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# PERFORMANCE OF BUILDING MAINTENANCE IN OPERATION & MANAGEMENT AT COMMERCIAL BUILDING

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**Abstract:** *The aim of this research essentially to study about performance of building maintenance in operation and management at commercial building. There are a few objectives that need to be taken seriously in this research as they actually the core of contribute to business successful. The main objectives in this research are identifying the performance of building maintenance in operation and management, aimed to examine on the operations access by building maintenance management used at commercial building and to recommend an appropriate ways on how to maintain the building to give best service and good environments for publics. This research is conducted at three chosen case study which are at Riverwalk Village, Jalan Ipoh, Kuala Lumpur, Solaris @ Mont Kiara, and Dataran Jelatek, Setiawangsa , Kuala Lumpur. In this research, researcher study about performance of building maintenance management in Malaysia, maintenance management roles and the current scenario, conformity of building image service elements, the importance of building maintenance in a competitive market and also a few elements that related to main objectives. Two methods were used in this research to collect the data, which primary data and secondary data to provide the information. The primary data consist of questionnaire and interview with an operation and management people. For secondary data, the researcher will gather of information that has been directly or indirectly taken from articles, magazines, journal, newspaper, research students and also websites. A properly implementation of maintenance management is able to extend the building life spans and the unnecessary failure of the building element can be avoided. To develop an adequate environment that encourage learning and teaching, maintenance have to be undertaken wisely in the commercial building. However, the awareness of the importance of the building performance in maintenance management is still very low in Malaysia. Thus, the main purpose of this research is to identify about the performance of building maintenance in operation and management at commercial building.*

**Keywords:** *Construction, Commercial Building, Facilities Management, Interior Designer, Maintenance Management*

## Introduction

Nowadays, maintenance management is essential issue in construction and property industries. Investments in building maintenance management are huge all over the world. It reflects almost 50 % of total turnover of construction industry. Maintenance management involves maximum benefit from the investments. It also allows users to be proactively in order to contribute success of business environments during decision making and consider the objective and subjective requirements of users. Maintenance management upkeep property, machinery, system, facilities include building, utility infrastructure, roads, grounds and many more. Maintenance consists all activates necessary to keep facilities and system operational in good working order. It is consists preservation, and not improvements.

Effective maintenance management has significant value on running costs throughout its operation. The other issues of maintenance management are lack of complete system to control and measure maintenance management performance of all the facilities. Maintenance management functions to transform inputs include people, capital, energy, materials and technology into outputs namely goods and services. Maintenance procedures allow for common key performance indicators, which usually represent the operational view of maintenance. However, there is little literature available that covers the development of a systematic approach to performance measurement in maintenance, one that show every aspect of maintenance, namely strategic, tactical and operational (C., G. L., & Summers, A. B. (2009, December). Six functional areas in building maintenance management:

- General and preventive maintenance management
- Key and locks
- Fire and security alarm systems
- Electronic building access control
- Elevator maintenance
- Environmental control systems

Commercial building require maintenance management in order to make more interesting and conducive environments that supports all the stimulates works, selling and business.

## Literature Review

### *Defining success business environments*

Business environment is very important for productivity, image and growth. Business Environments comes in all natures and dimensions, and it differs from employer to employer, industry to industry. It is do not exist by chance neither can it be forcefully implemented. For some, it takes the extraordinary efforts of a great management. Many studies suggest that the most dedicated employees, who demonstrate their commitment to their employers and who lead the business forward, are more productive and create higher customer and public satisfaction. Many managers are finding that a flexible and healthier work environment significantly cuts down problems in any business. If appropriate accountability systems are in place, a flexible work environment has the potential to be more favorable, not only for the whole profitability of the business, but for the better customer service as well (B. Tayyab. 2005). A company must identify what actually motivates, provokes and engages associates at every business. People lean towards more productivity when they are in success environment

that makes them feel valued and gives them a sense of ownership, where they are rewarded for their roles. There are three major ingredients needed for a productive business environment. First, the setting positive and does it reflect business values. Secondly, A business setting where can block off time if necessary, hold meetings in a comfortable environment and just feel good about creates the impression of a successful business. Thirdly is an environmental friendly. Nowadays, noticing more and more attention being focused towards a climate that pays attention to air quality, cleanliness and order. This commitment to the environment also includes emergency preparedness and a solid commitment to business policies (Correia, P. I. 2001).

***Defining maintenance management***

Within the context of this policy, maintenance can be defined as a work on existing buildings undertaken with the intention of:

- Re-instating physical condition to a specified standard
- Preventing further deterioration or failure
- Restoring correct operation within specified parameters
- Replacing components at the end of their useful/economic life with modern engineering equivalents
- Making temporary repairs for immediate health, safety and security reasons (e.g. after a major building failure)
- Mitigation of the consequences of a natural disaster
- Assessing buildings for maintenance requirements (e.g. to obtain accurate and objective knowledge of physical and operating condition, including risk and financial impact for the purpose of maintenance).

***Importance of building maintenance***

The importance of an effective maintenance management cannot be overlooked because it plays such an important role in the effectiveness of successful business. Generally there are countless of reasons why building maintenance is important, which are (Campbell, T. 2011, October).

***Providing means for income***

Building maintenance provide individual earn cash. People will work with numerous professionals that will work on different job areas available in building. Some works allow income which area plumbing works include repair and maintenance, electrical features, machinery, masonry, heating, cooling system, cleaning, or painting. This means as long as there are have buildings, there also have lots of jobs available which will allow cash to flow. In fact it is not only help family but also help entire economy of the city and country (Campbell, T. 2011, October).

***Allows business industry to expand***

With good building maintenance, it will helps to preserve property which means various business opportunities available on the line. We all know that preserves and well maintained building can generate lot of business to all entrepreneurs. It also a fact that most business transaction done in premises as long as the building are available, maintenance will exist and business opportunities would generate big amount of cash (Campbell, T. 2011, October).

***Building maintenance will help preserve what has been handed down***

Proper building maintenance will allow building owners to preserve their properties. So while we have our inheritance, we also need to care of it, as well as give opportunities to other individuals or business owners (Campbell, T. 2011, October).

***Performance Measurement and Maintenance Productivity***

Performance measurement (PM) and maintenance productivity needs information of maintenance performance for planning and controlling the maintenance process. The information needs to focus in the effectiveness and efficiency of maintenance process. It is activates, organization, cooperation and coordination with her organization. PM has involved of researchers and managers from the industry since 1990. Its concepts and frameworks are outdated today as need to modify follow today requirements. Some of the concept used in defining maintenance is unclear regarding what to measure align maintenance performance with objectives and strategies (Mike, K., & Neely, A. 2003).

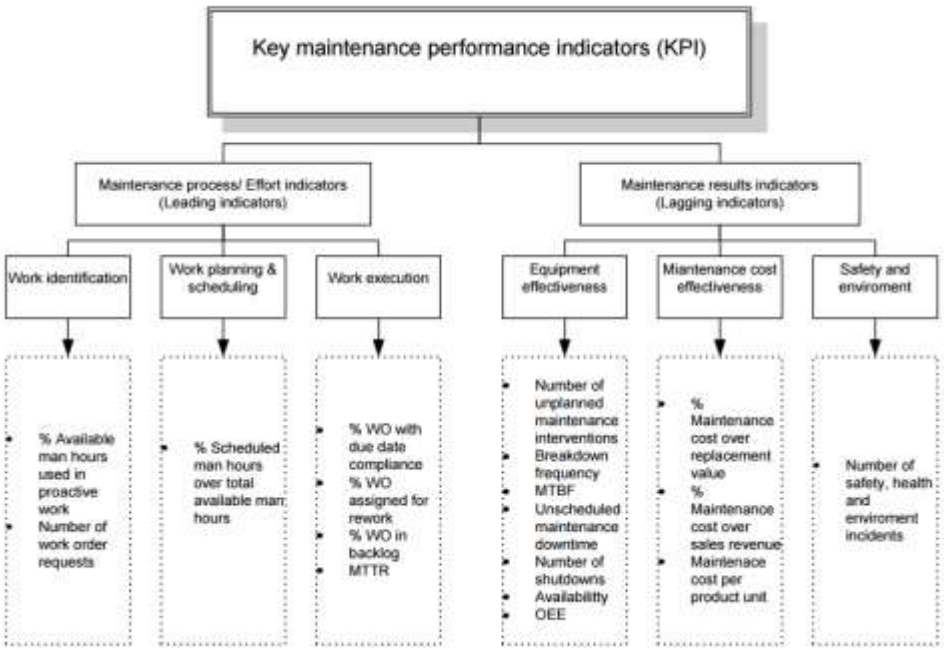



**Table 1: Key performance indicator in maintenance management**

(Source: Aditya, P., & Kumar, U. 2009).

***Maintenance Performance Measurements (MPM)***

Maintenance Performance Measurement (MPM) is defined as the multidisciplinary process of measuring and justifying the value created by maintenance investment, and taking care of the organization's stockholder's requirements viewed strategically from the overall business perspective. The MPM concept adopts the PM system, which is used for strategic and day to day running of the organization, planning, control and implementing improvements including monitoring and changes. PM is a means to measure the implementing strategies and policies of the management of the organization, which is the characteristic of MPM. Key performance indicator (KPI) is to be defined for each element of a strategic plan, which can break down to the KPI at the basic shop floor or functional level. MPM linked to performance trends can be utilized to identify business processes, areas, departments and so on, that needs to be improved to achieve the organizational goals. Each organization is required to monitor and evaluate the

need for performance improvement of the system. Thus, MPM forms a solid foundation for deciding where improvements are most pertinent at any given time.

MPM can be effectively utilized for the improvement and the process evaluation and MPM data can also be used as a marketing tool, by providing information, like; quality and delivery time. MPM is also used as a basis for bench marking, in comparison to other organizations. MPM needs to be balanced from both financial and non-financial measures. Thus, MPM framework can be used for different purposes:

- A strategic planning tool
- A management reporting tool
- An operational control and monitoring tool
- A change management support tool (Aditya, P., & Kumar, U. (2009).

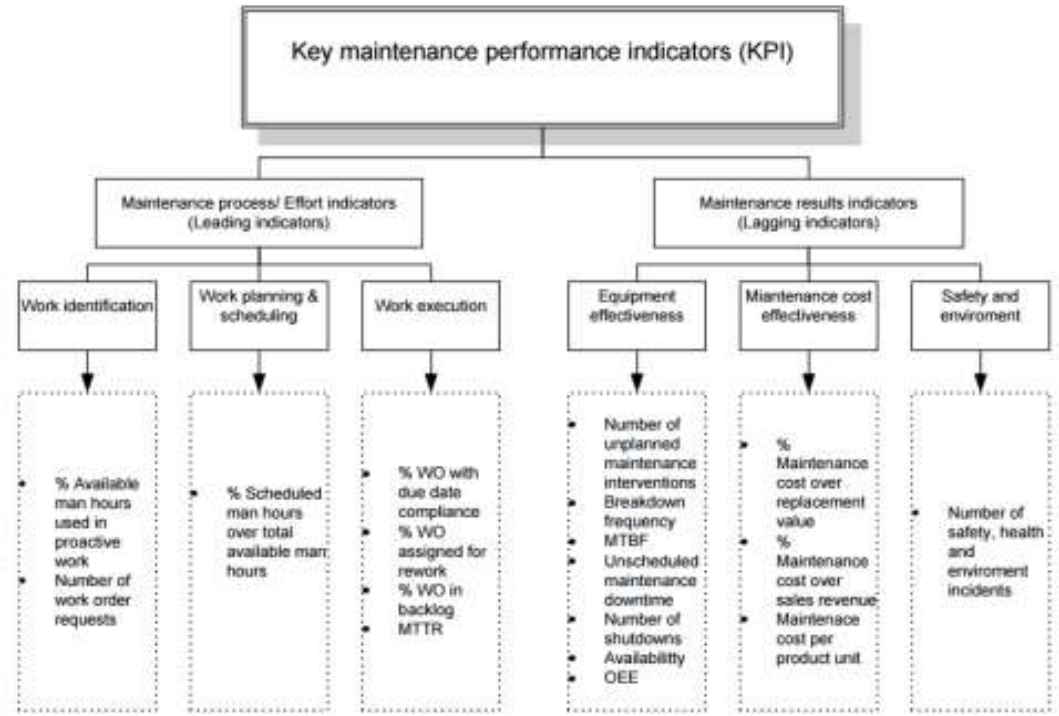



**Table 2: Key performance indicator in maintenance management**
(Sources: Aditya, P., & Kumar, U. 2009).

***Building Services Characteristics by Building Maintenance Management***

Functional as one of the main aspects of maintenance management systems comprises of five service elements that are the service characteristics namely tangibles, reliability, and responsiveness (Myeda, N. E., Syahrul, N., & Michael, P. 2011).

Functional service characteristics conformity of service elements are tangibles, reliability and responsiveness. An overview of the scenario maintenance management towards commercial buildings in Malaysia particularly focuses on the development of maintenance and also performance measurement systems. The services are cleaning, landscaping, lighting, air-condition, lift/ escalator, mechanical / electrical, general maintenance, sanitary, plumbing, access, signage, parking, safety and security. This work has shown that benchmarking or assessment on the performance of maintenance management is very important as it enables the

maintenance managers to comprehend the strengths, weaknesses and also significance of the service provided and also both tangible and intangible values of the building. Indirectly, maintenance managers can identify any probable threats or risks of their services. Concurrently, the establishment of maintenance management performance levels is beneficial for the maintenance managers to implement immediate actions to improve the performance.

It also serves as a signal that a major transformation is highly required to enhance the quality of performance. The positive relationship also ascertains that the implementation standard of maintenance management systems determines the performance of maintenance management systems. At the same time, the difference shown in the priorities of maintenance management service elements signifies that a strong emphasis on users needs and requirements is required from maintenance managers. Below is external and internal image conformity of service elements.

***Flow of Research***

***Primary Data Collection and Measurements***

There are two sources in obtaining the data need for this research, there are primary data which consisting information received by the researcher on variables of interest for the specific purpose of the study and the secondary data which consist of information gathered from sources already exist such as literature review. The researcher will do some measurements methods, which are interview with an experts on operation and management people and also questionnaires to selected visitors and staffs who came to this commercial building. The method used are questionnaires, Questionnaire Reliability, Pilot study, Semi-structured Question interview with Operation/ management people, and sampling process. Secondary data is gathered from multiple sources to strengthen the researcher knowledge about this research. It consists of information that has been directly or indirectly taken from books, articles from magazines, journal, newspaper cutting, and also websites and discussion with supervisor. The research process was also designed to provide a clear view regarding the steps and research instruments needed. This acts as a precursor for the next step of the research, which was the actual process of obtaining the data through the research methods.

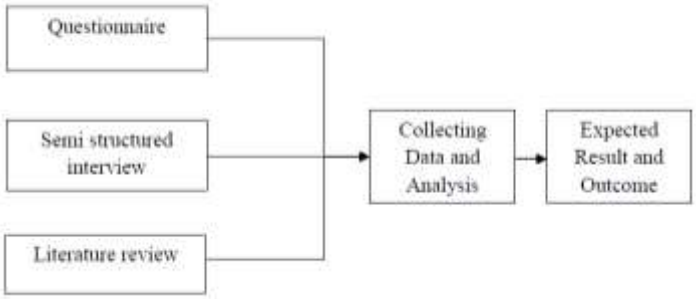



**Table 3: Flow chart for data collection and processing**

(Source: Nuratirah, S. 2016)

***Case Study Analysis***

***Case Study 1: Riverwalk Village, Jalan Ipoh***

Riverwalk Village Area, Jalan Ipoh, KL located along Jalan Ipoh, it is a Village style concept sprawling over 9 acres of land and situated within 5-10 mins proximity of Kenny Hills, Sri Hartamas, Sentul East and West. It is also surrounded by prominent landmarks such as KL Pac and set to be an EDUHUB. Currently at about 86% occupancy and gradually increasing AEON Big a Superstore is an anchor tenant. It also inclusive of 4 block office building, shop lots,

concept retail units, banks, restaurants, saloon, cafe, 4-storey mall attached with indoor carpark, and River City Condominium.

**Figure 1: Street view of Riverwalk Village, Jalan Ipoh**

(Source: Nuratirah, S. 2016)

***Case Study 2: Solaris @ Mont Kiara***

Solaris Mont Kiara (also known as Solaris @ Mont Kiara) is a commercial shop cum office development nestled in the posh Mont area. It is designed as a self-contained urban centre where one can live, work and play. Solaris Mont Kiara sits on a 12.71-acre piece of freehold land. Phase 1 of the development comprises of 3- to 5-storey shop offices that house a total of 79 units. Each unit is built with dimensions ranging from 24 sqft to 26 sqft widths and 70 sqft to 75 sqft depths. Phase 2 of Solaris Mont Kiara comprises of 3 towers of 8- to 10- storey office suites sitting on top of a two - storey retail podium housing 76 retail lots of 595 sqft to 17,742 sqft. It also comprises of a 4-storey basement car park. This modern commercial development features security features, MATV cable-ready, and internet broadband and WiFi connections, offices, banks, shoplots, restaurants, business lounge, parking, training room, toilets, and guard house. The Second phase development is marketed and popularly known as SohoKL, an entertainment and dining plaza engineered for urbanites and socialites. There are plenty of clubs, bars, pubs and chic restaurants resides in it, including Schokolart, Michelangelo's

Restorante & Bar M, Dubrovnik, Raw bar & Murmur Lounge, Afterhour, My Beauty Cottage and Envy Club. Besides F&B outlets, it has Cold Storage supermarket as its anchor tenant. Other big tenants residing in Solaris Mont Kiara are Raffles Furnishings, G.D.O Lighting + Furniture @ Desigva and Cre8 Records.

**Figure 2: Street View at Solaris @ Mont Kiara**

(Source: Nuratirah, S. 2016)

***Case Study 3: Dataran Jelatek, Setiawangsa, Kl.***

Situated at Jalan Jelatek. Next to Seri Maya Condominium & Kampung Warisan Condominium. 10 adjoining shop-lot with 2 level basement carpark. Freehold with 34,240 sf land. fully tenanted with 150k rental return Prime Area, near to Kuala Lumpur Town Area. The Setiawangsa LRT station is just opposite. Comprises of 10 shop-lots fully tenanted such as Saba Restaurant, yogurts, offices, shoplots, restaurants, parking, food courts, toilets, surau and guard house.

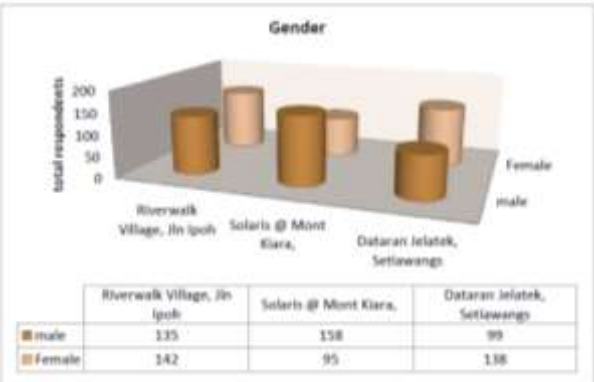
**Figure 3: Street View at Dataran Jelatek, Setiawangsa, KL**

(Source: Nuratirah, S. 2016)

**Findings on Respondents Return (Questionnaire Survey to Public)**

**Data Analysis for Section A (Demographic Information)**

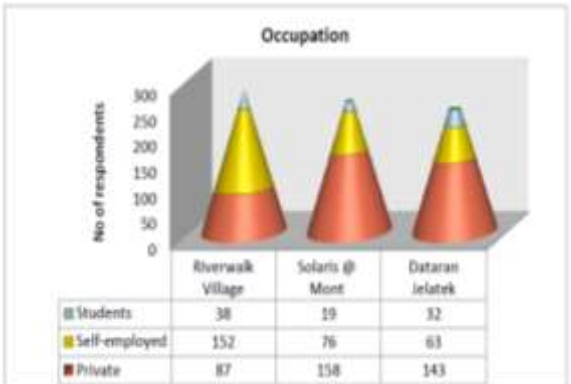
Nine hundreds (900) sets of the questionnaire were distributed to three case study building during conducting the survey and only 768 questionnaires have been answered. Out of eight hundred fifteen (815) respondents, two hundred seventy seven (277) respondents gather at Riverwalk Village, Jalan Ipoh, another two hundred fifty three (253) is from respondent at Solaris @ Mont Kiara, and another two hundred thirty eight (238) is from respondent at Dataran Jelatek, Setiawangsa, KL.




| | Riverwalk Village, Jln Ipoh | Solaris @ Mont Kiara, | Dataran Jelatek, Setiawangs |
|---|---|---|---|
| male | 135 | 158 | 99 |
| Female | 142 | 95 | 138 |

**Figure 4: Gender of respondents**

(Source: Nuratirah, S. 2016)




| | Riverwalk Village | Solaris @ Mont | Dataran Jelatek |
|---|---|---|---|
| Students | 38 | 19 | 32 |
| Self-employed | 152 | 76 | 63 |
| Private | 87 | 158 | 143 |

**Figure 4: Gender of respondents**

(Source: Nuratirah, S. 2016)

**Data Analysis for Section B (Visitor Info about Case Study Building)**

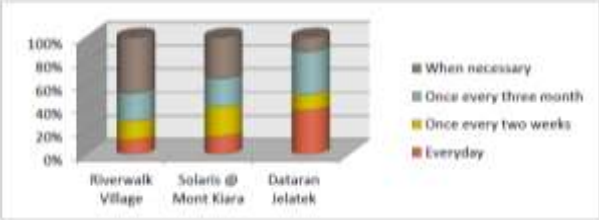



**Figure 5: Frequency of respondents went to case study building**

(Source: Nuratirah, S. 2016)


**Figure 6: Purpose respondents went to case study building**

(Source: Nuratirah, S. 2016)

## Data Analysis for Section C: Maintenance Aspects (Building Condition Performance)

Section C of the questionnaire is to determine the level of mean score and frequency that use Likert scale from the Dissatisfied=1, Less satisfied=2, Neutral=3, Very satisfied=4, extremely satisfied=5. The respondents answered by tick based on they expressed their satisfaction. Table and figure below show the result satisfaction on the criteria of building's condition at three case study building.

| | Dissatisfied | Less satisfied | Neutral | Very satisfied | Extremely satisfied | Total respondents | Average index mean | Indicator |
|---|---|---|---|---|---|---|---|---|
| Cleaning | 23 | 15 | 152 | 68 | 19 | 277 | 3.16 | Neutral |
| Landscaping | 23 | 10 | 143 | 77 | 24 | 277 | 3.25 | Neutral |
| Air conditioning | 36 | 105 | 71 | 62 | 3 | 277 | 2.60 | Neutral |
| Lift / escalators | 6 | 56 | 97 | 65 | 53 | 277 | 3.37 | Neutral |
| M&e | 27 | 13 | 167 | 25 | 45 | 277 | 3.20 | Neutral |
| Sanitary /plumbing | 45 | 25 | 62 | 85 | 60 | 277 | 3.32 | Neutral |
| Access | 44 | 31 | 49 | 56 | 97 | 277 | 3.01 | Neutral |
| Signage | 32 | 54 | 105 | 51 | 35 | 277 | 3.01 | Neutral |
| Parking | 23 | 17 | 87 | 63 | 87 | 277 | 3.63 | Very satisfied |
| Safety / security | 14 | 42 | 167 | 24 | 30 | 277 | 3.05 | Neutral |
| Painting | 21 | 28 | 89 | 74 | 65 | 277 | 3.48 | Very satisfied |
| Public toilet | 67 | 55 | 75 | 56 | 24 | 277 | 2.69 | Neutral |
| Surau | 65 | 74 | 67 | 46 | 25 | 277 | 2.61 | Neutral |
| External finishes | 67 | 21 | 35 | 41 | 113 | 277 | 3.40 | Neutral |
| Internal finishes | 25 | 52 | 75 | 68 | 57 | 277 | 3.29 | Neutral |

**Figure 7: Building condition performance at Riverwalk Village, Jalan Ipoh**

(Source: Nuratirah, S. 2016)

| | Dissatisfied | Less satisfied | Neutral | Very satisfied | Extremely satisfied | Total | Avera ge index (mean) | Indicator |
|---|---|---|---|---|---|---|---|---|
| Cleaning | 23 | 17 | 87 | 63 | 87 | 253 | 3.98 | Very satisfied |
| Landscaping | 14 | 42 | 167 | 24 | 30 | 253 | 3.37 | Neutral |
| Air conditioning | 21 | 28 | 89 | 74 | 65 | 253 | 3.81 | Very satisfied |
| Lift / escalators | 67 | 55 | 75 | 56 | 24 | 253 | 3.06 | Neutral |
| M&e | 65 | 74 | 67 | 46 | 25 | 253 | 2.81 | Neutral |
| Sanitary /plumbing | 67 | 21 | 35 | 41 | 113 | 253 | 3.72 | Very satisfied |
| Access | 25 | 52 | 75 | 68 | 57 | 253 | 3.60 | Very satisfied |
| Signage | 23 | 15 | 152 | 68 | 19 | 253 | 3.46 | Neutral |
| Parking | 23 | 10 | 143 | 77 | 24 | 253 | 3.66 | Very satisfied |
| Safety / security | 36 | 105 | 71 | 62 | 3 | 253 | 2.85 | Neutral |
| Painting | 6 | 56 | 97 | 65 | 53 | 253 | 3.69 | Very satisfied |
| Public toilet | 27 | 13 | 167 | 25 | 45 | 253 | 3.47 | Neutral |
| Surau | 45 | 25 | 62 | 85 | 60 | 253 | 3.64 | Very satisfied |
| External finishes | 44 | 31 | 49 | 56 | 97 | 253 | 3.80 | Very satisfied |
| Internal finishes. | 32 | 54 | 105 | 51 | 35 | 253 | 3.30 | Neutral |

**Figure 8: Building condition performance at Solaris @ Mont Kiara**
(Source: Nuratirah, S. 2016)

| | Dissatisfied | Less satisfied | Neutral | Very satisfied | Extremely satisfied | Total | Average index (mean) | Indicator |
|---|---|---|---|---|---|---|---|---|
| Cleaning | 23 | 152 | 15 | 68 | 19 | 238 | 3.10 | Neutral |
| Landscaping | 23 | 143 | 10 | 77 | 24 | 238 | 3.22 | Neutral |
| Air conditioning | 14 | 167 | 105 | 24 | 30 | 238 | 3.82 | Very satisfied |
| Lift / escalators | 21 | 89 | 56 | 74 | 65 | 238 | 4.15 | Very satisfied |
| M&e | 67 | 75 | 13 | 56 | 24 | 238 | 2.52 | Neutral |
| Sanitary /plumbing | 65 | 67 | 25 | 46 | 25 | 238 | 2.45 | Less satisfied |
| Access | 67 | 35 | 31 | 41 | 113 | 238 | 4.03 | Very satisfied |
| Signage | 27 | 167 | 54 | 25 | 45 | 238 | 3.56 | Very satisfied |
| Parking | 45 | 62 | 17 | 85 | 60 | 238 | 3.60 | Very satisfied |
| Safety / security | 44 | 49 | 42 | 56 | 97 | 238 | 3.46 | Neutral |
| Painting | 32 | 105 | 28 | 51 | 35 | 238 | 3.66 | Very satisfied |
| Public toilet | 23 | 87 | 55 | 63 | 87 | 238 | 2.85 | Neutral |
| Surau | 36 | 71 | 74 | 62 | 3 | 238 | 2.96 | Neutral |
| External finishes | 6 | 97 | 21 | 65 | 53 | 238 | 2.94 | Neutral |
| Internal finishes. | 27 | 167 | 52 | 25 | 45 | 238 | 3.53 | Very satisfied |

**Figure 9: Building condition performance at Dataran Jelatek, Setiawangsa**
(Source: Nuratirah, S. 2016)

**Data Analysis for Section D: Maintenance Aspects (Planning & Management)**

**Building Maintenance aspects worst and not well maintained based building condition performance at Section C.**

Based on the building condition performance at Section C, at Riverwalk Village, the maintenance aspects worst and not well maintained are hygiene in public toilets at this building and hygiene and amenities provided at surau. At Solaris @ Mont Kiara parking facilities that have been provided, hygiene in public toilets at this building, safety in this area and landscape condition are the worst and not well maintained. While at Dataran Jelatek, cleanliness at all area of commercial building, air Cond condition at this building, parking facilities that have been provided, and signage display at this building are the most building elements are the worst and not well maintained.

**Summary of Finding**

The first objective of this research is to identifying satisfaction level towards the performance of building maintenance at commercial building. Investigations on the maintenance management system and performance of maintenance management are accomplished. The findings suggest that in general the common maintenance management systems applied for commercial building comprises of three major aspects namely functional, technical and image.

Based on findings and average index, researcher can identify at Riverwalk Village area, maintaining the hygiene in public toilets at this building and hygiene and amenities provided at surau are the most problem and uncontrolled. At Solaris @ Mont Kiara, cleanliness at all area of commercial building and air Cond condition at this building is the most critical. While at Dataran Jelatek, the most problem building aspects are lift and escalators condition and transportation access.

The second objective is aimed to examine on the operations and management practice by building maintenance management at commercial building. This is because operation access is one of the main factors affecting the business to success. Throughout the building's life cycle, operations and maintenance should seek to:

- Train building occupants, facilities managers, and maintenance staff in design principles and methods that will minimize system failures
- Purchase cleaning products and supplies that are resource-efficient, and safer for both janitorial staff and building occupants
- Test sensor control points on a regular basis to ensure energy efficiency is not compromised
- controls for energy, water, waste, temperature, moisture, and ventilation
- Reduce waste through source reduction and recycling
- Minimize travel by supporting telecommuting programs and enabling a mobile work environment
- Perform scheduled energy audits and re-commissioning of systems
- When updating a facility or its systems, choose higher efficiency equipment, durable materials that will withstand damage and other natural events,
- Improve the tightness of the building envelope if feasible

The third objective is to recommend an appropriate ways on how to maintain the building to give best service and good environments for publics. Each of experts at case study commercial building explained that operation and maintenance need to measures their maintenance performance in order to remain competitive and cost effective in business. For improving

maintenance productivity, it is essential that a structural audit is carried out, in which the following factors are evaluated. There are Labor productivity, Organization staffing and policy, Management training, Planner training, Technical training, Motivation, Management control and budget, Work order planning and scheduling, Facilities, Stores, material and tool control, Preventive maintenance and equipment history, Engineering and condition monitoring, Work measurement and incentives and Information system.

**Recommendation**

It is strongly advised that maintenance managers should value the comments from users or public in evaluating the performance of maintenance services. Consultations with the end users should be a mechanism to establish a proactive management process. Maintenance managers must also consider implementing a continuous benchmarking or assessments on the services provided and subsequently focus on any critical issues. A thorough analysis on the implementation of all maintenance services and respective subcontractors helps to identify the weaknesses and criteria that need to be improved. Besides, it is highly recommended that a maintenance management guideline is provided to standardize the maintenance standard practiced to building maintenance managers, maintenance staffs, cleaner, guards, and also security. on a larger scale, the implications of maintenance management failure, cost analysis of maintenance management, performance measurement assessment on all classes of residential housing and public buildings and a proposal on maintenance management statutory acts. Facilities managers have the responsibility to save money and conserve energy. At the same time, these managers face the pressures of hearing complaints about the comforts of the building and maintenance issues from tenants. Sometimes these responsibilities and pressures are in conflict with each other. Having a facility maintenance team that can be trusted to control costs and maintain your building can help both of these issues. Damages can be spotted quickly and preventative maintenance can be performed to ward off potential high dollar repairs caused by unforeseen issues. Timely repairs and regular upkeep reduces tenant complaints, thus increasing satisfaction. Plus, having a regularly contracted facility maintenance company on call saves time searching for a technician to complete your task and worrying if the job will be handled correctly and in a cost effective manner. However, effort from all parties including the management, staffs, and publics are important so that they can take a good care and maintain all the facilities provided towards maintaining good performance of maintenance management.

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