

ANALYZING ATTRIBUTES THAT AFFECT CONSUMER PREFERENCE ON BOARDING HOUSE SELECTION AMONG WORKERS IN WIYUNG, SURABAYA: A CONJOINT ANALYSIS APPROACH

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Abstract

Rapid urbanization and population growth in Wiyung Surabaya, have increased the demand for boarding houses as an affordable housing option for workers, resulting in greater competition among boarding house providers. This study aims to identify workers' preferences for boarding house attributes using conjoint analysis based on Random Utility Theory (RUT). Data were collected through an online questionnaire distributed to workers who were currently residing in or searching for boarding house accommodation in Wiyung, Surabaya. A total of 100 valid responses were analyzed. The study examined five attributes: environmental cleanliness, price, security (CCTV), bathroom type, and room size. The findings indicate that the most preferred boarding house profile includes total cleaning services, a monthly rental price of IDR 1.500.000 – IDR 2.000.000, CCTV provision, an indoor bathroom, and a room size of 3 × 6 meters. Overall, affordability, cleanliness, security, and supporting facilities were found to be the most influential factors in workers' boarding house selection decisions. The findings provide practical insights for boarding house owners in designing accommodation offerings that better align with workers' preferences.

Keywords: *consumer preference, boarding house, conjoint analysis, workers, sustainable cities and communities.*

INTRODUCTION

Urban growth in Southern and Southeastern Asia develops through 2 main factors which are natural urban birth rate and rural-urban migration (UN ESCAP, 2023), as cited in Granda et al. (2025). The demographic changes in the province of Jawa Timur, Indonesia shows the most significant example. According to Firmansyah et al. (2025), East Java has experienced urban expansion during the last 2 decades through rapid physical development which occurred in the Surabaya Metropolitan Area and Malang Raya. The cities attract people who reside in smaller towns and rural areas seeking employment opportunities, higher education, and improved living standards. Consequently, interprovince migration has grown because more people move between provinces which leads to more people settling down in urban areas. The Surabaya Metropolitan Area has experienced the same pattern of urban development. According to Firmansyah et al. (2025), Surabaya has undergone spatial changes during the last 30 years. The research shows that between 1990 and 2011 the urban area of Surabaya grew 46.7%. Surabaya serves as the second biggest city in Indonesia which plays an important role as a national transportation and seaport center. The population growth of the area results from 2 main factors which include rising population density and the increasing demand for land to support new residential, industrial infrastructure, and commercial activities (Firmansyah et al. 2025).

Land prices in Surabaya have increased to levels that exceed the average growth of household income. According to Jawa Pos (2024), the Real Estate Broker Association of Indonesia (AREBI) provides data which shows that land prices in strategic "Golden Triangle" districts which include Tunjungan have increased by approximately IDR 10 million per square meter since the pandemic ended. The current land values now range between IDR 40 million and IDR 50 million per square meter (Jawa Pos, 2024). Furthermore, the growth of property has increased significantly, especially in the center of Surabaya. It is reported that the developing area in West Surabaya has an increasing annual rate estimating between 10% and 20% (REI Jatim, as cited in Jawa Pos, 2024). As buying property becomes too expensive, the market shows a clear substitution effect. The substitution effect refers to a change in price that encourages consumers to switch to alternative products (Cambridge Dictionary, n.d.). The substitution of

housing would be rental housing or boarding houses (indekos) as a more affordable choice. According to Abdulghani et al. (2021), the boarding house serves as a vital temporary residence which provides the necessary proximity and tenure flexibility that allows people to avoid the expensive costs of the formal land market. Students, workers, or migrants from other areas commonly choose boarding houses as their temporary housing solution (Manik et al., 2025). Despite the increasing demand, market competition continues to grow. The official data shows that more than 6000 rental units exist throughout the metropolitan area (Pemerintah Kota Surabaya, 2025). The market analysis shows that Mamikos (2025) identified 835 boarding houses which exist throughout 7 districts in West Surabaya. The Surabaya Civil Registry and Vital Statistics Department (Dispendukcapil) reported only 41.726 non-permanent residents according to Pemerintah Kota Surabaya (2025). Therefore, understanding workers' consumer preferences towards boarding houses becomes increasingly important.

Previous study conducted by D. Oktavallyan et al. (2021), demonstrates that architectural health design elements which include natural lighting, clean water access, quiet spaces for learning purposes help students at Bengkulu University to maintain their well-being. The study conducted by Manik et al. (2025), studies housing feasibility and facility repairs through the C4.5 algorithm which classifies these 2 areas but uses supply categorization instead of modeling how consumers choose products. The research conducted by Ristanti et al. (2023), discovered 3 factors that influence students' interest in choosing a boarding house namely price, location, and facilities using quantitative survey method with multiple linear.

Additionally, the preliminary survey established the attributes that influence consumer preference among workers towards boarding house selection in Wiyung, Surabaya. Consequently, it does not provide enough information to assess how workers choose between these attributes when they must make trade-offs. To the best of The Researcher's knowledge, there is a lack of studies that examine attributes that affect consumer preference among workers towards boarding house selection in Wiyung, Surabaya through the application of conjoint analysis. Most previous research conducted in different locations limiting the applicability in Wiyung, Surabaya. Furthermore, previous studies mostly focus on students rather than workers which limits the applicability, as workers may have different preferences, purchasing power, and priorities compared to students. This creates a research gap in understanding how workers evaluate attributes and trade-offs towards boarding house preferences in Wiyung, Surabaya. Therefore, by utilizing conjoint analysis, this research aims to determine the actual decision-making patterns which workers in Wiyung, Surabaya use to evaluate different combination attributes by measuring their utility trade-offs.

LITERATURE REVIEW

Consumer preference is the highest price which consumers will pay to obtain product quality (Xu et al., 2023). The process of preference identification requires measurement of preference through utility assessment which determines the level of utility obtained from each attribute. The different attributes need to be evaluated by the consumer because they must choose between the product or service options that offer various attribute combinations. One of the most popular methods in marketing for measuring consumer preferences and analyzing consumer trade-offs is by using conjoint analysis, which can be used to understand the importance of the attributes of housing preference under study and the utility of the levels of these attributes (Green et al., 2001; Gustafsson et al., 2013; Wittink et al., 1994, as cited in Mucha et al., 2022).

The research needed key attributes to understand the consumer preference towards boarding house selection among workers which were determined through a preliminary survey. The survey was conducted by using purposive sampling to select 18 respondents. The criterion of the respondent is workers that are currently working in or near Surabaya area and currently inhabit or seeking boarding house accommodations inside a residence in Wiyung, Surabaya. The media used to conduct the preliminary survey was through the application of google forms. Based on the survey, the top 5 most important factors are facility, housing environment, price, security, and room size. Strategic location is removed from the study because the highest individual attribute frequency is environmental cleanliness, price, security, indoor bathroom, and room size. Subsequently, these factors will be deconstructed into specific indicators, which will then serve as the refined attributes for this study.

Facility is defined as any resource, including physical space or equipment that exists to fulfill a particular function (Oxford University Press, n.d.). Boarding houses depends on their facilities because they determine consumer choice, especially in areas with high migrant population (Manik et al., 2025). In this study, facility refers to the building facility or tangible product that the boarding house can offer. This includes full furnishing (sleeping quarters, bathrooms, internet access), common areas (kitchen and lounge areas), room size, and many more (Amoah et al., 2025). The study needs to examine these facilities because they impact how people choose to live. The pre-

survey results identified indoor bathroom and room size facilities as the most essential and relevant factors when making decisions about their preferences. Thus, by focusing on these attributes, it can evaluate the trade-offs consumers want to make. The housing environment (HE) represents the physical and social framework of a human settlement which architects design according to specific architectural standards and quantifiable quality services to promote better resident health (Mazur et al., 2022). Gu & Ming (2021) states that maintaining cleanliness in housing environment will create a more enjoyable living space which subsequently reduces the experience of sadness and depression. In addition, research indicates that individuals who maintain clean housing environment experience better health because messy environments accumulate dust which contains allergy-causing substances (Arcangeli, 2015; Casley et al., 2018, as cited in Gu & Ming, 2021). Therefore, housing environment does have a relevance towards consumer preference on boarding houses. Furthermore, in the preliminary survey it was mentioned that environmental cleanliness receives the highest score in the housing environment factor. Therefore, environmental cleanliness is used as the attribute of this study.

Following the baseline of housing environment, price serves as the third critical factor of consumer preference towards boarding houses. Price is defined as the monetary value or exchange unit required to obtain ownership or usage rights of a product or service (Alma, 2018; Murty & Khasanah, 2015, as cited in Ristanti et al., 2023). Moghayedi et al. (2023) defines affordable housing as a situation where people can pay their housing costs without facing financial difficulties which would disrupt their community life and damage their personal well-being. The established application of this method has been applied to multiple conjoint studies (Mucha et al., 2022; Patwardhan et al., 2025; Prasetyo et al., 2026). The price range for Wiyung boarding houses in a residence stands at IDR 1.5 million – IDR 3.5 million per month. Therefore, price is integrated as an essential attribute within this research framework.

The fourth element of this research is security. Security is the constant guarantee that an individual is always safe from harm (Raheemy et al., 2025). According to Bentley et al. (2025), housing security is defined as the need of protection for residents from involuntary displacement, harassment, or any other danger that could resident's right to stay remain in homes. The components for housing security may include night lighting, stationed security guards, perimeter fencing, Closed-Circuit Television (CCTV), and many more (Adisa & Simpeh, 2021). Additionally, secure, healthy, and prosperous lives are the effect of a secure environment especially in urban areas, it serves as an essential factor for residents (Ali et al., 2022). Moreover, lighting is a necessary factor, but most regencies already provide the road lighting. Therefore, this study will concentrate on CCTV as the security attribute.

METHOD

The study relies on primary data and uses quantitative research to collect the data through questionnaires. This data will later be analyzed using conjoint analysis. According to Kotronoulas et al. (2023), the goal of quantitative research is to turn numbers into clear results by looking closely at the evidence. Moreover, according to Prasetyo et al. (2026), conjoint analysis is used to find out which features customers value the most. In this research, the survey questionnaire will be done online through Google Forms and spread out to the respondents. Furthermore, the survey will be conducted from April to May 2026.

The population in this study are people in West Surabaya who are looking for or living in a boarding house near the Wiyung district. Because we do not know the exact number of these people, the population is defined as infinite. Accordingly, the criteria for the sample in this study are as follows: (1) workers that are currently working in or near Surabaya area and (2) currently inhabit or seeking boarding house accommodations inside a residence in Wiyung, Surabaya. This study requires the implementation of the Lemeshow formula because the population size remains unknown (Lemeshow, et al., 1990, as cited in Hadiani & Sarifiyono, 2024; Lungu et al., 2023). Furthermore, the result from the Lemeshow formula shows that the minimum sample size in this study is 96.04. The number is rounded to 100 because respondents cannot exist as decimal values and the research results needed better accuracy. Therefore, this study will use 100 respondents as the sample size to represent the entire population.

In this study, the questions were designed as close-ended choices using the 5-point Likert scale. This scale ranges from "strongly dislike" (1) to "strongly like" (5), with "neutral/moderate" (3) as the middle value. The primary data collected through the respondents is processed with the SPSS program through the conjoint analysis approach. The results will be used to undergo the validity and reliability of the respondents using Pearson's Correlation and Kendall's tau. This study employs a special variation of conjoint analysis which requires conducting its data evaluation. This variation is used because this research has so many attributes and sub-attributes that SPSS cannot process every possible combination of stimuli. According to (Wang et al., 2022), the orthogonal process provides a method to select a smaller set of choices which accurately represents the complete set of options. There are 5

ANALYZING ATTRIBUTES THAT AFFECT CONSUMER PREFERENCE ON BOARDING HOUSE SELECTION AMONG WORKERS IN WIYUNG, SURABAYA: A CONJOINT ANALYSIS APPROACH

Jovan Angelo et al

attributes (ENVIRONMENTAL CLEANLINESS, PRICE, CCTV, INDOOR BATHROOM, ROOM SIZE) and 14 levels or sub-attributes. Consequently, the total number of combinations are as follow:

$$3 \times 4 \times 2 \times 2 \times 3 = 144 \text{ stimuli.}$$

Theoretically, each respondent would be required to evaluate 144 product combinations; however, this approach is impractical and would lead to respondent fatigue. To address this, a stimuli reduction procedure in conjoint analysis is employed to generate a manageable subset of the 144 possible combinations. According to Curry (1997) as cited in Wang et al. (2022), if the number of stimuli is excessive, they can be reduced using a minimum stimuli formula:

$$NC = NL - NA + 1$$

Minimum Stimuli = Total Levels – Total Attributes + 1

The calculation is as follows:

Minimum Stimuli = (3 + 4 + 2 + 2 + 3) – 5 + 1 = 10 stimuli

To simplify the process, The Researcher utilized the Orthogonal Design feature in SPSS. By inputting all factors and their respective levels, a minimum number of cases (10 stimuli) was specified based on the calculation above. Furthermore, 2 randomly mixed holdouts were added serving as validation (Sung et al., 2023). Using the orthogonal design feature in SPSS 27, irrelevant combinations were removed, resulting in 18 representative stimuli as shown in Table 1. Each respondent will evaluate these product combinations using a 5-point Likert scale. The resulting numbers were processed using conjoint analysis syntax in SPSS.

Unlike other multivariate analysis methods, conjoint analysis does not require classical assumption tests such as normality or homoscedasticity. This has been proven in several studies, Ong et al. (2021; Persada et al. (2024); Prasetyo et al. (2026); Wang et al. (2022). Instead, this method relies on significance testing and predictive accuracy. Validity in conjoint analysis is commonly assessed using Pearson’s correlation and Kendall’s Tau statistics provided by using SPSS.

A conjoint model is generally considered valid when the correlation values are close to 1 and statistically significant (Sig. < 0.05) as cited in Ong et al. (2021). Furthermore, the reliability of the conjoint task by comparing how well conjoint utilities predict choices from the holdout tasks. Two holdout profiles are used out of 18 total profiles which fall within the recommended range of 2 to 4 holdouts used in conjoint analysis (Ong et al., 2021). According to Prasetyo et al. (2024), the conjoint model is considered to have high internal consistency and reliability when the validation metrics match predicted rankings

Table 1. Combination attribute results

No	Environmental Cleanliness	Price	CCTV	Bathroom	Room Size
1	Pick up trash only	IDR 2.000.000 - IDR 2.500.000	CCTV not provided	Outdoor bathroom	3 x 3 m
2	Total cleaning	IDR 2.000.000 - IDR 2.500.000	CCTV provided	Indoor bathroom	3 x 6 m
3	Pick up trash only	IDR 1.500.000 - IDR 2.000.000	CCTV not provided	Outdoor bathroom	3 x 6 m
4	Total cleaning	IDR 3.000.000 - IDR 3.500.000	CCTV provided	Outdoor bathroom	3 x 6 m
5	Total cleaning	IDR 2.000.000 - IDR 2.500.000	CCTV not provided	Indoor bathroom	3 x 4 m
6	Total cleaning	IDR 1.500.000 - IDR 2.000.000	CCTV provided	Indoor bathroom	3 x 3 m
7	Total cleaning	IDR 2.500.000 - IDR 3.000.000	CCTV provided	Outdoor bathroom	3 x 3 m

ANALYZING ATTRIBUTES THAT AFFECT CONSUMER PREFERENCE ON BOARDING HOUSE SELECTION AMONG WORKERS IN WIYUNG, SURABAYA: A CONJOINT ANALYSIS APPROACH

Jovan Angelo et al

8	Common area only	IDR 1.500.000 - IDR 2.000.000	CCTV provided	Outdoor bathroom	3 x 4 m
9	Total cleaning	IDR 1.500.000 - IDR 2.000.000	CCTV not provided	Indoor bathroom	3 x 3 m
10	Pick up trash only	IDR 3.000.000 - IDR 3.500.000	CCTV provided	Indoor bathroom	3 x 3 m
11	Common area only	IDR 2.000.000 - IDR 2.500.000	CCTV not provided	Indoor bathroom	3 x 3 m
12	Total cleaning	IDR 3.000.000 - IDR 3.500.000	CCTV not provided	Outdoor bathroom	3 x 4 m
13	Common area only	IDR 2.000.000 - IDR 2.500.000	CCTV provided	Outdoor bathroom	3 x 3 m
14	Common area only	IDR 2.500.000 - IDR 3.000.000	CCTV not provided	Indoor bathroom	3 x 6 m
15	Common area only	IDR 3.000.000 - IDR 3.500.000	CCTV not provided	Indoor bathroom	3 x 3 m
16	Pick up trash only	IDR 1.500.000 - IDR 2.000.000	CCTV provided	Outdoor bathroom	3 x 6 m
17	Total cleaning	IDR 2.500.000 - IDR 3.000.000	CCTV not provided	Outdoor bathroom	3 x 3 m
18	Pick up trash only	IDR 2.500.000 - IDR 3.000.000	CCTV provided	Outdoor bathroom	3 x 4 m

have high consistency and very reliable if the Kendall’s Tau Holdout value is higher than 0.70 and statistically significant (Sig. < 0.05).

RESULTS AND DISCUSSION

The research collected demographic specifications from 112 respondents who filled out the online questionnaire are 49 males and 63 females. The results are shown in Table 2 which indicates that most of the respondents are within the age of 17–25 years old, which are 78 people with 69.6%, and 26–35 years old which are 25 people with 22.3%, 36–45 years old which includes 8 people with 7.1%, and lastly 46–55 years old which consist of 1 person with 0.9%. Furthermore, 58 out of 112 respondents’ monthly total expense is < IDR 3.000.000, 38 out of 112 respondent’s monthly total expense is IDR 3.000.001 – IDR 5.000.000, 11 out of 112 respondent’s monthly total expense is IDR 5.000.001 – IDR 7.500.000, and the rest represents a very small portion of the respondent’s monthly total expense. Lastly, the worker’s working hours indicate that 53 out of 112 respondents’ weekly working hour is <35 hours, 31 out of 112 respondents’ weekly working hour is 35–40 hours, 12 out of 112 respondents’ weekly working hour is 41–48 hours, and 16 out of 112 respondents’ weekly working hour is >48 hours.

Table 2. Respondent Characteristics
Respondent Description

No	Description	Total	Percentage
1	Age		
	17 - 25 years old	78	69.6%
	26 - 35 years old	25	22.3%
	36 - 45 years old	8	7.1%
	46 - 55 years old	1	0.9%
	56 - 65 years old	0	0%
2	Gender		

ANALYZING ATTRIBUTES THAT AFFECT CONSUMER PREFERENCE ON BOARDING HOUSE SELECTION AMONG WORKERS IN WIYUNG, SURABAYA: A CONJOINT ANALYSIS APPROACH

Jovan Angelo et al

	Male	49	43.8%
	Female	63	56.3%
3	Total Monthly Expense		
	< IDR 3.000.000	58	51.8%
	IDR 3.000.000 - IDR 5.000.000	38	33.9%
	IDR 3.000.000 - IDR 5.000.000	11	9.8%
	IDR 7.500.001 - IDR 10.000.000	2	1.8%
	> 10.000.000	3	2.7%
4	Average Working Hour		
	< 35 hours	53	47.3%
	35 – 40 hours	31	27.7%
	42 – 48 hours	12	10.7%
	> 48 hours	16	14.3%

The data processing for analysing the data in this study used SPSS version 27 software. The data to be processed consisted of assessments from 112 respondents regarding the 18 product combinations obtained. Based on the data screening results in SPSS, 12 respondents were identified as invalid because they provided identical answers for all 18 product combinations. Those responses were removed because it does not capture actual preference variations in the conjoint analysis. Therefore, only 100 valid respondents were included in the final data analysis. The results of the attribute data at each level for all respondents' answers can be seen in Table 3. The findings reveal that respondents show the strongest preference toward total cleaning (.177) compared to pick up trash only (-.066) and common area only (-.111). The positive utility score for total cleaning suggests respondents value a boarding house environment that is kept consistently maintained across all areas.

The results show that the most favourable price range among respondents is IDR 1.500.000 – IDR 2.000.000 (.362), while preference declines when rental prices increase. The least preferred option turns out to be IDR 3.000.000 – IDR 3.500.000 (-.476). This pattern shows that respondents place considerable weight on affordability when they are evaluating boarding house options. The utility estimates show that respondents seem to prefer boarding houses with CCTV facilities (.157) over those without CCTV (-.157). This result suggests that security-related facilities are an important factor shaping what people choose when it comes to boarding houses.

The bathroom attribute shows a clear preference for indoor bathrooms (.314) over outdoor bathrooms (-.314). The positive utility score for indoor bathrooms means respondents tend to see them as more convenient, easier to reach, and comfortable for everyday routines. The room size analysis shows that respondents strongly prefer the 3 × 6 m room (0.60), while both the 3 × 3 m room (-0.078) and the 3 × 4 m room (-0.17) yield negative utility scores. This indicates that when evaluated independently, larger living spaces are highly desirable. However, as shown in Table 6, Stimulus Combination 6 emerged as the highest-ranked profile overall despite featuring a 3 × 3 m room size. Under Random Utility Theory (RUT), this demonstrates that workers evaluate profiles holistically, willingly sacrificing space efficiency in exchange for optimal affordability and total cleaning infrastructure.

Table 3. Utility Values of Total Respondents

		Utilities	
		Utility Estimates	Std. Error
Environmental Cleanliness	Total Cleaning	.177	0.059
	Common Area Only	-.111	0.069
	Pick Up Trash Only	-.066	0.069
Price	IDR 1.500.000 - IDR 2.000.000	.362	0.077
	IDR 2.000.000 - IDR 2.500.000	.137	0.077
	IDR 2.500.000 - IDR 3.000.000	-.023	0.077
	IDR 3.000.000 - IDR 3.500.000	-.476	0.077
CCTV	CCTV provided	.157	0.044
	CCTV not provided	-.157	0.044
Bathroom	Indoor bathroom	.314	0.044
	Outdoor bathroom	-.314	0.044
Room Size	3 x 3 m	-.078	0.059
	3 x 4 m	-0.17	0.069
	3 x 6 m	0.60	0.069

Table 4. Importance Value for Total Respondent

Importance Values	
Environmental Cleanliness	18.810
Price	32.844
CCTV	12.893
Bathroom	17.755
Room Size	17.698

The attribute that is considered most important by all respondents can be seen through the importance values table in Table 4. The attribute generally considered the most important is PRICE with a percentage of (32.844%). Meanwhile, the subsequent attributes considered important are ENVIRONMENTAL CLEANLINESS (18.810%), BATHROOM (17.755%), ROOM SIZE (17.698%), and CCTV (12.893%). The validity of the conjoint model is demonstrated through Pearson's correlation and Kendall's Tau values. The output correlations table presents the overall validity and reliability of the conjoint analysis model based on the responses of all respondents through predictive accuracy and internal consistency. As shown in Table 5. the model has high predictive validity because the Pearson's correlation value is 0.976, which is above 0.70 and statistically significant (Sig. < 0.05). Furthermore, the Kendall's Tau value of 0.862 indicates a strong similarity between the ranking of observed preferences and predicted preferences.

ANALYZING ATTRIBUTES THAT AFFECT CONSUMER PREFERENCE ON BOARDING HOUSE SELECTION AMONG WORKERS IN WIYUNG, SURABAYA: A CONJOINT ANALYSIS APPROACH

Jovan Angelo et al

The reliability in this study is measured using Kendall’s Tau Holdout correlation. As shown in Table 5, the conjoint model has high consistency because the Kendall’s tau holdout value of 1.000 is higher than 0.70 and statistically significant (Sig. < 0.05). Therefore, the overall conjoint model is considered very reliable. In this study, out of the 5 attributes that were examined, price turned out to be the most important factor influencing respondents’ preferences. Based on the findings of this study, the future boarding house development plan will likely concentrate on keeping rental prices in the range of IDR 1.500.000 – IDR 2.000.000. This result matches the Random Utility Theory (RUT), which suggests that respondents will pick the boarding house alternative that gives the greatest total utility.

Table 5. Correlations Table for Total Respondents

	Value	Sig
Pearson’s R	.976	<.001
Kendall’s Tau	.862	<.001
Kendall’s Tau for Holdout	1.000	.000

Table 6. Stimulus Rank

No	Environmental Cleanliness	Price	CCTV	Bathroom	Room Size	Total	Rank
1	Pick up trash only	IDR 2.000.000 - IDR 2.500.000	CCTV not provided	Outdoor bathroom	3 x 3 m	-.478	16
2	Total cleaning	IDR 2.000.000 - IDR 2.500.000	CCTV provided	Indoor bathroom	3 x 6 m	.845	2
3	Pick up trash only	IDR 1.500.000 - IDR 2.000.000	CCTV not provided	Outdoor bathroom	3 x 6 m	-.115	11
4	Total cleaning	IDR 3.000.000 - IDR 3.500.000	CCTV provided	Outdoor bathroom	3 x 6 m	-.396	15
5	Total cleaning	IDR 2.000.000 - IDR 2.500.000	CCTV not provided	Indoor bathroom	3 x 4 m	.488	4
6	Total cleaning	IDR 1.500.000 - IDR 2.000.000	CCTV provided	Indoor bathroom	3 x 3 m	.932	1
7	Total cleaning	IDR 2.500.000 - IDR 3.000.000	CCTV provided	Outdoor bathroom	3 x 3 m	-.081	10
8	Common area only	IDR 1.500.000 - IDR 2.000.000	CCTV provided	Outdoor bathroom	3 x 4 m	.111	7
9	Total cleaning	IDR 1.500.000 - IDR 2.000.000	CCTV not provided	Indoor bathroom	3 x 3 m	.618	3
10	Pick up trash only	IDR 3.000.000 - IDR 3.500.000	CCTV provided	Indoor bathroom	3 x 3 m	-.149	12
11	Common area only	IDR 2.000.000 - IDR 2.500.000	CCTV not provided	Indoor bathroom	3 x 3 m	.105	8
12	Total cleaning	IDR 3.000.000 - IDR 3.500.000	CCTV not provided	Outdoor bathroom	3 x 4 m	-.753	18
13	Common area only	IDR 2.000.000 - IDR 2.500.000	CCTV provided	Outdoor bathroom	3 x 3 m	-.209	13
14	Common area only	IDR 2.500.000 - IDR 3.000.000	CCTV not provided	Indoor bathroom	3 x 6 m	.083	9
15	Common area only	IDR 3.000.000 - IDR 3.500.000	CCTV not provided	Indoor bathroom	3 x 3 m	-.508	17
16	Pick up trash only	IDR 1.500.000 - IDR 2.000.000	CCTV provided	Outdoor bathroom	3 x 6 m	.199	6
17	Total cleaning	IDR 2.500.000 - IDR 3.000.000	CCTV not provided	Outdoor bathroom	3 x 3 m	-.395	14
18	Pick up trash only	IDR 2.500.000 - IDR 3.000.000	CCTV provided	Outdoor bathroom	3 x 4 m	.399	5

Environmental cleanliness emerged as an important consideration in choosing a boarding house. Most respondents preferred total cleaning services compared with common area only cleaning. These results are consistent with Random Utility Theory (RUT), which suggests that total cleaning services can raise the boarding house's overall utility by providing more convenience and comfort. Security is considered an essential factor in a boarding house. The results show that most respondents highly prefer boarding houses that have CCTV facilities. Based on the Random Utility Theory (RUT), respondents may lean toward boarding houses with CCTV because the extra protection raises the perceived benefits, increasing the overall attractiveness of the accommodation.

Bathroom facilities are important in choosing a boarding house. In this study, indoor bathrooms are preferred because they tend to be more convenient, easier to reach, and better in terms of privacy for residents. This result matches the Random Utility Theory (RUT), which suggests that people lean toward indoor bathrooms because they offer more value and raise the overall utility of the boarding house. For room size, the 3 x 6 m room size receives higher utility scores overall as presented in Table 3. However, Table 6 shows that Combination 6 was the most preferred profile even though it only had a room size of 3 × 3 m. This implies that respondents may care more about affordable pricing and desirable facilities than simply having a bigger room. Under Random Utility Theory (RUT), people compare all available attributes at the same time, which explains why a smaller room may still be accepted if other preferred attributes help balance it out.

CONCLUSION

This study identified the boarding house attributes preferred by workers in Wiyung, Surabaya. The findings indicate that rental price is the primary consideration when selecting a boarding house, followed by environmental cleanliness, bathroom facilities, room size, and security (CCTV). Overall, workers prefer boarding houses that offer affordability, cleanliness, convenience, and security. The conjoint analysis results show that the most preferred boarding house profile includes total cleaning services, a rental price of IDR 1.500.000 – 2.000.000, CCTV provision, and an indoor bathroom. Although respondents generally preferred larger room sizes (3 x 6 m), the individual level utility favored a 3 × 6 m room size. Nevertheless, the highest-ranked overall combination configuration featured a 3 × 3 m layout, proving that target demographic workers optimize for budget and sanitation over absolute square footage, suggesting that workers are willing to accept a smaller room when it is accompanied by desirable attributes. These findings provide practical insights for boarding house owners in designing accommodation offerings that better align with worker preferences and market demand.

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