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Value Management Awareness by Practitioners In Real Estate Development Process

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ABSTRACT

The application of a method in real estate development process is needed in order to ensure the project runs smoothly. There are methods that can increase the value of the project and even discard the unnecessary cost of the project called value management. Many practitioners of real estate development in Surabaya claim that they always apply value management method. However, based on empirical data, it is known that not much research of value management in Surabaya. The purpose of this paper is to determine value management awareness of real estate development practitioners in Surabaya. Statistic descriptive analysis is used to achieve the research objectives. Results of research in this paper are real estate development practitioners' awareness of value management and the level of application of practitioners in Surabaya on value management.

Keywords: awareness, practitioners, real estate development, value management

1. Introduction

Value management is the name given to a process in which the functional benefits of a project are made explicit and judged to be consistent with the value system specified by the client [1]. The VM method is needed in a project because stake holder in the project has a variety of disciplines, and the VM method helps everyone to find the same thinking about the project by achieving the highest value that can be achieved in the project.

Thus, real estate development stages that examined in this study consists of project briefing stage, the feasibility study stage, conceptual design stage, detailed design stage, design production stage, contract stage, and construction stage [2]. [3] states that value management is one of the design decisions in construction methodology, involving multi-discipline, collaborative and teamwork. [4] Described that building systems is not the only aspect that need to be considered in building design. The impact of building to sustainability as whole system of built environment is another important factor, and [5] said that implementation of sustainability concept in a project development causes a building design into complexities, and it causes the need to involve multiple experts to accomplish the design.

2. Material and Methods

Method of analysis that is used in this study is statistic descriptive analysis. The sample taking and respondent determination are

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applied by a purposive sampling followed by snowball sampling. Data collection techniques use a survey by distributing the questionnaires, the respondents are managers and above in real estate developers. The range of work to examine the VM is quite extensive, it could be from the engineers to the director, but the range of perception of engineers and directors are so far, so as to minimize the perception range, the researchers chose the manager to managing director as the respondent to represent the population. It is also due to the manager and above who know about all stages of the real estate development process.

2.1. Real Estate Development

The stages of the real estate development project are the briefing phase, design phase, contract phase, construction phase, reciprocal stage and settlement stage [6]. According to [7] phase of real estate development projects are considered to be the compilers of the entire project life cycle that is feasibility and planning, detailed design, procurement, construction, operation and maintenance. But [6] also stated that the real estate development stage is good for the use of the value management approach from the briefing stage to the construction phase and according to [8] the design phase has 3 phases, the conceptual phase of design, details of the design and production phase of the design. Thus, the real estate development stage studied in this research consists of the project briefing phase, feasibility study phase, conceptual design stage, design detail phase, design production stage, contract phase, and construction phase.

The briefing stage is the initial stage of the development of real estate, which means consisting of the stage of idea generation to the deepening of ideas. The briefing stage is the stage where there is a process of identifying and defining the requirements of the client organization in the initial design of the construction project stage [6]. At this stage consists of inception of an idea and Refinement of the idea [9]. At the time of idea generation, developers look for opportunities and estimate how to make the idea that can trigger the maximum benefit possible. At this stage, the developer has conducted market analysis and generated ideas through decision-making strategies from the market research results [9][10]. During the refinement of the idea, developers have decided to develop and decide on the type of real estate, such as retail, apartment, office, or mixed-use. At this stage developers begin to establish relationships with real estate project partners. If it turns out the type of project or land sought is not feasible (no benefit) according to the developer, then the developer must re-spark a new idea that is more promising. However, if as expected, developers can begin to conduct a feasibility study of the project.

The feasibility study phase aims to convince the project owner that the proposed construction project is feasible to build, both from planning and design aspects, economic aspects (cost and source of funding), as well as environmental aspects [9].

The next stage is the conceptual design, this is the stage in which many participants are involved, for example, they are the owner, the specification specialist, the architect, the civil engineer, the ME engineer, they are together to generate the idea by describing the needs and requirements in the functional specifications and then found several alternative design

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solutions so that the designs are able to produce the design which is optimal and appropriate to the needs [8][11].

The design detail stage is the stage that consists of drawing the design detail, preparing the technical specifications, preparing the budget plan, preparing the volume or quantity of work and making the final report. Almost all participants in the project are involved at this stage, such as owner, architect, civil engineer, ME engineer and interior designer. This stage usually produces documents or shop drawing, cost budget plan documents and detailed analysis of technical specifications, work plan documents and terms and engineering calculations.

At the contract stage, [9] recounted that the developer decides on the final design based on the study of what the user wants and how much they want to pay. Contracts are negotiated, requests for loan funds are submitted, major contractors are selected, and government permits are also included. All such contracts, construction contracts, borrowings, and other contracts are signed. At this stage, design changes, marketing has been established and implemented [1]. So this is the last stage that value management method can be done effectively, as value management, not as value engineering, because this method tries to increase the value, not to decrease the cost.

2.2. Value Management

[12] stated that value management can add improvements to the entire construction process, including improving project schedules, obtaining higher project quality, saving material or product costs, cost savings or design schedules, and resulting in efficient maintenance and operating systems.

[13] stated that in value management, decision-making can be improved by using a team approach. Everyone has an opinion about what affects the value of a product. Often, decisions are made by one dominant person, who base choices on only one criterion, such as cost, quality, or reliability [1]. The decisions made by one dominant person will not be better than the decision determined by the team. A decision that improves quality but increases costs to the point where the product is no longer valuable and becomes unacceptable as one way of reducing costs at the expense of quality or performance required. It is important to avoid confusion between cost and value. Value management is viewed as a process involving multiple disciplines and teamwork efforts, hence, negotiation becomes an important role in the value-based decision-making process of a component or building element or system and a support system is required for negotiation in value-based decisions on the value management process. The larger and complex a construction project is developed, the more it involves the various parties who exchange ideas, desires, needed and concept design through design collaboration [5]. The collaborative design was developed with the main objective to facilitate the integration of multiple participants in the design process to produce the best design. For research aimed at real estate development, the value management process at the design stage is very important, one of which is design collaboration. Research in collaborative design mainly deals with achieving success.

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There are three main values management methodologies: work plan (job plan), function analysis with Function Analysis System Technique (FAST), and Life Cycle Cost (LCC) [2]. The term life cycle cost means a process to evaluate the total economic value of the project segment can be used by analyzing the initial cost and discounted future cost, such as maintenance, user costs, reconstruction, rehabilitation, recovering, and re-lining costs from project segments [3].

[1] mentioned that the value management process consists of three phases, namely the orientation and diagnostic phase, the workshop phase, and the implementation phase. In the three phases, there are eight stages of the value management process, namely pre-study information stage, information stage, creativity phase, evaluation phase, development stage, action plan stage, recommendation stage and the last is the implementation stage, as shown in Figure 1. The Stages of Value Management Process

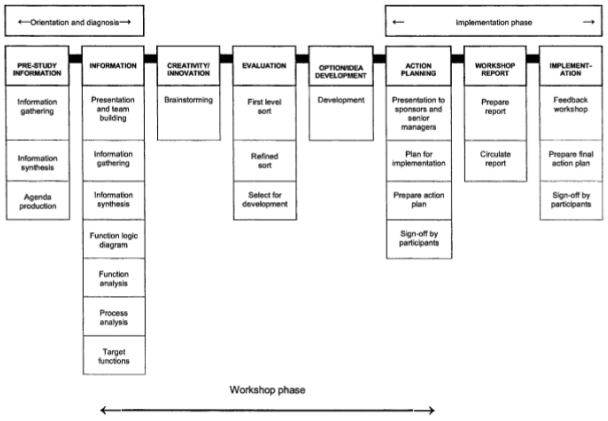

Figure 1: The Stages of Value Management Process
Source: Kelly, Male and Graham, 2004

[14] mentions that there are seven phases of value management, although it is also said that there are some who use different methodologies on value management, but generally include seven phases or seven phases, namely information phase, objective phase, functional analysis phase, creativity phase, the evaluation phase, the development phase, and the last is the recommendation phase. While [15] concluded that the value management process consists of information phase to find facts, analysis phase to evaluate information, creativity phase to explore alternative, electoral phase as the determination stage, and last is development phase as a form of implementation of plans that have been made.

2.3. Value Engineering

Value engineering is part of value management. Value management has a business focus and is strategic while value engineering, part of value management, has a greater technical focus, in the context of the focus of the construction industry.

[16] said that the relationship between the value management process and the project's value objectives is the security of personnel and facilities, the maintenance of safety and health; safety and health of construction; regulatory compliance; cost efficiency of capital; efficiency of operating costs; efficiency of maintenance costs associated with the reliability of the operation of the facility; quality of project/service, focusing on client satisfaction with the final product or project; quality of construction; schedule optimization, related to timely completion of projects with optimized resource allocation; environmental protection; and risk prevention and uncertainty.

Value management is defined as the process by which the functional benefits of the project are made explicit and judged to be

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consistent with the value system specified by the client. While value engineering is the process of making the client's explicit functional benefits needed from the whole or part of a project at the right cost during design and construction, or it can also be called the process of identifying and eliminating unnecessary costs during design and construction [17].

The construction project is part of the real estate development process, starting from designing the design to the construction or realizing the real estate design into a real estate building. [7] wrote that the process of value management by the context of the primary application at the planning stage is to classify the facilities and quality of construction, design on capacity, conceptual development, modeling, pre-project, process delivery process simplification process, project implementation plan, project schedule optimization, sustainable construction and design, waste prevention and minimizing pollution.

2.4. Value Management in Real Estate Development

The phase of value management consists of three, namely the orientation and diagnostic phases, the workshop phase, and the implementation phases consisting of delpan stages starting from the pre-study information to the implentation stage [1][14]. Value management uses creative problem-solving techniques, to evaluate project decisions strictly. The stages of value management are applied to the development of real estate consisting of the stage of ideas (briefing) until the construction phase.

The role of value management at each stage of the development of real estate design is to identify the project tasks, needs and desires of the client in this case are the developers expressed in the form of function to produce the optimal design so that the project can be technically and functionally assessed at the beginning of the project and design stage to identify and eliminate unnecessary costs during design through construction. It is shown at Figure 2. Value Management Method on Real Estate Development.

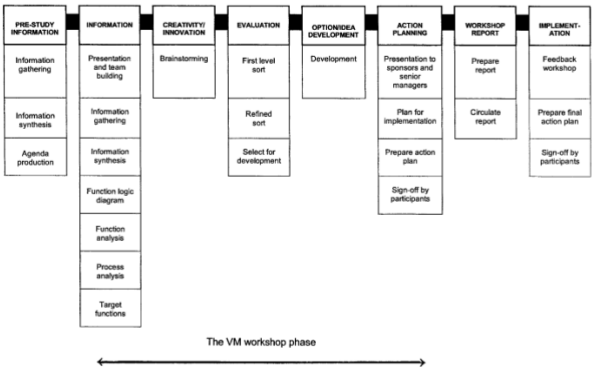

Figure 2. Value Management Method on Real Estate Development
Resource: Kelly, Male and Graham, 2004

[18] also stated that the time or opportunity for the implementation of value management is very important. They should be closely tied to the key stages in project development if they provide the best opportunity to identify challenging key design needs and decisions before they are created. As an important decision affecting the value of projects taken at the beginning of the project, the most useful value management is implemented in the early stages of project development [7][17][18].

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Good opportunity to apply value management is usually during the concept or briefing stage, to help identify the needs, objectives, and key constraints of a project. During the feasibility and design concepts, to evaluate the project approach or initial design. During the design scheme, to evaluate the development of the design proposal. During the design details, to evaluate the design proposal.

Figure 3. Opportunity Points for Value Management Workshop.
Source: Connaughton and Green, 1996

It does not mean that all of the projects follow this pattern. The scale and complexity of the project that determines the number of workshops (the implementation form of value management), and when value management should indeed be held. However, the client must identify the key decision points so that the workshop can be planned in advance at the beginning of the project. Advice from value management experts will be needed to do this, and to organize and manage the workshop [18].

The purpose of applying value management on real estate development is described in Figure 4. Value Management Intention When the Project Objectives is Ambiguous and not Shared by Stake Holders.

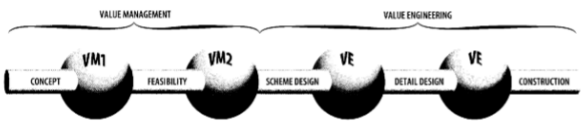

Figure 4. Value Management Intention When the Project Objectives is Ambiguous and not Shared by Stake Holders
Source: Connaughton and Green, 1996

VM1 which means the value management process implemented at the beginning of the real estate development stage and the process is the same as the general process of value management, its purpose is to determine the project objectives based on the stakeholder or multidisciplinary decision with the negotiation process [6][18]. If value management is applied to the feasibility study stage and conceptual design stage, then the stage of the value management process undertaken is to set the project objectives first then calculate the reconciliation of costs or values to increase the value of the project [18]. The new value management applied in the design detail to the construction phase aims to reduce unnecessary or commonly known value to value engineering [1][18].

There are several concepts that explain the participants needed in implementing the value management process. [18] explain that participants in the value-management process may vary, depending on the objectives and needs of the project, so it is not uncommon for different companies, as well as participants of the value management process. As stated by the Value Management Guideline by the Strategic Asset Management Framework at 2010, the value management study usually requires participatory workshops involving a group of multidisciplinary representatives of people working together and following a defined work plan.

[3] Explains that participating groups in the value-management process may be value-management facilitators, project managers, architects, landscape architects, civil engineers, cost estimators, facility operators, operations and housing workers. Furthermore, it discusses

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that participants of the value management process include the facilitator and his group if needed, clients, owners, designers, directors and managers, and contractors. Similarly, [18] that it could be a value-management process participant is a value management facilitator, client representative or key stakeholder of the project, project manager, architect, structural engineer, service engineer, quantity surveyor, construction adviser, main contractor, specialist contractor, value management facilitator. From all the above research it is known that participants in the value-management process should at least consist of clients or owners or client representatives, project executors and designers including those who are directors and managers.

Some of the benefits of value management are, addressing the complexity of the design, facilitating the integration of participants in the design process, producing the best designs, and coordinating the design process mentioned by [5], raising good image and aesthetics [19], improving communication and teamwork as well as shared understanding among key participants [18] is a benefit generated by the application of collaborative designs that are one application of the value management method.

3. Results and Discussions

The interest and application of value management by practitioners is shaped by knowledge and willingness, as stated by [1] adapted from Value for Europe: Training and Certification System Manual that awareness arises when having knowledge or information about it. It is sought to know in advance the knowledge about the value of applying value management to real estate development so as to enable real estate developers to be aware or interested and apply value management to their real estate development. The benefits of value management are seen starting from the early stages of real estate development such as the briefing phase that implements the value management process up to its construction.

At the beginning of the survey stage, the researcher determined four respondents based on purposive sampling techniques, which were four respondents who entered in the study population. Of the four respondents, other respondents' recommendations were obtained which corresponded to the scope of the population and the limits of the study. Thus the technique of determining the sample continues to be a snowball sampling technique. This is because researchers are less understanding and less have access to the research population. So it takes recommendations from some previous respondents.

From the survey, that obtained thirty five respondents in accordance with the scope of population and the limitations of this study. So the number of samples that is used in this study is as many as thirty five people, who are practitioners who are or have served as top managers on the development of real estate in Surabaya. Of the thirty five people who came from real estate developers, nine respondents were project managers, nine respondents were general managers, ten respondents were the directors, and 7 respondents were sub-managers of the real estate development project.

[20] Stated that the minimum requirement in sampling was thirty respondents, and corroborated by [21] that the sample size of more than thirty and less than five hundred is

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appropriate for most studies to approach normal distribution. So the number of samples in this study meets the criteria specified.

Based on thirty-five respondents included in the research sample, more than half respondents, that are twenty two respondents or 63% work in companies over 20 years old, four respondents or 11% work in companies aged 0-5 years, six respondents work in companies aged about 6-10 years, and the remaining 9% work in companies aged 11-15 years. So it can be concluded that most respondents have or are working in companies experienced in the field of real estate development.

The education backgrounds of respondents are dominated by bachelor degree as much as 63% or as many as twenty two people. Eleven respondents have recent educations that are master degree and there are two of them or as many as 6% have high education namely doctoral degree. This indicates that the practitioners who fill this questionnaire, who served as managers to directors at the real estate development in Surabaya are at least with bachelor degree.

The experienced respondents that working in real estate development over twenty years are dominate as much as 32% or about eleven people. A total of eight respondents experienced for about 16-20 years, 17% of respondents worked in real estate development for about 11-15 years, and 14% or five respondents respectively stated that they had worked in real estate development for 0-5 years and 6-10 year. From the various answers of respondents is known that many respondents who have much experience in the field of real estate development.

The percentage of project types ever developed, dominated by the development of apartment design as much as 25%, which was followed by housing development as much as 15% or as many as fourteen respondents, then the development of commercial real estate in the form of shop and retail as many as 13%, plaza or mall as much as 9%, food court or food festival as much four respondents or as much as 4%, office rental as much as 8%. The development of specialty real estate such as hotels as much as 10%, the park as much as 4% and hospitals as much as 2%, industrial area as much as 4%, and the last is the apartment of 2 respondents or 2%. All experienced respondents develop real estate, and from all object images and respondents in this study gives a tendency of experience owned by each respondent is quite reliable to give perception to the questionnaire.

The level of value management understanding of respondents based on the length of respondents working in real estate developers can be seen in Figure 5. It appears that for experienced respondents working for 0-5 years, who claimed to understand the value management as much as 40%. Respondents with experience of working for 6-10 years claiming to understand the management of value as much as 80%. A total of 33.34% of respondents from experienced 11-15 years admitted to understand value management. Experienced respondents work in real estate developers for 16-20 years who claim to understand the value management as much as 62.5%. Respondents who worked on real estate development for more than 20 years claimed to understand the value management of 63.64%. Based on the data it can be seen that the duration of the respondents' work does not guarantee their high understanding of value management.

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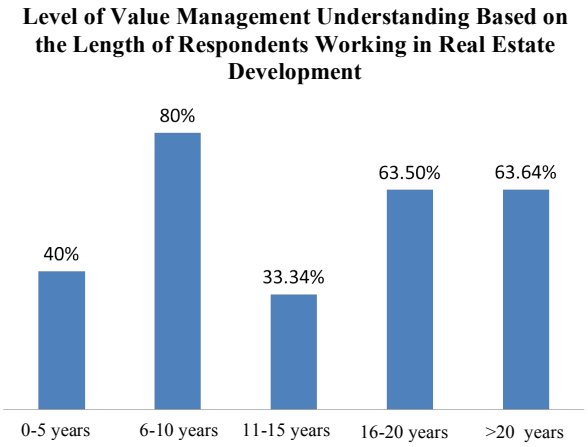

Figure 5. Level of Value Management Understanding Based on the Length of Respondents Working in Real Estate Development

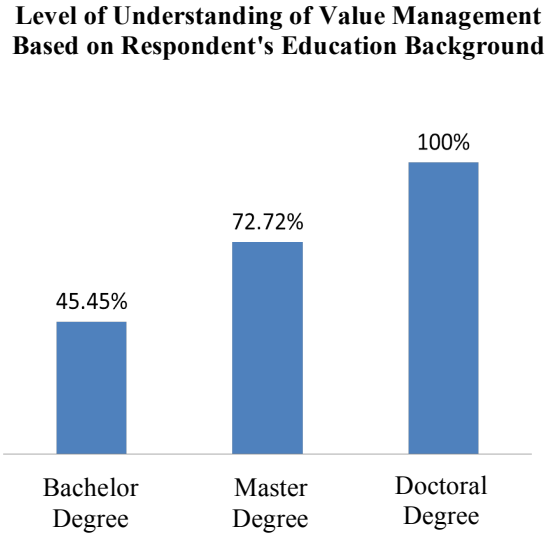

Figure 6. Level of Understanding of Value Management Based on Respondent's Education Background

Based on the education level of respondents, it is known that respondents who have bachelor degree who claimed that they have high understanding level to the value management as much as 45.45%. The last educated respondents of master degree who claimed that they really understand about value management as much as 72.72% and lastly all respondents with doctoral degree education background claimed to understand the management of values, as presented in Figure 6. Based on the data, it can be concluded that the higher of education level, make them understand about what value management is. This indicates that the respondents' high understanding of value management is not due to the length of respondents working in real estate development, but it tends to be based on the high educational background of respondents.

Most respondents are interested in applying value management because value management is able to understand project objectives and satisfy clients or in this study the owner of the developer, can produce designs agreed with stakeholders and can dispose or cost efficiency unnecessarily.

Application of management by the respondents produces satisfactory data. They claim that they often apply value management. However, from the percentage comparison between the application and perception of respondents about the value management is known that 40% of the total respondents apply value engineering. So, it is known that most of them do not understand what the meaning of value management.

4. Conclusion

The duration of the respondents work does not guarantee their high understanding of value

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management. The value management high understanding of respondents is not due to the length of respondents working in real estate development, but it tends to be based on the high educational background of respondents. Most of practitioners in real estate development are claimed that they always applied value management workshop in their projects, but actually they did not apply value management, however they applied value engineering which is a part of value management that aims to reduce costs.

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