

ESTABLISHING CRITICAL SUCCESS FACTORS FOR PROJECT MANAGEMENT BEST PRACTICES IN SUSTAINABLE HOUSING IN MALAYSIA.

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Abstract

This paper is attempt to establish a theoretical framework for project management best practices in sustainable housing development. Effective management of projects is becoming increasingly important for sustainable housing to remain competitive in today's dynamic business environment. The objective of this paper is to establish success factors for project management best practices in the sustainable housing development in Malaysia. Review on past literature on the subject were carried out to build the existing research works on the area and to establish success factors of project management best practices. At the end of this paper, a new area of managing sustainable housing for future direction of this research was identified. A list of critical success factors for project management best practices for sustainable housing development in Malaysia was established.

Keywords: Sustainable Housing, Project Management, Best Practices, Critical Success Factors, Malaysia.

1.0 Introduction

Housing, as human beings' basic need, is a very important issue of people's everyday life. In 1948, 60 years ago, the United Nations, in its Universal Declaration of Human Rights, stated that "everyone has the right to a standard of living adequate for the health and well-being of himself and of his family including food, clothing, housing and medical care and necessary social services..." (United Nations, 1948, Article 25). Housing is an index of the standard of living of a people and it's described as a sine-qua-non of human living (Yakubu, 1980). Housing provision is one of the major challenges facing developing countries. Under the Seventh Malaysia Plan (1999-2000) and Eight Malaysia Plan (2001-2005), Malaysian governments are committed to provide adequate, affordable and quality housing for all Malaysian, particularly the low income group. This is in line with Istanbul Declaration on Human Settlement and Habitat Agenda (1996) to ensure adequate shelter for all.

Housing also is a key to sustainable development. In order to be sustainable, housing initiatives must be economically viable, socially acceptable, technically

feasible and environmentally compatible (Choguill, 2007). In the other hand, housing encompasses the immediate environment, sanitation, drainage, recreational facilities, and all other economic and social activities that make life worthwhile (Otegbulu, 1996 in Olejado, 2003). The World Commission on Environment and Development (1987) report, Our Common Future has led to a world-wide notion of the concept of sustainable development (Meldon, 1998). However, it has been argued that the history of the concept of sustainability can be traced back to the terms “stationery” or “steady state economy” used by the nineteenth century political economist (European Environment agency, 1997). Today there are over 300 published definitions of sustainable development, the products of diverse world views and competing vested interests (Moles and Kelly, 2000). Fundamentally, sustainable development addresses three major areas;

- I. People living today are entitled to justice and equal rights;
- II. Environmental degeneration must be alleviated or eliminated; and
- III. Future generations must not be impoverished as a result of current actions (Redclift,1987).

Our Common Future explores how sustainable development “is not a fixed state of harmony but rather a process of change in which the exploitation of resources, the orientation of technological development, and institutional change are made consistent with future as well as present needs” (Moles and Kelly, 2000). In other words, (WCED, 1987, 8) it's defined as “development which meets the needs of the present without comprising the ability of future generations to meet their own needs”. The Commission not only observed that environmental problems need to be addressed, but also socials problem, such as inequity, property, non-prosperity and the violation of human rights, that are related to explosive population growth and the enormous expansion of environmental harms caused by human activities. According to the Commission, solving these problems requires global economic growth whilst respecting ecological constraints (Klunder, 2004).

Further to the definition of sustainable development; sustainable housing can be defined as planning, designing and building dwellings that give more socially, environmentally and economically sustainable (A Sustainable Housing Forum Report, 2003). It also called as ‘energy efficient building’ and “healthy building’ (Yingxin and Borong, 2004). This concept must recognize as a safe, secure and universally designed (A Sustainable Housing Forum Report, 2003). In other words,

sustainable development is defined as a concern of attitudes and judgment to help insure long-term ecological, social and economic growth in society (Ding, 2008).

While the term of sustainable development is well known and widely used, there is no common understanding and approach for it. The perception of sustainability especially when it comes to what “needs” is regarded as important varies much by different nation and even different people with different points in time, economic, social and cultural backgrounds (Zinkernagel, 2001). The detail of what comprises sustainable development is very context –specific and the same condition and practice cannot apply everywhere. Therefore, sustainability has its diverse implications in every corner of the world and in every sector of a society (Bell and Morse, 2003).

For construction sector, the Dutch Ministry of Housing, Spatial Planning and the Environment (1990) explains sustainable as directed towards the reduction of the environmental and health impacts consequent to construction, buildings and the built environment. The focus on sustainable housing implies a perspective of flows (Klunder, 2004). From this viewpoint, a sustainable housing is characterized by the minimization of the environmental impacts of material use, energy consumption and water consumption during the whole service life of the building.

A sustainable house is cost-efficient over time, comfortable, cheap to maintain and complements our unique environment (Queensland Government, 2004). “Sustainable Housing” is a new concept in developing countries and unearthing projects covering all aspects of sustainability proved to be difficult (Ebsen, 2000). For housing that make up a great proportion of building, sustainable housing could be defined as housing practices, which strive for integral quality (including economic, social, and environmental performance) in a broad way (John, Croome & Jeronimidis, 2005). From the ecological perspective, sustainable housing should in good quality with long life span and adaptability which is the basis for eco-efficiency. Furthermore, sustainable housing should be eco-efficient by rational and efficient use of natural non renewable resources (energy, construction materials, space, etc), both in the construction and the use phase while increase in well-being (Cai, 2004). From the economic perspective, the sustainable housing should be affordable and decrease the indirect cost such as transportation for the occupiers. From the social perspective, the sustainable housing should consider the physical, psychological and social function of the occupiers. According to an OECD Project 2002,

sustainable buildings can be defined as “those buildings that have minimum adverse impacts on the built and natural environment, in term of the buildings themselves, their immediate surroundings and the broader regional and global settings”.

2.0 Problem Statement

The quality of housing and it's social, economic and environmental performance is critically important to sustainable development. Through this concern, housing and other social services become priority in Malaysia's development programmes which aimed at improving the quality of life and contributing towards the formation of a caring society. However, the issues of sustainable housing are still new and not that familiar in our country. With referring back the house being built in the past decade, those houses were not meeting the essential criteria of sustainability and unfortunately, there are little to none; in depth studies for this matter. Although the homes that create may look good and be cheap to build, they are poor value if they weather poorly, have high energy and other running costs, are expensive to maintain and cannot adapt to changes in use. According to Maylor (1999) those organizations that are most resourceful in seeking out best practices and making those aspects work for them will be the most successful. Here, success factors for project management best practices was establish to develop a new area of managing sustainable housing for future direction of this research.

2.1 Research Questions

Based on the problems stated above, three main questions are formed as below:

- 1) What are the factors that impede the implementation of sustainable housing practices?
- 2) What are the factors that determine the best practices of project management for in sustainable housing development?

2.2 Objectives

There are two objectives for this paper:

- 1) To identify factors that impeding the sustainable housing practice.
- 2) To establish the success factors that determines the best practices for project management in sustainable housing.

3.0 Factors Effecting Project Success

Nowadays, companies are increasingly using projects in their daily work to achieve company goals. The only way organizations can be driven to achieve excellence is by keeping an eye on competition and world best practice in all aspects of the business (Bendell et. all, 1998). Recently more and more organizations are recognizing that translating corporate strategies into actions requires project management. Consequently, it is vital that projects are successful (Baccarini 2003). Critical success factors are important influences that contribute to project success. So, critical success factors are the set of circumstances, facts or influences which contribute to the project outcomes. The search for factors that influence project success has been growing interest over the past decade.

Generally, the success of a construction project depends on a number of factors, such as project complexity, contractual arrangements, and relationships between project participants, the competency of project managers, and the abilities of key project members (Chua et al., 1999; Mohsini and Davidcon, 1992). Bayliss, 2002 in his report said that successful project delivery requires the concerted effort of the project team to carry out the various project activities, but it is the project manager who, at the center of the project network, is responsible for orchestrating the whole construction process. Possessing the core project management competence would help to define the ability of project managers to deliver good performance towards the attainment of project success.

Success factors are those input to the project management system that lead directly or indirectly to the success of the project or business. Belassi and Tukel, 1996, categorized success factors into four main group. These are factors relating to the project, project managers, organization, and external environment. Others researcher, Chan et al., 2002 identify a set of project success factors; project team commitment, contractor's competencies, risk and liability assessment, client's competencies, end-users needs and constraints imposed by end user.

Pinto and Mantel (1990) refer to the ten critical success factors developed by Pinto and Slevin (1988) and suggest that "these critical success factors were found to be generalisable to a wide variety of project types and organizations." However a single set of project success factors may not be suitable for all industries (Lim et al, 1999; Hartman et al, 1996). Liu and Walker 1998 suggest that as industries operate

differently, “a set of critical success factors may not be transferable from one project to another project...only generic areas can be identified and used as broad guidelines.” According to Dey (2002), current project management practices of organizations in the industry sector do not always ensure success. The main problems with projects planning and implementation have been cost and time overruns and quality non-achievement. Dey (2002) stated that the main contributing factors are:

- Expansion of the scope and subsequent quality increases of input resources;
- Engineering and design changes;
- Underestimation and incorrect estimation and
- Unforeseen inflation
- Project size and complexity
- Unforeseen technical difficulties
- Schedule changes
- Tight schedules and excessive concurrence of project phase
- Poor project definition
- Poor contract administration and policies
- Labor problems and poor industrial relations
- Changes in government policies and regulations
- Non-involvement of the project staff in the planning stage; and
- Project staff not working full-time on the same project.

The problem multiplies with the size of the project, as uncertainties in project outcome increase with the size of a project.

Some of the above key factors for unsuccessful also can be viewed in Diekmann and Thrush (1986) report include poor management, breakdown in communication, unrealistic scope, schedules and budget, and lack of good project control.

Table of success factors reviewed from various author in project management best practices area.

Table 1. Critical Success Factors review from various author's

Critical Success Factors	Author's							
	Pinto & Slevin (96,89)	Belassi & Tukul (1996)	Chua, Kog and Loh (1999)	Turner & Muller (06,07)	Fortune & White (02,06)	Anderson & Jessen (2000)	Khang & Moe (2008)	Baccarini (1999, 2003)
Project Understanding	√	√				√	√	√
Top Management Support	√			√	√		√	
Communication	√	√						
Client Involvement	√							
Competent Project Team	√	√			√	√	√	√
Authority of the Project Manager			√	√				√
Realistic Cost and Time Estimates	√		√			√		√
Adequate Project Control					√			
Problem Solving Abilities	√							
Risk Management								√
Adequate Resources								√

Various authors have identified a number of critical success factors for project success. A review of the literature highlights eleven common critical success factors for project as in table 1. From Table 1, it can be rank as below:

1. *Competent Project Team*; It is important that the project manager and project team be selected wisely to ensure they have the necessary skills and commitment to perform their functions effectively.

2. *Project Understanding*; It is significant that the project team understand the project, particularly with respect to project goals and objectives. Understanding the project mission is the most important factor related to project success (Pinto and Slevin, 1988).

3. *Top Management Support, Realistic Cost and Time Estimates*; Project Management is dependent on top management for authority, direction and support. Management support for projects has been considered of great important in distinguishing between success and failure (Black, 1996; Pinto and Slevin, 1989)

4. *Authority of the Project Manager*; In successful projects the project manager is not only strongly committed to meeting project objectives, but also has the authority to have control over developing plans, making changes as required, and fulfilling them Pinto and Slevin (1996,1989).

5. Communication; Effective communication is vital in creating an atmosphere for achieving project success.

6. For the rest factors, all in same rank which is Client Involvement, Adequate Project Control, Problem Solving Abilities, Risk Management and Adequate Resources.

4.0 Best Practices for Project Management in General

Project management best practices may be described as optimum way of performing work to achieve high performance (Ramabadron et al., 1997). Projects management growing popularity has stimulated interest in how companies compare in their application of project management process, tools and techniques (Dey, 2002). Best practices are good practices that have worked well elsewhere, have been proven and have produced successful results. It defined as improved processes/approaches producing significantly better results compared to past/current results and those of similar processes / approaches elsewhere (Palaneeswaran & Kumaraswamy, 2000).

Through source from Tech (2004), best practices are those strategies, activities, or approaches that have been shown through research and evaluation to be effective in a given discipline, area of study, or application. Applying best practices to project will result a much better chance of delivering project successfully. Loo (2002) who conducted a study of internal best practice with a sample project manager in Canadian and found an almost even split in top rated internal best practices

between technical and people practices. The project management best practices stated by Loo (2002) are:

- Having an integrated project management system (PMS);
- Effective scope management of projects;
- Effective project planning, scheduling, and controlling;
- Effective contract management;
- Having high – caliber project teams;
- Having stakeholder participation;
- Effective communication within teams and externally; and
- Customer satisfaction

4.1 Project Management in different industries

Different industries face different challenges while managing projects. For example, software development organizations have to deal with high-technology uncertainty, while construction organizations are usually more troubled with engineering and financial problem. The literature found that industry type has great influence on project management, greater than project type (zwikael and Globerson, 2004).

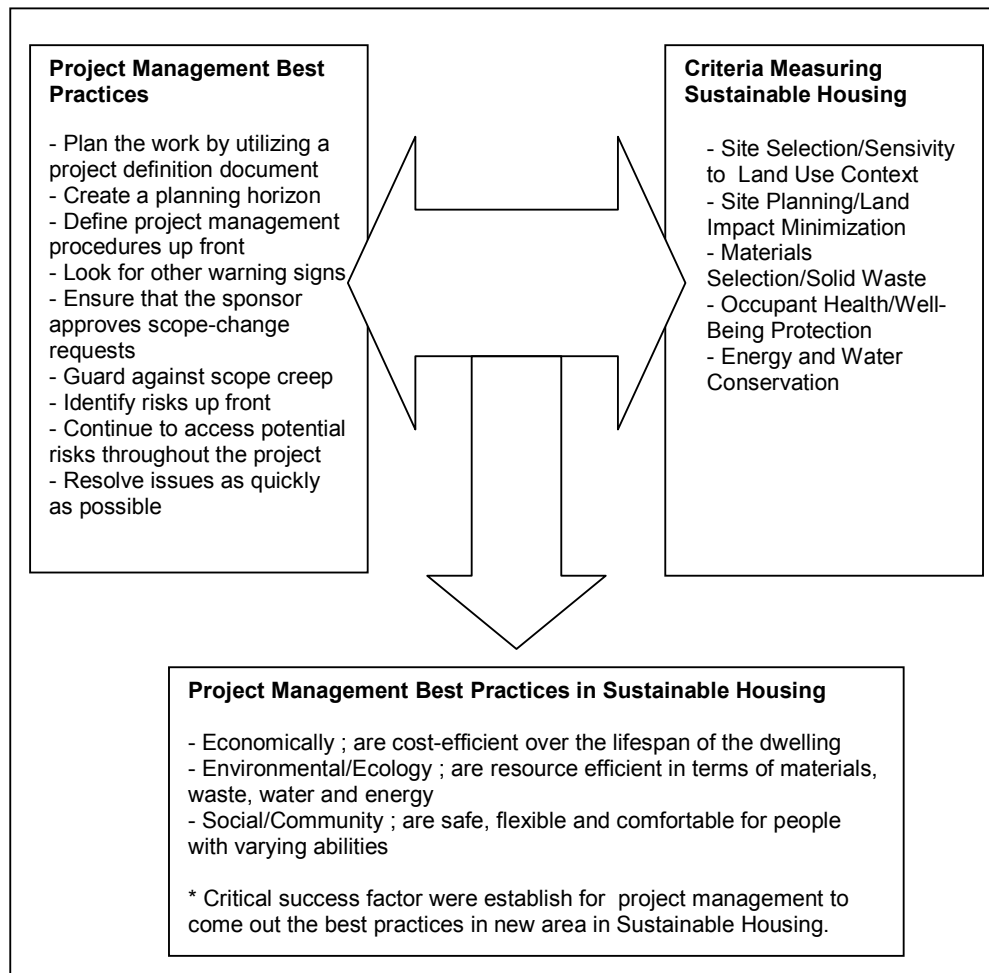
Others project management best practices literature specific to the Information Technology sector are summaries as follows:

Organizational – Knowledge Management, Continuous Improvement, Corporate Policies and Governance, Scalability of Practices, Cross Functional Team and Edification

Team - Focus, Team Members, Team Processes: Front-end Planning, Team Life, Good Communication and Risk Registration and Documentation

Individual – Personal Processes and Sociology / Anthropology / Psychology Implementation.

Following these best practices cannot guarantee a successful project but they will provide a better chance of success (Buehring, 2005). There are: *Define the scope and objectives, Define the deliverables, Project Planning, Communication, Tracking and reporting project progress, Change management and Risk management*. Table 2 below will show the summaries of best practices.



Source: TechRepublic 2001

Figure 2: Framework of Project Management Best Practices in Sustainable Housing

5.0 Conclusion

The implementation of success factors for project management in sustainable housing is important in order to ensure project success. Apparently, the sustainable housing is one of the major contributors to the development of any country. Unfortunately, in our country Malaysia, the issue of sustainable housing development is still new and not yet the proactive action had been taken to develop the housing sector in a sustainable way. Thus, this research is proposed to identify success factors for project management in the sustainable housing area. At the end of

this paper, a new area of managing sustainable housing for future direction of this research will be identified. A list of critical success factors from various authors for project management best practices for sustainable housing development in Malaysia was established.

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