)*, American Management Association, New York, pp 329-347.
- Cardy, R.L. and GH. Dobbins, (1994), *Performance Appraisal: Alternative Perspectives*, South-Western Publishing Company, Cincinnati.
- Chin, Lawrence and Roysten Lee, 'Job Behavioural Fit for Property Managers', Working Paper, Department of Real Estate, National University of Singapore.
- Chong, C. T., 'Curriculum for the New Millennium' in the *Proceedings of the Second Symposium on Teaching and Learning in Higher Education*, (compiled by Wang et al), Centre for Development of Teaching and Learning, NUS, (2002), 16-20.
- Croxton, F.E. and D. J. Cowden, (1939) *Applied General Statistics*, 3<sup>rd</sup> edition, Prentice-Hall, New York.
- Kyle, R.C. (1988), *Property Management*, 3<sup>rd</sup> edition, Real Estate Education Company, Chicago.
- Latham, G.P. and K.N. Wexley (1993), *Increasing Productivity Through Performance Appraisal*, 2<sup>nd</sup> edition, Addison-Wesley. Reading, Massachusetts.
- Payne, Trevor, *Facilities Management: A Strategy for Success*, Chandos Publishing Ltd.
- Potential Unlimited, Inc. (1986), *The Correlation of Behavioural Traits with Specific Property Management Tasks*, Institute of Real Estate Management Foundation, USA.
- Schmitt, N. and D. Chan (1998), *Personnel selection: A theoretical approach*. Sage Publications, Thousand Oaks, California.
- Walters, W. (1979), *The Practice of Real Estate Management for the Experienced Facility manager*. Institute of Real Estate Management, Chicago.