

A REVIEW OF PROPERTY MANAGER'S COMPETENCY IN MANAGING GREEN BUILDING

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ABSTRACT

The insufficient property manager competency in handling operation and maintenance work often overshadows the benefits from green building development. The uniqueness of green building design makes it different with traditional building and need expertise to handle it. Thus, this study intends to determine the competencies required by property manager in managing green buildings. The reviews from previous research were conducted and study indicates four main competency elements, which are knowledge, skill, ability and other characteristics for property managers to manage green buildings. This research gives a significant impact for property managers in providing an effective and efficient green building management.

Keywords: Green Building, Property Manager, Competency, Property Management

INTRODUCTION

The modern practice of green building has started to emerge in 1990s as an initiative to reduce environmental impact (Fischer, 2010). Green building is designed and constructed to boost environment, economic, health and productivity performance better than the traditional building. The design of green building has reduced electricity and water consumption, carbon dioxide (CO₂) gas emission and pollution as well as provide better indoor

air quality to building occupants. Malaysia is still not too late in the implementation of green building development. The Malaysian government shows the seriousness in green practice among community by launching the National Green Technology Policy (NGTP) in 2009 and the implementation of Eleventh Malaysia Plan (EMP) 2016-2020. This NGTP and EMP have been exposed to community with the application of renewal energy and energy efficiency (Suhaida, Tan, & Leong, 2013) as well as encourage Malaysian to adapt green lifestyle and culture by practicing in reduce, reuse and recycle concept as well as exposing the generation to conserve the environmental (Unit Perancang Ekonomi, 2015). Besides that, the government also is offering incentive via tax exemptions on the development which adopts energy efficiency and integrates renewable energy in the form of income tax, import duty, sales tax and tax allowance (KeTTHA, 2010).

The initiative in developing the green environment culture among Malaysian does not only involve the public and government agencies but also private and non-government organizations (NGOs). For instance, the collaboration between Association of Consulting Engineer Malaysia (ACEM) and Institute of Architect Malaysia/ Pertubuhan Arkitek Malaysia (PAM) have developed the Green Building Index (GBI) as the first rating tool for evaluating the green status of the building. The objective of GBI is to save energy, resources, recycle materials and adapt buildings to Malaysia climate, culture and environment (Aliagha, Hashim, Sanni, & Ali, 2013). Furthermore, the encouragement by general discipline especially involving the construction industry may increase green building development. The collaboration between Construction Industry Development Board (CIDB) and Public Work Department (PWD) in launching the Malaysian Carbon Reduction and Environment Sustainable Tool (MyCREST) on 2015 was aimed to increase the number of green buildings throughout the country. The new public building project that worths RM 50 million and above under CIDB is mandatory to follow MyCREST's rules. This is an indication as moving forward to a green certified building. About 20 developers under Real Estate and Housing Developers' Association Malaysia (Rehda) also join the collaboration with CIDB to adopt MyCREST in order to develop more green buildings. CIDB also has launched the Sustainable Construction Excellence Centre (MAMPAN) to increase awareness among people in sustainable development (Yusof, 2018).

The encouragement by government, NGOs as well as private organizations has increased green building development. The latest green building registered under GBI has increased from 2014 – 2017 with the total of 595 units to 815 units (GBI, 2017). The increasing of green building development shows that there has been quite a large number of demands from Malaysians. The demand from people on green building development makes the property management plays an important part in order to ensure the green buildings are well functioned. However, the lack of competency from property manager has overshadowed the benefit of green building (Ruban, 2016). Izran Sarrazin et al. (2014) and Miller, Pogue, Saville, Tu (2010) agree inexperienced property manager can affect a high operation and maintenance cost. The insufficient experience from property manager may lead to some complexities and difficulties during operation and maintenance work in the green building (Izran Sarrazin et al., 2014). The misunderstanding within property management team would occur such as the poor workmanship to perform maintenance task which may affect the green building performance (Karim, Marosszeky, & Davis, 2006; Shun Fong, 2012). Hence, to tackle a good practice in managing the green building, property manager itself needs to improve their competencies in order to grow with the speed of the burgeoning technology.

Before this the research only studied on the project manager competency in green building development. The researcher reveals that the knowledge base for project managers is to be competitive and able to respond to the challenges in the green building construction (Hate, 2010; Hwang & Ng, 2016). However, the research on property manager's competency in managing green building is rarely done whereas the property manager plays an important role in managing the building (Evans, 1949). In obtaining a successful property management, property manager is required to have technical knowledge and professional expertise in order to ensure that the building can function as intended (Siegler & Talel, 2011). However, with few studies on property manager competencies in managing the green building, there is no guideline prepared on this matter as reference to them. There is no benchmark for a property manager to measure their competencies in managing the green building because previous research only focus on the property professional competencies in managing traditional buildings (Clark & Hinxman, 2009; Zaki, Nor' Aini, & Shardy, 2012; Pheng & Lee, 1993; Poon & Brownlow, 2014; Raja Mazyani & Abdul Hakim, 2015; Tas,

Labrecque, & Clayton, 1996; Zarita, Hwa, & Sharuzaman, 2016). Therefore, this research is conducted to identify the property manager's competency in managing the green building.

OVERVIEW OF PROPERTY MANAGER COMPETENCY IN MANAGING GREEN BUILDING

Definition of Green Building

According to the United State Environment Protection Agency (USEPA), green building is defined as building responsibly for protecting the environment by applying the eco-friendly concept practice. The practice is by creating structures and using the process that is environmentally responsible and resource-efficient throughout a building's life-cycle from design, construction, operation, maintenance, renovation, and deconstruction. The green building practices put emphasis on the building design that is economical, utility, durability, and comfort for the occupants. This green building practice makes it known as a sustainable or high-performance building. Zigenfus (2008) also stated that green building is constructed with sustainable materials by using the reused, recycled-content or made from renewable resources. During the construction of green building, they also consider to create healthy indoor environments with minimal pollution like reducing the product emission and creating a feature landscaping that reduces the water consumption.

The building can be acknowledged as "green building" as it follows the specification of green element criteria in green rating tool system. The building consists various green rating tool and every rating tool has different green criteria. The famous green rating tools in worldwide are Leadership in Energy and Environment Design (LEED, US), Korean Green Building Council (KGBCC), Green Start (Australia and New Zealand, Hong Kong Built Environment Assessment Method (HK BEAM), Comprehensive Assessment System for Built Environment Efficiency (CASBEE, Japan), and Green Ship (Indonesia) (Bahaudin, Elias, & Saifudin, 2014). In Malaysia, there are also green rating tools which are Green Building Index (GBI), GreenRE, and Green Pass. Every green rating tool consists of its own green element and aspect to be evaluated towards the green building and all the aspects need to be fulfilled, in order to acquire the green award.

Definition of Competency

Traditionally, the concept of competency has been introduced by Boyatzis (1982) and it became very popular in the late 1980s. He defines competency as an underlying characteristic of an individual. The individual characteristics can be a motive, trait, skill, aspect of one's self-image or social role, or a body of knowledge, which he or she uses in performing a job. It is the same opinion from Spencer & Spencer (1993) but they have distinguished competency into five individual characteristics which are motive, traits, self-concept, knowledge and skill. Evarts, (1987) and Jevscek (2016) also agree that competency is the individual characteristics, which refers to individual's general behaviour and mind-set which can reflect in a certain situation. The action from individual behaviour and mind-set will affect the effective criteria and/or superior performance in a certain job or situation. Meanwhile, Woodruffe (1993) defines competency as not only depending on the general behaviour of the person to bring a job effectively. There might reveal specific technical skills, knowledge, and abilities of a person that are needed for competence performance. Holmes and Joyce (1993) also define competency as an action, behaviour or result exhibited by individuals that linked to the ability to transfer skills and knowledge to new situations within his or her career.

Furthermore, according to Ulrich, Brockbank, Yeung, and Lake (1995), they define competency as demonstrated individual's knowledge, skills or abilities. It is the same with Parry (1996), he defined competency as a collection of knowledge, skills and attribute that influence individual's performance. Mansfield (1996) also stated that competency is a series of skills and traits needed by workers to do their job effectively. Meanwhile, the competency also refers to knowledge, skills, ability and other characteristics demonstrating the desired behaviour in the future (Blancero, Boroski, & Dyer, 1996). Besides, Hammersley and Tynon (1998) describe competencies as an ability to implement activities within the scope of work. The core competencies of individual consist of any knowledge, skills, abilities or personal qualities expressed through behaviour that can result in excellence service.

Competency is related with job performance and it has been discussed by the first researcher, McClelland (1973), who introduces the concept

of competency-based human resource. He claims competency is related with performance since 44 years ago. He states that competency is a characteristics trait of person that is related to the superior performance and demonstration of particular talents such as in practice and application of knowledge required to perform a job. Spencer and Spencer (1993) who generated competency causal flow model to show the causal relationship between motive, traits, self-concept that defines the manner of the skill or knowledge implementation, which consequently affect the result. Boyatzis (2008) also believes a theory of performance is the basis for the concept of competency. He also stated in his basic contingency theory, which is the maximum performance, would occur when the person's capability is consistence with the need for the job demands and organizational environment.

The definition of competency varies from different researchers and most researchers agree that the competencies represent knowledge, skill, abilities, attribute as well as other characteristics such as motivation, traits, personal qualities and self-concept that reflect general behaviour in performing an outstanding job performance. Therefore, the competencies in this study is referred to individual general behaviour which represents the knowledge, skill, ability and other characteristics (KSAOs)to carry out an excellent job performance.

Property Manager's Competency

Property manager is a person who performed the leasing or operation function associated with the real estate property. Property manager is responsible for the ongoing operation such as the evaluation of the performance of the on-site manager, the establishment of management policies and planning for the property works and participation in planning the yearly budget for the property (Evans, 1949). Property manager always concentrates on the implementation and interpretation of owner policies. In the property management, he or she plays their role in giving advice on the possible outcomes from any alternative action proposals (Thorncrof, 1965). Property manager also is the expert person who manages a building for a fee. They manage a property to secure the capital for the benefit from the building owner. The benefit includes maximizing income, adequate insurance coverage, reduce taxes and maintaining a high capital appreciation (Shenkel, 1980).

The literature review for property manager competency has not been discussed directly on the competency needed in managing the green building. An in-depth review of competency is mainly on the domain of property management industry. The research from Pheng and Lee (1993) showed the property manager competencies in managing the traditional building and focus to commercial properties. Pheng and Lee (1993) conducted a survey of 350 questionnaires to property manager in Singapore and concluded that the critical competencies for property managers consist of good knowledge of land title, good communication skill, ability to prepare report with council members, cooperative council members, and council member should be committed and active. Then, Tas et. al (1996) discovers the most important property-management competencies required by entry-level hotel manager trainees are the interpersonal and leadership domains, followed by conceptual and administrative competencies. The technical competencies are still important although it is the lowest evaluated. Tas et. al (1996) also explained the entry-level manager trainees in managing hotel, requires skill in human relations, crisis management, and operational efficiency and record keeping, as well as the knowledge of relevant legislation to get an effective hotel management.

Furthermore, Donellan (1998) conducted a survey involving major retailer in United State has claimed that the communication skill and entertaining customers become crucial factors in retail business. Meanwhile, Mohd Zaki, Nor' Aini and Shardy (2012) conducted a survey involving 125 Malaysian mall managers where they have discovered the competencies for mall manager consists of knowledge, skill, and conscientiousness. The research was testing on knowledge, skill, abilities and other characteristics. However, the abilities and other characteristics are difficult to infer with the job performance. The conscientiousness refers to individual's personalities such as self-control, leadership, integrity, cooperative, near vision and independence.

Kay and Moncarz (2004) claimed the effects of knowledge, skills, and abilities (KSA's) on managers' lodging success, human resources management are a crucial skill for lodging managers. However, the knowledge in financial management has appeared as a strong indicator of the top-level success. Thus, it shows that knowledge in financial management plays an important role in the manager advancement and careers in the

lodging industry. The hospitality management requisite has changed over time with the increasing importance placed on the competencies such as financial management and marketing. Meanwhile, according to Zaki and Rohaya (2009,) the property manager's knowledge and skills consists of three main domains which are the general business process, risk management and cost reduction in handling the property management. These three main domains are essential in order to secure capital investments for the building owner.

Recently, the competency for property management and facility management has been discussed by Zarita et. al (2016); Raja Mazyani & Abdul Hakim (2015); Mariah, Hakim, Maimunah, & Shahril (2014). Zarita et. al (2016) claim the competency required by professional property managers in property management consists of advanced technical knowledge, a good grasp of business operations and working knowledge of the real estate business environment. Zarita and team also propose the property management competencies framework that is applicable to the property management team to execute successful management. Meanwhile, Raja Mazyani and Abdul Hakim (2015) come out with a different result in conducting a survey on 175 Malaysian School administrators on facilities management competencies, where it consists the main element competencies which are managing physical facility's performance, aligning facilities management with organizational aim, control of resources and people management.

In addition, Mariah et al. (2014) conducted a survey to 661 facility management personnel in polytechnics. The study revealed the most important competencies for sustainable for higher education comprises of leadership and management, managing the work environment, managing human resources and business organization. The competencies are very crucial in carrying out the responsibility for sustainable development. Moreover, the research on competency expectation for the property professional in Australia conducted by Poon and Brownlow, (2014) revealed that the most important knowledge, skill and attribute among Australian property professional are valuation, effective written, communication skills and practical experience respectively. The practical experience factor is essential to ensure graduate are work-ready when they start to involve in the property industry.

While the above studies analysed the essential competencies in facility and property management, Hwang & Ng (2012) and Hate (2010) discussed competencies needed by general discipline and project manager competencies in developing the green building in Malaysia. According to Hwang and Ng (2012) in their research on project management knowledge and skills for the green construction, the study revealed that the most important knowledge areas to overcome challenges were schedule management and planning, stakeholder management, communication management, cost management and human resources management. In addition, the most important skill that are required in mitigating the challenges were analytical, decision-making, team working, delegation and problem-solving skills. Meanwhile, Hate (2010) on his green industry competency model come out with different type category needed by general discipline involved in green building development which are personal effectiveness competencies, academic competencies, workplace competencies, industry-wide technical competencies and industry-sector technical competencies. Table 1 below shows the summary of property professional competencies that focus on the property management and construction industry that has been discussing.

Table 1: The Property Professional Competency-focus in Property Management and Construction Industry

No.	Author	Focus of Study	Sample	Main findings
1.	Pheng & Lee (1993)	Property management	40 practitioners' property management council	The most important competencies needed for effective property management consist of: 1. Knowledge of land title 2. Good communication skill 3. Ability to prepare report for council members 4. Cooperative within council members 5. Committed and active in carry out management

2.	Tas et. al (1996)	Entry-level hotel manager trainees	107 lodging managers	The study followed competency-domain model and it comprises five areas of managerial competency which are conceptual, leadership, administrative, interpersonal and technical competencies. The interpersonal and leadership competencies rated as most important, meanwhile, technical competencies rated as least important.
3.	Donellan (1998)	Major Retailer	75 shopping center developers	The most important factor to succeed in retail business are 1. Communication skill 2. Entertaining customers
4.	Mohd Zaki et al. (2012)	Shopping center management	275 mall managers	Tested on 9 knowledge, 12 skills, 11 abilities and 13 others characteristics. The result shows the main competencies: 1. Consist of 19 skills, 3 knowledge and 10 conscientiousness elements. 2. EFA (Exploratory Factor Analysis) has eliminated elements ability and other characteristics and it substitutes with conscientiousness. This is because abilities and other characteristic are difficult to inferring with job performance. 3. Conscientiousness refers to individual personality and it has a strong relationship with job performance.

5.	Kay & Moncarz (2004)	Hospitality managers	82 senior managers 102 middle managers	<p>1. The study beliefs regarding KSAs is required for lodging professional and actual knowledge associated with lodging management success.</p> <p>2. Knowledge in financial management was appeared significant role in manager's advancement in the lodging industry.</p> <p>3. The hospitality management requisite has changed over time with increasing importance placed on competencies such as financial management and marketing.</p> <p>4. Knowledge in financial management will drive lodging manager success to a greater degree as managers' advance to higher ranks of responsibility.</p>
6.	Zarita et. al (2016)	Property management Team	Industry Expert Panel	<p>1. The Propose Competency Property Management Framework consists of three levels namely foundational, expert area and added competencies for property management team.</p>
7.	Raja Mazyani & Abdul Hakim (2015)	Facility management	175 Malaysian school administrators	<p>The facility management competencies consist of four key components:</p> <ol style="list-style-type: none"> 1. Managing physical facility management 2. Aligning facilities management with organizational aim 3. Control of resources 4. People management

8.	Poon & Brownlow, (2014)	Property Professional Manager	Australian Institute Members	Identify 31 knowledge area, 20 skills, and 21 attribute. The most important categories among of knowledge, skill and attributes consist of valuation, effective written communication and practical experience. The least important are international real estate and second language and creativity.
9.	Mariah et al. (2014)	Facility management	661 facility management personnel	The most important competencies for sustainable education institution are: <ol style="list-style-type: none"> 1. Leadership and management 2. Work environment management 3. Human resources management 4. Business organization
10.	Hwang & Ng (2012)	Project management	500 project managers	Discovers 20 knowledge and skill relevant to project manager for green building construction. <ol style="list-style-type: none"> 1. Schedule management and planning 2. Stakeholder management 3. Communication management 4. Cost management 5. Human resources management
11.	Hate (2010)	Project management	Construction general discipline	<ol style="list-style-type: none"> 1. Personal effectiveness competencies 2. Academic competencies 3. Workplace competencies 4. Industry-wide technical competencies 5. Industry-sector technical competencies

METHOD

The study use desk analysis with a comprehensive literature review on the property manager's competency in managing green buildings. Firstly,

in clarifying the suitable publish paper for this study, a research strategy is done by using related keywords to the purpose of study such as green building, property manager, facility manager, green property management, sustainable facility management, skill and knowledge, and competencies or competence or competency. The resources are mostly from articles, journals, conference proceedings and thesis related to the property management and construction industry.

Then, the articles and journals selected are between the years 1990 until 2016 to ensure enough data gathered. The term competency is used to reflect the knowledge, skill, ability and other characteristics required for property manager in the practice of property management. Mostly, the papers taken do not only focus on the property manager's competency in green building management practice but also in the traditional building due to the limited research on the property manager's competency in managing the green building. There consists of nine (9) papers that are related to property/facility management and two (2) papers from project management. These education articles from Malaysia, Singapore, the United State, Australia, and Florida found to be relevant for this review. The information on relevant studies obtained are from the databases Science Direct, Emerald Insight, ProQuest, SAGE, and UfoRIA Research Knowledge and Intellect Application.

Finally, the eleventh (11) selected titles, abstracts and full text were screened to obtain the relevant competencies elements and to ensure that no relevant studies were omitted. The property manager's competency elements were discussed based on the current scenario and existing literature.

FINDINGS AND DISCUSSIONS

Property manager competencies are vital in order to get a successful property management performance. The previous review discussed on the property professional competencies in managing traditional buildings and project management competencies to develop green buildings. The previous researcher revealed that the competency for the different profession varies from each other. This is supported by Zaki and Rohaya (2009) and they further stated it is especially true where the different professions and the place of practice have different core competencies. However, the

competencies from the previous review are still adopted and tested for the property manager competencies in managing the green building in order to see the crucial knowledge, skill, ability and other characteristics needed. But, there is minimal difference in terms of knowledge and technical skill or ability for property management practice in the green building due to eco-friendly building design and material used in green building (Razali, Kamarudin, Zainuddin, & Othman, 2015).

Table 2 represents the matrix of property professional competencies. The element of competencies in matrix table is obtained from the elements stated in the previous study. From the matrix table, it shows the frequency from previous researchers on their competencies element selected in their research based on main elements, which are knowledge, skill, ability and other characteristics. The findings reflect the definition of competency itself in the category of KSAOs and it is accepted by most scholars in the related industry (Kay & Moncarz, 2004; Mohd Zaki et al., 2012; Poon & Brownlow, 2014). The findings in the Table 2.0 were transferred in Figure 1 which represents the summary of property professional's competency in managing the traditional building and developing the green building. In this study, the element with the least frequent shown in Figure 1.0 was excluded because it shows the least essential in competencies elements. The discussion of categorizing competencies element from the previous researcher is as follows:

Knowledge

Knowledge is defined as the body of information that is relevant to job performance and capability of the person to upgrade their knowledge continuously in order to improve their self-performance effectively (Mirabile, 1997; Posner, 1987). The term knowledge is used to show a person's understanding of a subject with the ability to use it for the specific purpose (Bozkurt, 2011). In the property management context, the property manager needs knowledge that is related to specific task or job involved in green building management as to ensure the management can be done.

Based on Figure 1, the most elements used is knowledge element for property professional in management such as financial and cost management and knowledge of legislation, codes, directive and regulatory issues. The

financial and cost management becomes crucial knowledge for lodging manager and project manager to gain successful management (Hwang & Ng, 2012); Kay and Moncarz (2004) asserted that this is done as to maximize the high return and at the same time minimize the cost of management (Gurjit, 1996). Indeed, the building life-cycle cost (Lo, Hui, & Zhang, 2014) can be reduced. Therefore, the knowledge of financial and cost management is seen as a significant knowledge to ensure the efficiency of the manager.

Meanwhile, Pheng and Lee, (1993) and Tas et al., (1996) mention knowledge in legislation, codes, directive and regulatory issues are the most crucial knowledge for property professional manager. This is to ensure all the work and activities involved in the management comply with the regulation at all times (Hate, 2010) and also to ensure if there were any problems related to the regulatory issue, the property can be handled effectively (Bennett, Wallace, & Williamson, 2008). Furthermore, in green building management, regulatory and legal issues are also crucial for property manager tackle occupants to follow the green lease which generally address “environmentally friendly” products to be used, water and energy conservation, the use of alternative energy such as solar or wind, indoor air quality and dispute resolution (Howe & Gerrard, 2012).

In addition, Figure 1 also shows that energy and utility management knowledge is least used by previous research. In green building management context, this element is seen crucial because one of the agendas of green building development is energy efficiency (Hashim, Zakaria, Ahzahar, Yasin, & Aziz, 2016). Furthermore, the key practice for green building management in Malaysia, that was studied by Aghili, Abdul Hakim, & Sheau-ting (2016), should be set as a requirement criterion knowledge for the property manager. According to Aghili et. al, (2016), there are five key practices for green building management, which consists of sustainable procurement, sustainable operation, resources management, repair and maintenance management, and environmental health management. The knowledge based on the key practice of green building management will help property manager to easily tackle effective management.

Skill

According to Mirabile, (1997) and Posner, (1987), skill is referred to the ability of the person to use and implement the work efficiently in

order to achieve the organization's objective. It also refers to the ability in performing a certain physical and mental task according to nature of work handle (Spencer & Spencer, 1993). Based on Figure 1, the communication and analytical thinking skill is the most skill element adopted by the previous study. The communication skill is an essential skill in management practice (Donellan, 1998; Hwang & Ng, 2016; Pheng & Lee, 1993; Poon & Brownlow, 2014) because the good communication between the parties involved in the property management practice can give effective exchange of message to avoid any misunderstanding and misinterpretation (Miller, Pogue, Saville, & Tu, 2010; Szu-Fang, 2013). Next, the property manager with analytical thinking able to determine the cause-effect relationship, prediction of potential obstacles and realistic plan to overcome a certain problem or situation in completing any task (Peleckis, Vilnius, & Peleckien, 2013). Hence, any problem involved in management also can be handled perfectly.

The skills adopted by the previous researcher is actually suitable to adapt for property manager in managing green building because all the skill element is suitable for management industry. Nevertheless, there is important skill element that is not mentioned by the previous researcher on the importance to adopt which is the technical skill. Technical skill in green building management refers to the skill in handling energy-using equipment and water-using equipment which includes its processes. This is to ensure the manager is able to control technologies like handling energy monitoring system, electrical distribution system, HVAC systems, plumbing fixture and metering equipment (Siciliano, Tutterow, & Reyes, 2013; Smallwood, Sauntson, Short, Cranfield, & EERE, 2008).

Ability

Ability refers to personal talents such as manual dexterity, visual or spatial acuity or conceptual thinking. Although ability may be taught, learned or enhanced, it also has natural ability predisposition to the individual (Mirabile, 1997). According to Lohman (1997), ability is sometimes defined as performance on a particular task. In other words an individual needs certain abilities to execute task performance. The belief in green building management also needs the specific ability. According to Figure 1, teamwork and ability to work under pressure are the most ability elements adapted by previous authors. Teamwork is the actual crucial ability in

property management because the effective teamwork in the organization makes the work more well-organized. The organization members are able to share ideas and suggestion, keep others well informed on certain situation or problems and utilized skills of members in management practice (AIM, 2012; Woodruffe, 1993). Meanwhile, the ability to work under pressure is an important competency for the manager, especially in the service industry. In hospitality management, the managerial jobs are often highly demanded, task-specific and poor structured which force the manager to perform many tasks and comply with inflexible demands (Bernsen, Segers, & Tillema, 2009). In addition, the ability to work under pressure enables the manager to define and solve problems in the workplace. The manager also able to recognize the problem exists and solve the problem by applying and adapting information in an organized, safe and systematic way to solve the problem (Friedman & Fleishman, 1992).

Other Characteristics

According to Mirabile (1997), other characteristics are defined as other personality predisposition that may be taught, learned or altered but probably occurs naturally in some people. Other characteristics that can be added are values for successful property management execution (Zarita et al., 2016). Figure 1 displays leadership is the most other characteristics element adopted by the previous researchers. Leadership is crucial competency especially among managers who will lead certain organization or management (Evarts, 1987; Loqman, Asmoni, & Shaari, 2017). An effective leadership in management is needed by manager consist of four dimension which is task leadership, organizational leadership, people leadership, and systems leadership (Friedman & Fleishman, 1992). With these four dimensions, it is believed that property manager can lead property management team effectively to ensure the building can function as intended.

As mentioned earlier, all the elements were adapted in the study except the element with frequent 1. The key green building management practice such as sustainable procurement, sustainable operation, resources management, repair and maintenance management and environment health management (Aghili et al., 2016) and technical skill (Siciliano et al., 2013; Smallwood et al., 2008) are included in this study as a part of knowledge and skill. Overall, the competencies elements in the study context consists of nineteen (19) knowledge, fourteen (15) skill, eleven (10) ability and

ten (11) other characteristics with total competencies element is fifty-five (55). The summary of property manager’s competencies in managing green building is as Table 3.

Table 2: The Matrix of Property Professional’s Competencies

Competencies	Authors										
	(Pheng & Lee, 1993)	(Tas et al., 1996)	(Donellan, 1996)	(Kay & Moncarz, 2004)	(Mohd Zaki et al., 2012)	(Poon & Brownlow, 2014)	(Mariah et al., 2014)	(Raja Mazyani & Abdul Hakim, 2015)	(Zarita et al., 2016)	(Hate, 2010)	(Hwang & Ng, 2012)
Study Area	Traditional Building Competencies								Green Building Competencies		
	Property Management	Hotel Management	Retail Management	Hotel Management	Shopping Mall Management	Australia Property Institute	Facility Management	Facility Management	Property Management	All type of green building (commercial, residential, industrial & etc)Project manager	
Elements											
Knowledge											
-legislation, codes, directive & regulatory issues	x	x			x	x	x		x	x	8
-administrative management (checking, examining & recording)	x	x			x		x		x	x	7
-building technology and service							x	x	x	x	5
-risk management							x		x		2
-human resources management				x	x		x		x		4
-Financial management	x	x		x	x	x	x	x	x	x	10
-environmental knowledge (environmental impact management)						x	x	x		x	5
-sustainability & management									x	x	3
-health and safety		x	x		x	x	x	x		x	7
-business marketing			x	x	x	x				x	5
-energy and utility management									x		1
-quality management/ assurance							x	x	x	x	4
-Operation, installation & repair (Maintenance)			x				x	x	x	x	6
-material resources management							x			x	3
-building and construction design					x		x			x	4
-planning & schedule		x	x			x	x			x	6
-sustainable procurement							x			x	3
-accounting and economic	x				x				x		3
-Mathematics, Science, English language, Physic, mechanical						x			x	x	4
-client care and customers service		x			x		x		x		4

A Review of Property Manager's Competency in Managing Green Building

-Tenancy management			x				x		x													3	
Skill																							
-Communication skills	x		x				x	x	x	x	x												7
-independent thinking							x	x															3
-effective verbal presentation							x																4
-networking								x	x														4
-negotiation/ dispute resolution skills							x	x															5
-critical thinking			x				x	x															5
-analytical thinking			x				x	x															6
-financial analysis skill								x															3
-listening skills							x	x															2
-information technology																							3
-interpersonal skills			x					x															5
-mentoring skills							x	x															3
-flexibility							x	x															2
-basic computer and technology skill							x	x															5
-management of personnel resources							x																4
-second language																							2
Ability																							
-Ability to work under pressure			x	x																			5
-reading and writing																							2
-Selective attention																							2
-Oral comprehensive																							4
-Oral expression																							2
-Written comprehensive																							4
-ability to meet others' (including clients') expectations			x																				1
-Willing to learn (continuous learning)																							2
-ability to define and solve problems			x																				4
-effective reading																							4
-time management																							4
-teamwork	x	x																					8
Others																							
-Practical experience																							2
-Client focus																							1
-Self-motivation																							2
-Self-confidence																							2
-Commercial attitude																							1
-Being persuasive																							2
-Maturity																							1
-Professionalism																							4
-Leadership	x																						7
-Vision																							3
-Managing performance																							1
-Judgement / decision-making																							4
-Self control																							2
-Initiative																							2
-Dependability & Reliability																							2
-integrity																							2

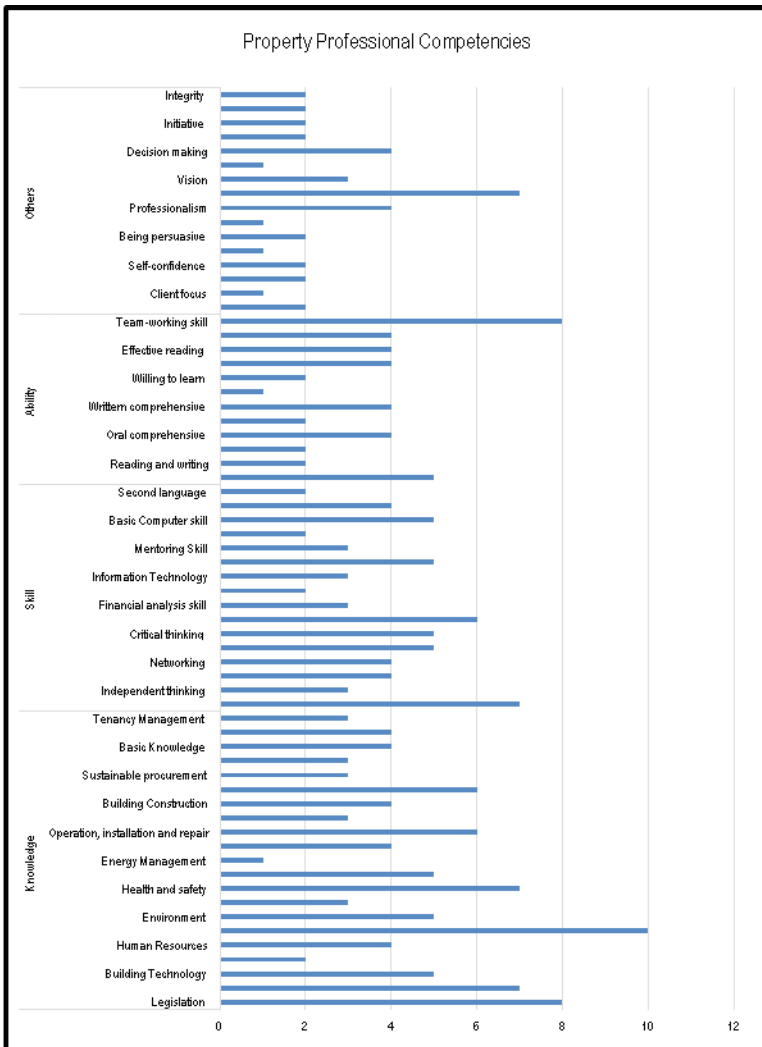


Figure 1: The Summarized of Property Professional’s Competencies in Manage Traditional Building and Developed Green Building

Table 3: The Property Manager's Competencies Element in Managing Green Building

Knowledge	Skill	Ability	Other Characteristics
1) Legislation, codes, direction and regulatory issues	1) Interpersonal skill	1) Ability to define and solve problem	1) Professionalism
2) Environmental impact management	2) Communication skill	2) Ability reading and writing	2) Self-motivation
3) Sustainable operation	3) Effective verbal presentation	3) Oral comprehensive	3) Self-confident
4) Health and safety	4) Critical thinking	4) Time management	4) Self-control
5) Human Resources Management	5) Analytical thinking	5) Oral expression	5) Persuasion
6) Operation installation and repair	6) Second language	6) Written comprehensive	6) Decision making
7) Building services and technology management	7) Monitoring Skill	7) Written expression	7) Practical Experience
8) Material resources	8) Basic computer and technology skill	8) Teamwork	8) Initiative
9) Building and construction design	9) Information technology skill	9) Technology and tool	9) Dependability and reliability
10) Administrative management	10) Negotiation skill	10) Continuous learn	10) Integrity
11) Client care and customers service	11) Independent Thinking		11) Leadership
12) Financial management	12) Networking		
13) Business marketing management	13) Flexibility and adaptability		
14) Sustainable procurement	14) Financial analysis skill		
15) Planning and scheduling	15) Technical skill		
16) Economic and accounting			
17) Quality Management			
18) Tenants and Occupancy			
19) Basic Knowledge			

LIMITATIONS

The limitations of this literature review include the biasness of publication as not all results and funding in relation to property manager competency in managing green building are available, known or written about. So, it

can potentially influence the finding of reviews. Previous study on this area are mostly presented on property manager competencies in managing the traditional building and related to green building management and have not directly discussed on competency matters. This will limit the generalisation of the findings. However, from the reviews we could identify the competency elements needed by property manager competencies' transition into the property manager competencies in managing green building by identifying similar issues, which may be utilised in developing effective and efficient green building management.

CONCLUSION

As a conclusion, the one factor that unites all the literature review in this paper is the competencies needed by the property manager in order to improve the green building management performance. The result from literature review shows, the top rank competencies under knowledge element is financial management due to manager's concern in minimizing operational cost and at the same time maximizing the return to the building owner. Under the skill element, the highest rank fall to communication skill in property management because good communication skill is needed as to avoid any misrepresentation or misunderstanding among management team in carrying out the task. Meanwhile, under ability elements, teamwork is the highest rank among the previous literature. Teamwork is crucial for manager especially in the management area that needs to cooperate with organization team to ensure the job or work can be done smoothly. Lastly, leadership becomes the most element under other characteristics competencies which substantiated by previous research. It is crucial for the manager to lead property management team in better management ways.

The competencies elements adopted by the previous researcher is actually suitable to use because in property management it has the same management practice in the traditional and green building. There is a little difference in term of green element adapted to green building. So, there are additional competencies that are relevant to be adapted which are technical skill and knowledge in sustainable procurement, sustainable operation, resources management and environmental health management. This element is actually obtained from current practice property management in green

building. Therefore, it important for the property manager to have the competency to ensure effective and efficient green building management.

Overall, the result shows, fifty-five (55) competencies elements will further tested to prove the important and relevant competencies needed in green building management. Highlighted here, the future direction of this study is to find the relationship between knowledge, skills, ability and other characteristics with job performance. This is because the competencies required by an individual is the way to improve job performance in a certain situation. Many scholars already proved that sufficient competencies will boost excellent job performance (Boyatzis, 1982; McClelland, 1973; Spencer & Spencer, 1993). Meanwhile, the significance of this review may contribute to the property manager in improving their skill, knowledge, ability and other characteristics to achieve the outstanding green building management performance. The study also can be put as references to property manager in ensuring the “greenness” of green building be achieved totally for its whole life cycle. This research also response to the 11th Malaysia Plan in order to produce highly skilled generation and improve the green and sustainable development.

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