

# Transmission Mechanism for Refurbishment Managers in Routine Practice

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**Abstract.** This paper presents the mechanism practice linked to the skills and knowledge added to the refurbishment managers. The sustainable of career as building refurbishment manager is to feed the managers with skills and knowledge, strategically made in facing the future that is full of uncertainties and challenges. This research focus on the sustainability factors through the analysis results that gathered from interview and questionnaire. Thus, it relates to identify the current practice in dealing with the process of the refurbishment project toward success. Less of skills and knowledge among the project managers are the mechanism that firm or agencies to look forward.

**Keywords:** skills; refurbishment; manager; transmission; mechanism

## 1. Introduction

Refurbishment projects potentially contain more technical and economic uncertainties and risks than new-build schemes, reflecting the nature of works within, and the increasing demands placed upon, existing property. The building refurbishment is the extensive repair, renewal and modification of a building to meet economic and functional criteria equivalent to those of a new building for the same purpose. This can be simplified concern where renovation and refurbishment market is growing faster than the new construction market [1].

A combination of education and experience is the normal route to become a manager. In this regard, attributes of the managers in refurbishment industry will try to be related on the success of the refurbishment projects. Most successful managers learn their skill through continuous education and experience. This may added with the importance of knowledge as an asset in running of refurbishment project.

Egbu[2] stated the managers would put credibility to plan and forecast the amount of labor, materials and plant resources needed for the works. Egbu [3] established that refurbishment project in term of skill and knowledge put a contribution to people, equipment, materials, money and schedules due to complete a specific project on time and within approved cost.

The objectives of this paper are to identify the skills and knowledge required such as skills in refurbishment area to equip themselves with marketable skills. In this paper, we present the mechanism practice linked to the skills and knowledge added to the refurbishment managers. This research focus on the sustainability factors through the analysis results that gathered from interview and questionnaire. According to O.M. Affendy [4], there are main attributes that a construction manager should possess in order to make the refurbishment project success which are experience and decision making. The project manager must be experienced in refurbishment work as well in handling refurbishment project stressed by Pinto et.al [14].

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Bandura, Barrick et.al.,[5] stated project team member experience has been shown to be associated with performance. An organization may improve their performance by recruit the knowledgeable and experienced team members (Pinto and Selvin,[6] 1987a,b: Pinto and Covin,[7].

Experience through knowledge gain: refurbishment manager are advice to go for structured approach to education and training in order to acquire knowledge and competencies in facing the challenges and opportunities in the future Egbu [8] mentions the knowledge can improved organizational productivity in delivering services to clients.

Decision making: process in the refurbishment project is a complex, interconnected and dynamic process. It involves more than one decision maker, multiple objectives and several actions. Decision making is a major aspect of refurbishment activity where required quick decision in results [3]. For example, the effective decisions involving total overall costs require a team approach by managers knowledgeable in all costs [9].

## **2. Transformation as an ingredient of successful job performance**

A refurbishment manager needs four transformation skills where such:

*Technical skill:* ability to use the procedures, techniques and knowledge of a specialized refurbishment field. For example e-knowledge in identify the need and recommend major repair or alteration projects, and monitor work done by private contractors. The refurbishment work required effective information management and proper recording and filling such as the use of Computerized Maintenance Management System (CMMS) capable to manage records and reports of construction equipments.

Egbu [8] also reveals that the construction small and medium entrepreneurs appear to be limited in the type of technology employed for managing knowledge. There are only concerned with the use of telephone, faxes, e-mails and internet facilities. Egbu [8] highly suggest they need to use the recording electronic form for recording the documents, database, web pages and knowledge-base systems. These can help to prevent the repetition of mistakes while reducing costs and improved consistency.

*Diagnostic skill:* refurbishment managers must also possess diagnostic skills that enable them to visualize the most appropriate response to a situation. Such analysis of space management which reviews occupant use of space, analyze their needs, and plan alterations and space reorganizations to accommodate changing tenant requirements. Moreover the refurbishment managers must have and ability to write and graphically illustrate reports, technical articles and correspondence to raise clear and precise questions, use abstract ideas to interpret information. Technical skills involve specialized knowledge, analytical ability within critical thinking skills points of view, reach well-reasoned conclusions, and test them against relevant criteria, standards and capability in the use of tools and techniques related to refurbishment works. Leufer et.al. [10] found that complex construction project require multi-phased integration where the leader of the next phases of the project needs to involve in planning form the earliest stage and next stage in progress. This could helps to improve communication flow, feedback and decision making therefore improve the

*Collaborative Skill:* ability to recognize the varied talent found in inter-disciplinary design project teams in professional practice and work in collaboration with other professional as members of a design team. Egbu ([3] mention that the refurbishment work need to demonstrated new ideas. According to Egbu [2] , skill and knowledge are most important areas of needs to be established for refurbishment managers and the craftsman in the future. Furthermore, Egbu [2] comes the managers ability to plan and forecast the amount of labor, materials and plant resources needed for the work. Emmit [11] review that there is a need for architectural practices to employ construction managers to manage building packages. This may helps the closer relationship and better communication that may benefit those involved, including the client. Koehn and Tower [12] stated the refurbishment work demands a greater level of supervision than a new work, and more time and effort are needed on the parts of superintendents, project managers and designers to enable a refurbishment project to smooth run.

*Risk identification skill:* A refurbishment manager must able to handle hazardous materials which great attention must be planned to the preparation of site layout. Handling a refurbish project is very risky. M. Hashimah [13] stated the refurbishment managers considered safety is a essential in a project and difficult to

implement by the management. This support by the statement in the construction industry shows lacks effective management systems to cope with refurbishment safety risks and hazards (Egbu, et al.[2])

### 3. Analysis and Results

The interviews were conducted in Klang Valley region of Malaysia based on a structured guide to obtain views from professionals involved with knowledge, skills on issues relating to refurbishment work. Each interview is limited only hold positions as managers and leader in refurbishment area. The questionnaires intend and attention is being made in to the skills and knowledge having by the refurbishment manager on managerial of refurbishment.

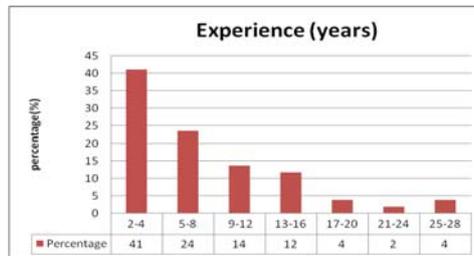


Fig.1: Analysis on the years of experience.

Refurbishment of the building is still in the preliminary stage in this country because most of the respondents that can understand the concept of refurbish building only have 2 to 4 years experience. Figure 1 shows an analysis on the years of experience by respondents.

Based on Figure 1, it shows that the highest percentage was respondents with 2 to 4 years experience with 41%, followed by 5 to 8 years experience with 24% and the lowest was respondents with 21 to 24 years with only 2%. Figure 2 shows the use and the importance of computer technology in running the refurbishment project.

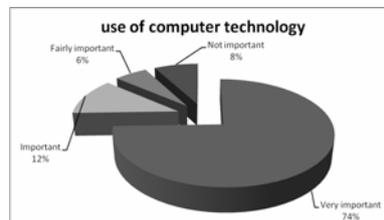


Fig. 2: Analysis on the Use of Computer Technology

The majority of the respondents, which 74% of them stated that the use of computer in the refurbishment project is 'Very Important', while only 8% of the respondents stated that the use of computer is 'Not Important'. The use of ICT is necessary to ensuring the smoothness of the project run. The technology and appropriate information technology assists the project manager to keep and record. Ability to use current computer software programs for written and graphic communication is one of the tools that smooth the progress of the refurbishment project. O.M. Affendy [4] stressed it is important a refurbishment managers good to have an ability to use computer and process information in their project.

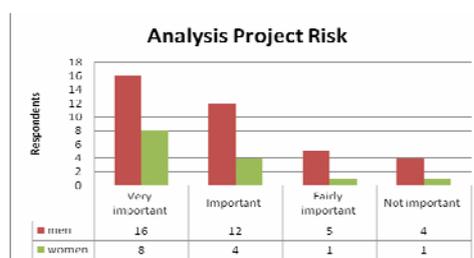


Fig. 3: Analysis On The Effectiveness Of Analysis Of Project Risk

Based on Figure 3, it shows that 16% of the male's respondents and 8% of the women's respondents agreed that it is 'Very Important' to do the analysis of project risk before running and commencing the refurbishment work in terms of planning, organizing and risk management.

#### 4. CONCLUSIONS

The refurbishment work in its behalf of construction industry, advancement in technology or information technology is vital. The technical skills put in as refers to knowledge about things such as machineries, processes and method of construction. Additional of experiences put on technical knowledge been gain by the managers. Thus, knowledge refurbishment manager will add as an asset and to optimize profitability in building refurbishment industry.

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