



# A Review of Leadership Qualities among Building Refurbishment Project Managers

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## Abstract

This paper provides a review of potential leadership qualities among building refurbishment project managers. The scope of work in refurbishment projects is very much different to that of new building projects. The key features associated with refurbishment projects are that they are unique, risky, highly complex, and inherently filled with uncertainties that are constant throughout the project's lifecycle. Furthermore, these projects have always been identified with poor project performance that encompasses time, cost, and quality aspects. Despite the greater attention received in recent years, most previous research that provided solutions for the poor performance issues had narrowly focused on technical measures instead of human impact elements. Consequently, leadership qualities amongst project managers were not examined. This study aims to identify potential leadership qualities among building refurbishment project managers. In addition, the relationships between uncertainty factors and performance of refurbishment projects as mediated by the leadership qualities will also be determined. To achieve this aim, a literature search was conducted and relevant articles reviewed from 1997 to 2017. Initially, 125 articles were identified. However, only 70 articles remained after the second stage of the screening process. Arising from this review, a research model was proposed. This model serves as the basis for extended research on leadership qualities among project managers to better manage uncertainties in refurbishment projects.

**Keywords:** Building refurbishment project, uncertainty factors, leadership qualities, project manager, project performance

## 1. Introduction

Building refurbishment works involve utilising valuable and functioning items to extend the use of an ageing building stock. Such works can be classified as repair, renovation, restoration, retrofit, extension, and modernization [1]. Refurbishment works are initiated for various reasons such as obsolescence, physical deterioration, differences in functionality over time, dynamics of economic activities, innovation, technological changes, legal issues, aesthetics, and limitation of land in urban areas [2], [3]. In countries like the United Kingdom and Germany, building refurbishment work is one of the most important sectors in the construction industry, contributing to approximately half of the total construction output [3]. Furthermore, Bonacina, Malighetti, and Pizzi [4] mentioned that refurbishment works on the existing building stocks have become the European Union's priority in reaching its ambitious goal of being decarbonised by 2050. Concurrently, the trend for building refurbishment is also expanding in Malaysia. For example, the Construction Industry Development Board of Malaysia [5] reported that refurbishment projects in Malaysia contributed to roughly 7.1% of the total construction output and this has been steadily increasing every year. On the other hand, many refurbishment works are unreported, especially those undertaken by individual home owners who carried out illegal renovation works; thus, the actual refurbishment output value could be higher in Malaysia [6]. Furthermore, the number of refurbishment work projects has been increasing, particularly in Klang Valley due to the dynamic economic activities of the past generation [2], [3].

Several studies have documented that the management of building refurbishment works is demanding, risky, inherently fraught with

uncertainties, highly complex and involving many unforeseen elements [3], [7], [8], [9]. Rahmat [1] pointed out that uncertainties in refurbishment projects are constant throughout the project life cycle and is often listed as a reason for poor performance. This was supported by A.S. Ali [3] who discovered that more than half of the refurbishment projects exceeded the original estimated cost and time due to uncertainties in the design process, retrieval of design information, and unpredictable design changes during the construction stage. Much research on building refurbishment projects have been conducted to manage factors that contribute to uncertainties. However, it takes time for these research findings to be adopted in practice due to the non-technical and technical barriers that persisted [11], [9]. Not surprisingly, most studies concentrated on the technical issues compared to issues relating to leadership qualities of project managers [12], [9]. Berg and Karlsen [13] observed that project managers faced many leadership challenges and problems, for instance, on matters relating to leadership style, stress, uncertainty, motivation, learning, and teamwork spirit. In addition, Nilsson [14] concluded that due to their working environment, leaders are under constant pressure to further develop their skills to handle uncertain situations and improve the overall project performance. Hence, this resulted in high turnover of project managers in many organisations.

Inevitably, moving from a stable environment to one that is complex and constantly changing requires new leadership skills and qualities [12]. Hodgson, White, and White [15] claimed that the presence of various uncertainties required specific leadership qualities among project managers to manage them. In addition, improving the morale of team members and their performance starts with the leader, as demonstrated by the head of department or manager [16]. Similarly, Jaeger and Adair [17] found that the successful

management of construction projects relied primarily on the level of engagement exhibited by the project managers. In this current study, new directions for future research will be proposed, which is to consider leadership qualities among building refurbishment project managers as a human impact element for managing uncertainties in building refurbishment projects in Malaysia. The rest of this paper is organised as follows: (a) Methodology; (b) Results and discussions proposing a research model; and (c) Conclusion with suggestions for future research.

## 2. Methodology

In this study, the initial stage was to review the leadership qualities of building refurbishment project managers. This exercise reviewed related papers to identify the relationships between the uncertainty factors in building refurbishment projects and project performance. The literature review retrieved relevant articles from search engines that included Science Direct (<http://www.sciencedirect.com/>), Emerald Publishing (<http://www.emeraldinsight.com/>), Taylor & Francis (<http://www.tandfonline.com/>) and Google Scholar (<https://scholar.google.com/>). The literature search utilized a set of relevant keywords that included “refurbishment projects”, “uncertainty”, “leadership quality of project managers”, and “project performance”. The first stage of this search initially identified 150 articles; however, only 70 articles remained after the second stage of the screening process. In this context, 53% of the 70 articles were related to the uncertainty of building refurbishment projects and project performance, while the rest were related to the leadership qualities expected of building refurbishment project managers. Most of these articles focused on the issues of managing the uncertainties of building refurbishment projects in Malaysia, while a small number of articles touched on managing building refurbishment projects in other Asian and European countries. These articles were published from 1997 to 2017. Furthermore, 21 articles were identified as the main references relating to the uncertainties of refurbishment projects (Table 1). 5 articles were identified as the main references for the performance of building refurbishment projects (Table 2). 15 articles were identified as the main references for leadership qualities expected of building refurbishment project managers (Table 3). The remaining articles provided supporting information for the present study. Hence, following an analysis based on the literature review, the relationships identified allowed the research team to propose a research model that underpins the desirable leadership qualities among building refurbishment project managers.

### 2.1. Uncertainties in Refurbishment Projects

Many researchers appeared to agree that compared to new projects, the scope of work for building refurbishment projects are different. This includes key features such as uniqueness, high risk, fraught with uncertainties, and difficult to manage [3], [18], [19], [20], [21]. In this context, uncertainties can mean differences in the amount of information available to implement a task [22]. In addition, uncertainty is also defined as anything relating to “lack of certainty” and “ambiguity” that points to deficiency in data, items, work resources, and assumptions [23]. On the other hand, Egbu, Young, and Torrance [24] reported that managing refurbishment projects includes handling project risks and uncertainty factors in which the condition can change drastically. Hence, this requires a lot of knowledge and information to enhance the overall performance of a project. In addition, risk assessment involves investigating known probability, whereas uncertainty refers to events in which it is impracticable to quantify likelihood or chance of occurrence [25]. Consequently, the slight modification of the management process to accomplish successful refurbishment works is not sufficient. Rahmat [1] observed that uncertainties in refurbishment projects are persistent throughout the project life cycle. These can become more complex and uncertain when refurbishment works include structural modifications,

which are more sensitive, dangerous, involve difficult operations, and need to be executed cautiously [26]. Furthermore, Azlan Shah Ali and Zakaria [27] suggested that uncertainty factors could be managed and minimised through the good relationships between all project participants, especially with the local authorities. Other issues relating to refurbishment projects include the lack of information on operating facilities, space limitation for reconstruction projects, maintenance of safety and health, and involvement of many stakeholders such as building owners [28]. In addition, A.S. Ali [3] lamented that data retrieval for old buildings in Malaysia is problematic because the databases provided by the local authorities are incomplete. Furthermore, planning for refurbishment works can be demanding and requires more flexibility. This is when frequent design change requests by clients and unfinished designs due to issues that are only revealed during the construction stage have contributed to variations in work scope and time overrun. In a recent study, Yacob et al. [9] established that human attributes and leadership qualities of project managers have a significant relationship with uncertainties in refurbishment projects (Table 1). However, the existing literature contains limited information on this issue. Consequently, it is both timely and important to develop an alternative solution for managing uncertainties in refurbishment projects through the specific leadership qualities of project managers. Simultaneously, the human impact element arising from the non-technical issues can also be addressed.

**Table 1:** Uncertainties in Building Refurbishment Projects

Items and Dimensions	Authors
<b>1. Design process</b>	
Experience, knowledge, satisfy requirements, multidisciplinary, and involve many participants	[50], [51], [52], [53]
<b>2. Planning and control process</b>	
Integration of all parties, sequence and coordination of work, large number of sub-contractors, and fragmentation issues	[9], [10], [37], [54], [55], [56], [57]
<b>3. Refurbishment work in occupied buildings</b>	
Residents' normal usage is interfered, interruption to flow of work process, difficulty in determining residents' needs, and unpredictable situations	[9], [10], [58], [59], [60], [70]
<b>4. Procurement methods</b>	
Type of procurement influence level of uncertainty, managing contract of specialist contractors, and inadequacy of specifications	[1], [3], [6], [9], [61], [62]
<b>5. Statutory requirements</b>	
Affected by complexity of law, changing and updating affect approval, inconsistencies in design requirements, and required experiences	[26], [27], [63]

### 2.2. Performance of refurbishment projects

As reported widely in existing research, the uncertainty of refurbishment projects is one of the reasons for poor performance. This is because refurbishment involves re-design, structural modifications, high contents of service works, as well as energy efficiency and sustainability issues. These can be sensitive, dangerous, and require the implementation of additional safety precautions [29], [9], [10]. Specifically, refurbishment works require greater involvement of all stakeholders in the decision-making process to reduce fragmentation at the design and construction stages. Nevertheless, this has not been put into practice since more than half of the projects have exceeded the budget and time targets [20], [9]. Moreover, Josephson and Lindstrom [30] and Thomas et al. [31] agreed that the performance of a project could be measured using numerous parameters related to cost, time, and quality aspects. Specifically, parameters that affect the performance of refurbishment projects performance include time variances, cost variances, percentage of variations in work, average number of complaints received, and average number of non-compliance reported [32], [33], [3]. An important contribution of this current study relates to the collation of well-established performance dimensions identified from previous research (Table 2) as well as to test the relationships between the

performance of refurbishment projects and uncertainty factors using leadership qualities of project managers as the mediating variable.

**Table 2:** Performance of Building Refurbishment Projects

Item and Dimension	Author
<b>1. Cost variances</b> Cash flow, change in order, and items absent in Bills of Quantities. Cost is often higher than specified in the original contract due to lack of design and specification details, and absence of the Bills of Quantities during tendering	[30], [31], [49]
<b>2. Time variances</b> Payment issues and communication with clients and consultants. Payment not made for variations in work by the client, which results in the unhealthy management of cash flow by contractors, which in a continuous manner will cause time variance and the contractor will suffer monthly income loss	[30], [31], [49]
<b>3. Variation work</b> Decision-making by clients and consultants. The absence of the Bills of Quantities during tendering can give rise to high variations in the works	[30], [31], [49]
<b>4. Number of complaints by clients and occupants' satisfaction</b> The effectiveness of the refurbishment process strongly depends on the quality of communications between the parties involved that can reduce failure and smoothen project activities. Poor quality of work can lead to complaints from the client. The focus must be on the satisfaction of occupants and socio-cultural issues that may arise during refurbishment	[30], [31], [33], [49], [70]
<b>5. Number of Non-Conformance Report</b> Quality of work, communication skills, and client satisfaction. Poor planning and control will delay refurbishment projects. Specifically, a wrong work sequence causes the contractor to incur higher costs, poor quality of work, increased in the percentages of work and additional costs, as well as non-conformance report	[30], [31], [49]

### 2.3. Expected leadership qualities of project managers to steer building refurbishment project performance

As defined by De Haan, Jansen, and Lighart [34] leadership quality is the combination of a person's strong characteristics and an organisation's vision and mission to achieve specific goals. On the other hand, the role of refurbishment project managers refers to the application of skills and knowledge throughout the project life cycle [10]. Furthermore, there are some overlaps across management levels that are associated with forecasting and planning, handling conflicts and crisis, tenant welfare, team building, and the decision-making process [70]. Nevertheless, these tasks are totally different, reflecting the uncertain nature and relatively higher levels of complexities compared to new building construction management [9]. Based on previous studies such as those of Cohen and March [35] leadership is the art of influencing others to reach their maximum performance level to accomplish any task. Murphy [36] had emphasised the importance of selecting the right people to achieve organisational success. Furthermore, in the rapidly paced, globally competitive marketplace, leaders must adopt a new mind-set [37]. Researchers like Ain, Nasaruddin, and Rahman [38] agreed that the implementation of projects requires construction leaders who can play a key role in ensuring that the process commenced smoothly so that it would positively contribute to the project's performance. Moreover, Yacob et al. [9] concluded that to manage the various uncertainties, specific leadership qualities among project managers are needed. Other than that, Montequin et al. [39] stated that uncertain situations could severely expose the quality of leadership. Normally, in such circumstances, a project manager would adapt accordingly and act decisively while setting a role model example for their followers.

In addition, Udhayakumar and P. Karthikeyan [40] reported that during project execution, the quality of leadership would affect project performance. Successful management of construction projects primarily relied on the level of engagement shown by the project manager [17]. Furthermore, Bruna [41] reported that the adaptability of leadership qualities of the project managers could affect their intention or sense, what changes would impact team members and the organisation, and appropriately influence skill changes. When the standpoint and behaviour of team members are enhanced, they would feel more dedicated towards their group and be more cooperative [37]. Furthermore, the power of influence is an important criterion or leadership element needed to achieve specific goals and extract maximum performance from group members [35]. A project manager plays a vital role in delivering successful project performance. Montequin et al. [39] emphasised that most efficient project managers shared common core traits like extroversion, rational judgment, and structured behaviour. Moreover, Hanna et al. [42] stated that human element issues, particularly those involving project managers, were the key to solving productivity problems. Hanna recommended that project managers should focus on developing their cognitive abilities, managerial skills, experience, and comprehension of all project phases.

Another earlier study explained how senior managers could lead by example to set a clear agenda for their workforce, even during times of uncertainty [43]. Additionally, seven leadership qualities were suggested; namely, greater controls, knowledge, open mindedness, clear decision-making, awareness, ability to forecast, and good communications. Hodgson, White and White [15] also stated that leaders and their followers shared ambiguities and uncertainties. Therefore, many followers were correct in perceiving that their levels of ambiguity and uncertainty have increased. Hodgson, White and White [15] listed eight desirable leadership qualities in this context; namely curious, risk tolerant, future scanner, tenacious challenger, exciter, flexible adjuster, and focused. Leadership must also adopt a mind-set that incorporates both innovative and sustainability aspects. To be a successful leader means being adaptive, flexible, and able to lead changes in addition to getting the best out of others. Constant change requires improvement of leadership qualities such as building extensive technical and political networks, collaborating and engaging with staff members and stakeholders, and acquiring social intelligence and conceptual skills to drive for results [12]. The leadership qualities of project managers can help shape a high performing culture and raise the performance bar of team members [44]. Egbu's [45] research on skills, knowledge, and competencies for managing building refurbishment works was based on feedback provided by project managers. The organisations identified challenges and opportunities in which survival would be contingent upon requisite skills, knowledge, and competencies of their employees, as well as innovative processes, products, services, technologies, and markets.

Likewise, Udhayakumar and P. Karthikeyan [40] identified that a project manager should fulfil specific qualities to be a capable individual who can handle a team. Seven leadership qualities needed to manage a team effectively were proposed; namely, punctuality, personality, perfectionist by showing examples, fitness, dedicated to and full participation at work, able to courageously face challenges, and behavioural science. On the other hand, Ain, Nasaruddin, and Rahman [38] found that a construction project is considered a failure if it faced cost and time overrun, did not meet the required quality as stipulated in the contract, and had safety issues during construction. Furthermore, it was noted there is no one single leadership quality that is suitable for all project circumstances. Instead, to tackle problems, strong leadership qualities such as communication skills, team building, decision-making, sense of responsibility, visioning, planning and strategizing skills, relationship management skills, empowerment, ethics, influencing, and integrity are required. Thus, through the literature search, 13 desirable leadership qualities for building refurbishment project managers associated with uncertainty factors and project performance, were identified (Table 3).

**Table 3:** Desirable Leadership Qualities for Building Refurbishment Project Managers

Items and Dimensions	Authors
<b>1. Empathy</b> Power of projecting one’s personality including social and verbal skills, and body language	[9], [48]
<b>2. Motivational</b> Motivate and inspire followers by setting realistic expectations and demonstrating commitment to a shared vision	[9], [64]
<b>3. Inspirational</b> The envisioning process provides a platform to empower others and supplies the social architecture required to achieve the vision	[9], [38], [40], [65]
<b>4. Emotional intelligence</b> When faced with uncertainties, humans overreact. Nonetheless, successful people can override this mechanism and shift their thinking towards a rational direction. This requires emotional intelligence	[9], [47]
<b>5. Perseverance and flexibility</b> In an uncertain world with limited resources, perseverance and flexibility have become critical skills. Perseverance is to believe in the chosen direction and overcoming hardships and stumbling blocks while moving towards set objectives and goals	[9], [12], [40]
<b>6. Focus</b> People who are best at making decisions when facing uncertainties do not waste their time getting stuck on decisions in which the biggest risk is looking foolish in front of their co-workers	[9], [15], [47]
<b>7. Self-confidence and humility</b> Believing in one’s ability and effective leadership go hand in hand. Confident leaders are self-assured in their own judgments, power, and abilities	[9], [12]
<b>8. Communication and listening skills</b> None of the previous dimensions can be achieved without effective communication and listening skills. Effective communication implies the ability to engage in transparent, open, and frequent dialogue with staff members and stakeholders	[9], [12], [38]
<b>9. Intellectual</b> Intellectual stimulation is a leader’s ability in motivating subordinates to discover new ways of accomplishing tasks	[9], [40], [43], [66]
<b>10. Transparency</b> Staying on top of uncertainty is as much about planning for failure as it is about hoping for the best. Experts at handling uncertainties are not hesitant to admit that they could be wrong, and that frees them up to make detailed, rational, and transparent contingency plans before taking action. This also involves disclosing bad news and offering positive and critical feedback to reinforce best behaviours	[9], [47], [67]
<b>11. Enlightened self-interests</b> Valuing interests of stakeholders rather than using people for individual gain and future generation	[68]
<b>12. Long-term orientation</b> Focused on long-term goals and not pressured by parties with different and competing goals	[9], [69]
<b>13. Integrity</b> Demonstrating honesty and other moral values in both personal and professional lives, which stakeholders see as a role model	[9], [39], [69]

### 3. Results and discussion

Findings from the literature review showed that much significant observations have already been established by past researchers. More importantly, this current study revealed that a combination of specific qualities would enable project managers as leaders to be more effective, draw others to them through focused commitment, unite followers to achieve project performance, and inspire team members by making them feel valued. In addition, most influential leaders could motivate their followers through joint identification with the collective goal. Expected leadership qualities of building refurbishment project managers were identified based on the nature

of refurbishment projects, which includes the relationship between project performance and uncertainties. Hence, leadership qualities are considered as crucial dimensions that affect the process of managing uncertainties in refurbishment projects. On the other hand, it was noted that leadership qualities of refurbishment project managers, as a human impact element, was rarely examined in past research by others. Consequently, a knowledge gap was identified. Finally, based on the findings from the literature, a research model is proposed (Figure 1).



**Fig. 1:** Proposed Research Model [46]

Cooper [46] emphasised that a mediation variable explains how or why an independent variable is related to a dependent variable. Exemplified by the question of “how did it work?” the focus is to understand causal chain of events or underlying processes. Furthermore, Cooper [46] presented a critical discussion relating to quality, reliability, and validity, which in turn has evolved to a blueprint for data collection, statistical analysis, measurement, testing, and confirmation stages in similar research work. Thus, this current study extends the scope of existing literature on relationship between project performance and uncertainties, encompassing time, cost, and quality aspects with leadership qualities amongst building refurbishment project managers as a mediator variable.

### 4. Conclusion and future research

This paper has provided an overview of the existing literature, focusing on relationships between uncertainty factors and project performance, with leadership qualities amongst building refurbishment project managers as a mediator variable. 13 leadership qualities associated with uncertainty factors and project performance were identified. Moreover, a knowledge gap was revealed, whereby it was noted that only a few studies have been conducted on leadership qualities among building refurbishment project managers, specifically on the management of uncertainty factors. Nonetheless, further empirical research is recommended to justify and validate the above findings. This study is expected to contribute to new information to the existing body of knowledge (Table 4). The first area of contribution is conceptual, which is a replication of a previous research Rahmat and Ali [20] have completed to clarify the concept of uncertainty factors in building refurbishment projects. The second area is methodological, which is to verify and validate the scale to measure the dimensions of relationship between uncertainty factors and project performance. Furthermore, the methodology can be extended by statistical testing of the mediating effects of leadership qualities amongst building refurbishment project managers. The third area relates to empirical contributions, in which research analysis can be conducted to extend and verify the integrated effect of uncertainties on project performance with leadership qualities of project managers as a mediator. The ability to manage uncertainty factors will enhance project performance and help to monitor cost variances, time variances, and quality. Lastly, future studies can also be conducted to replicate and test the proposed research model.

**Table 4:** Expected Contributions

Areas of Contributions	Level of Contributions		Impact
	Replication	Extension	
<b>Conceptual</b>	Clarify concept of uncertainty factors in building refurbishment projects		Literature Body of knowledge
<b>Methodological</b>	Verify the validity and reliability of	Test the mediating effect of leadership qualities among	Methodology

	scales to measure dimensions of relationship between uncertainties and performance of building refurbishment projects	project managers between uncertainties factors and performance of building refurbishment projects	
<b>Empirical</b>		Verify integrated effect of the following relationships: Project performance and uncertainties factors Leadership qualities of project managers and uncertainty factors Leadership qualities of project managers and building refurbishment project performance	Literature Body of knowledge

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