

Analysis of Consumer Satisfaction on the Quality of Residential Buildings in Palangka Raya City, Indonesia

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Abstract:- The high housing demand in Indonesia is a promising market for housing developers and contractors. It is in line with the government program to provide one million houses per year for low-income people. This condition invites many residential entrepreneurs to offer home products that are healthy, safe, comfortable, and relatively cheap prices. Low monitoring during construction and the low quality of building materials can cause the worse quality of buildings. Based on this reason, research is needed on consumer satisfaction with housing products. The researchers can identify the consumers' significant factors in choosing good quality housing products. This research was located in Palangka Raya City. The analytical method employed a descriptive analysis to describe and obtain an in-depth and objective picture of what dominant factors influence consumer satisfaction levels. The results showed that the dominant factors of consumer dissatisfaction were columns and beams conditions, ceiling conditions, paint conditions, and rooftop conditions. There were 38 respondents (84.44%) who were not satisfied. While 7 respondents (15.56%) stated that they were moderate. This condition indicated the low quality of housing in the research location. Therefore, developers are necessary to make significant improvements and efforts. These findings can be used as a guide for developers in improving the quality of the building structure that can improve consumer satisfaction.

Keywords:- Developer, Housing Products, Consumer Satisfaction, Building Damage.

I. INTRODUCTION

The house is crucial for humans in building quality of life, social needs, and other needs [1]. Most of the developers prioritize to fulfil the needs of medium and luxury housing that has a higher profit value when compared to simple and cheap housing [2]. Effective and efficient home planning will have an impact on behavior change. Besides, it also improves the quality of life for its residents [3]. Housing sector policies are influenced by variations in prices, consumer satisfaction, and product quality [4]. Developers who prioritize consumer satisfaction and expectations will improve product performance and productivity which affects the high consumer interest in buying a house. Quality services and products supported by complete facilities and low prices are

the main attraction for consumers to choose and own a house [5].

The success of a housing project is determined by the satisfaction of the three parties involved, namely the architect, the contractor, and the consumer. Quality construction products will create a good reputation for developers and are an asset in facing market competition [6]. Measuring the level of consumer satisfaction in the housing industry sector is a means of assessing product quality and correcting deficiencies to increase competitiveness and fulfil consumer expectations [7]. Consumer satisfaction is strongly influenced by the views of each individual and according to experience and what is felt. Satisfaction is an unpredictable trait. Therefore, a scientific understanding and approach are needed to predict the expected results and reduce risk [8]. The influence of subjective consumer perspectives in understanding survey tools can provide various answers that affect the quality of the final results [9].

The high population growth in Indonesia has resulted in increased public demand for the needs of the housing sector. According to 2018 statistical data, the number of houses built reached 3,542,318 units and it is targeted that by 2025 the Indonesian government will provide 30 million units for all low-income people [10]. There are two types of housing offered by the government, namely the Very Simple House (RSS) and the Simple House (RS). Very Simple House (RSS) is a non-flat house with a maximum building floor area of 36 m² while the Simple House (RS) has a floor area of not more than 70 m². This type of housing is categorized as simple housing, which is a type of housing that has very limited facilities and infrastructure. The facilities and infrastructure in this case are wastewater treatment, waste management facilities, fire extinguishers, educational facilities, sports facilities, religious facilities and funerals, and shopping facilities [11].

The housing development is carried out in two main stages which include the acquisition stage and the production stage. The acquisition stage of housing development includes a study process feasibility, land acquisition, and the licensing process. The housing production stage includes a variety of activities, namely the application of planning criteria, design, and construction implementation [12]. The supply chain for housing development construction projects has various characteristics that are relatively the same as the supply chain

in the construction industry in general. The involvement of organizational networks from upstream to downstream, in different processes and activities, produces valuable services to the last consumer [13]. The supply chain for housing construction projects is influenced by three factors, namely the class of housing, the land area for housing development, and the situation and condition of the housing environment [14]. In the housing construction project supply chain, a description of the supply chain of goods or services can be identified as well as the contractual relationships that usually occur in housing construction projects. Housing developers are downstream actors, where contractors play the main role. While subcontractors, labor providers, material suppliers, and construction equipment providers are the upstream actors in the housing construction project supply chain [15].

This study aimed at determining the level of consumer satisfaction, identify the damage, and provide solutions for developers to prevent consumer dissatisfaction with residential buildings in Palangka Raya City.

II. RESEARCH METHODS

This study used a descriptive method by conducting field observations and collecting primary data from questionnaires and interviews. The research location was in Palangka Raya City, namely Borneo Sejahtera Resident, Kecipir Indah Permai Resident, and Barito Raya Resident (Fig.1).

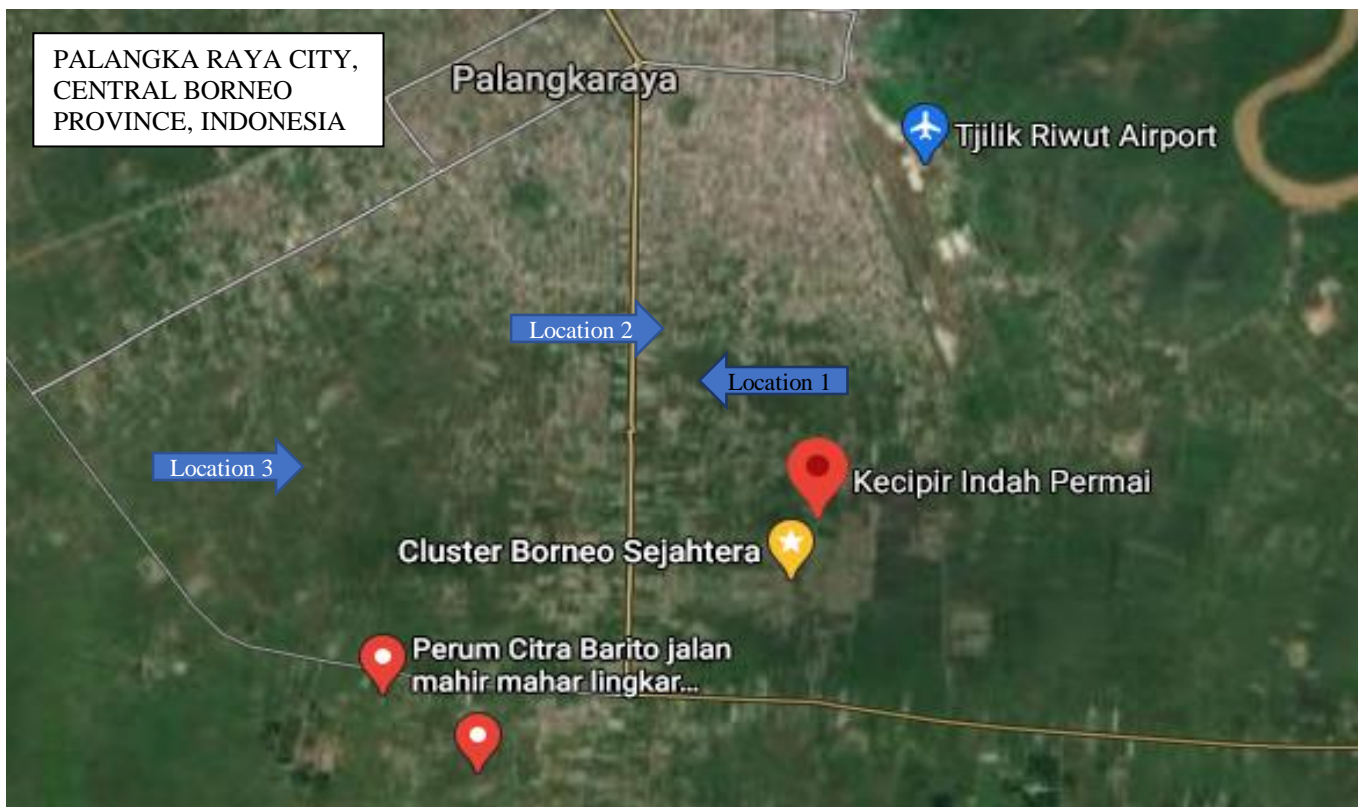


Fig.1. Research Location

There were 45 respondents representing each of the research objects who came from the homeowner. This study used a Likert scale with the following conditions:

TABLE 1. SATISFACTION LEVEL ASSESSMENT USING A LIKERT SCALE

Satisfaction Category	Score	Range	Satisfaction Level
Very Satisfied (VS)	5	0 – 45	0.00% – 20.00%
Satisfied (S)	4	46–90	20.01% – 40.00%
Quite Satisfied(QS)	3	91–135	40.01% – 60.00%
Not Satisfied (NS)	2	136–180	60.01% – 80.00%
Very Dissatisfied (VD)	1	181–225	80.01% – 100.00%

Based on the observation results, there were some structural damage, including cracks in walls, columns,

beams, and concrete plates as well as ceiling damage. This damage can be seen in Fig.2 and Fig.3.

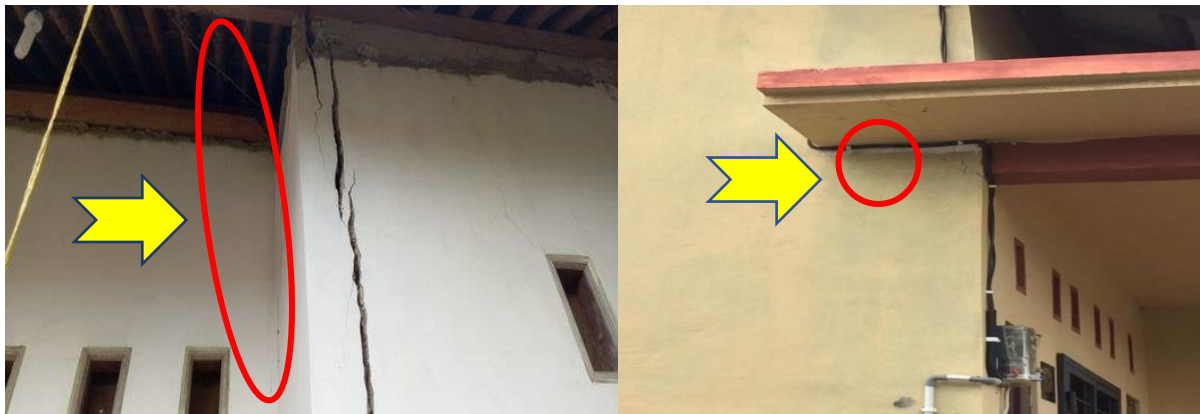


Fig.2. Cracked Walls and Beams in Borneo Sejahtera & Kecipir Indah Permai Resident



Fig.3. Damage on the floor tiles and ceiling in Borneo Sejahtera Resident

According to the owner, building structures damage was caused by low material quality. There were mistakes in the selection and management stages of building materials and

the lack of supervision in the implementation stages. Based on interview results obtained several variables in determining the level of consumer satisfaction as shown in Table 2.

TABLE 2. VARIABLES ASSESSMENT OF HOUSING CONSUMER SATISFACTION LEVELS

No	Variables
1.	Are the housing columns currently in good condition
2.	Is the beam condition of the house good
3.	Is the ceiling condition of the house good
4.	Are the walls of the house good
5.	Is the paint condition of the house good
6.	Is there a leak in the rooftop
7.	Is the condition of the rooftop good
8.	Is the material quality of ceiling structure good
9.	Do you paint your house based on its designation
10.	Is your ceiling structure covered with a plastic tarp to prevent damage from water dripping from the
11.	Is there an initial agreement with the owner about what will be built in your house
12.	Do potential buyers need to know the working methods of housing developers in building the house
13.	Is it necessary in Palangka Raya City to take steps to prevent damage to housing
14.	Does the housing condition based on your expectation

The questionnaire analysis used the following formula:

$$\frac{\text{Actual Score}}{\text{Ideal Score}} \times 100\% \tag{1}$$

The actual score was the respondents answer to the questionnaire that had been submitted and the ideal score was

the highest score or value which meant all respondents chose the answer with the highest score.

III. RESULTS AND DISCUSSION

TABLE 3. RESULTS OF RESPONDENTS ANALYSIS

Number of Variables	Actual Score	Ideal Score	Percentage (%)	Satisfaction Level
1	90	225	40,00	Not Satisfied (NS)
2	87	225	38,67	Not Satisfied (NS)
3	89	225	39,56	Not Satisfied (NS)
4	89	225	39,56	Not Satisfied (NS)
5	88	225	39,11	Not Satisfied (NS)
6	92	225	40,89	Moderate (M)
7	93	225	41,33	Moderate (M)
8	92	225	40,89	Moderate (M)
9	92	225	40,89	Moderate (M)
10	124	225	55,11	Moderate (M)
11	91	225	40,44	Moderate (M)
12	92	225	40,89	Moderate (M)
13	124	225	55,11	Moderate (M)
14	92	225	40,89	Moderate (M)

Table 3 shows that the majority of respondents rated the variable in the moderate category and some respondents rated in the dissatisfied category. These results indicated that all respondents had the same view about the level of satisfaction with homeownership. The absence of respondents who stated that they were satisfied and very satisfied with this variable

indicated the low level of confidence of the respondents in the quality of the houses they occupied. This condition showed the importance of increasing consumer confidence through improving quality products following expectations promised by the developer.

TABLE 4. RECAPITULATION OF RESPONDENT SATISFACTION ASSESSMENT BY HOUSING TYPE

Satisfaction Level Based on Housing Type											
Type	Number of House	Very Dissatisfied	%	Not Satisfied	%	Moderate	%	Satisfied	%	Very Satisfied	%
36	30	-	-	24	80%	6	20%	-	-	-	-
45	10	-	-	9	90%	1	10%	-	-	-	-
70	5	-	-	5	100%	-	-	-	-	-	-

Table 4 shows that the respondents' dissatisfaction with type 36 houses reached 80%, only 20% answered moderate. Type 45 respondents' dissatisfaction reached 90% and 10% stated that they were quite satisfied. Respondents of type 75 house reached 100% who were not satisfied. Overall, there were 38 respondents, or 84.44% who expressed dissatisfaction, while 7 respondents or 15.56% stated that they were moderate. This condition indicated the poor quality of housing in the research location. Therefore, the developers need to make significant improvements and efforts. The following are the factors that influence housing consumer satisfaction based on the findings at the research location (Table 5).

TABLE 5. FACTORS INFLUENCING HOUSING CONSUMER SATISFACTION

Factors Influencing Consumer Satisfaction	
1.	House Column Conditions
2.	House Beam Conditions
3.	House Ceiling Conditions
4.	House Wall Conditions
5.	House Painting Conditions

Based on the findings in Table 5, the developers need to give attention in increasing consumer satisfaction. Efforts to improve several factors that affect consumersatisfaction can be done by increasing quality control and strict supervision in

residential construction sites. This is due to the sometimes-erratic level of worker discipline and work discipline that is only carried out if there are field supervisors. The following are recommendations for improving the building structure based on the findings (Table 6).

TABLE 6. RECOMMENDATIONS FOR REPAIRING THE DAMAGE OF HOUSING BUILDING STRUCTURES

Structure Type	Building Structure Repairing Recommendations
Columns and Beams	Bow plank making and splitting work must be precise to prevent asymmetry of the building.
	Formwork work must be angled and have the right dimensions.
	Formwork cover material using a good quality board.
	As much as possible, iron material must be protected from rust.
	The water used must be clean, water sources can be obtained from drilling wells or procuring water tanks.
	The sand used must be washed or the developer must find sand from a quarry that has a low sludge contamination value.
Ceiling	The material for the ceiling frame must use good quality materials to prevent bending of the ceiling.
	At the top of the ceiling should be added a layer of tarp plastic to prevent water droplets falling from the rooftop.
	Electrical installations use standard cables covered with PVC pipes.
	The outer ceiling must be painted using waterproof exterior paint.
Painting	The walls that will be painted should be washed first to avoid dirt that will damage the paint.
	The paint mixture must be consistent with the specifications stated on the paint product.
	The water used for the paint mixture must use clean water.
Roof-top	Each connection must be checked for precision and must be given a sealant.
Wall	More rigorous selection should be made to determine the material provider for the brick.
	The water used must be clean. Water sources can be obtained from drilling wells or procuring water tanks
	The sand used must be washed or the developer must find sand from a quarry that has a low sludge contamination value.

Recommendations are the result of discussions and opinions of experts working in the housing sector regarding problems in the field. Through this recommendation, it is hoped that the developers will be able to make improvements both in terms of quality and quantity of buildings. Home buildings that meet the feasibility and safety standards will have a positive impact on developers to attract consumer to buy a house. The current development of globalization requires developers not only to pay attention to aesthetics and comfort but also to environmental factors, where a house that implements the green home concept will have a special attraction for consumers and provide added value in marketing.

IV. CONCLUSION

Based on the results of a questionnaire analysis of 45 respondents in 3 large housing residents in Palangka Raya City, there were consumers dissatisfaction with several items including the structure of columns, beams, ceilings, walls, and house painting.

Overall, there were 38 respondents, or 84.44% who expressed dissatisfaction, while 7 respondents or 15.56% stated that they were moderate. This condition indicated the low material quality of housing in the research location. Therefore, the developers need to make significant improvements and efforts.

There are 17 recommendations based on the findings on each building structure, where these recommendations are expected to be used as guidelines in an effort to improve building quality. Therefore, it can improve consumer satisfaction.

ACKNOWLEDGMENT

The authors show gratitude to Borneo Sejahtera Resident, Kecipir Indah Permai Resident, and Barito Raya Resident, Central Kalimantan, and Master Program of Civil Engineering, University of Lambung Mangkurat, Indonesia

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