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DESCRIPTIVE OF QUANTITATIVE DATA | SUPPLEMENTARY

Determining Consumer Preferences in Choosing Low Budget Accommodation Services in Medan City With Choice-Based Conjoint (CBC) Analysis

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Abstract: The hotel accommodation service industry in Medan City has witnessed significant growth following the pandemic, driven by increased business and tourism activities. With over 200 hotels in the city, there is a notable presence of middle-class hotels offering affordable prices. This study aims to determine consumer preferences in choosing low-budget accommodation services using Choice-Based Conjoint (CBC) analysis. The CBC method presents consumers with a series of menus featuring different hotel attributes, such as location, facilities, and price, to identify which attributes most influence their preferences. A sample of 40 respondents was analyzed to identify key factors influencing their hotel choices. The results revealed that consumers prioritize hotels located outside the central city area, with free internet service, basic room amenities, availability of a café or lounge, breakfast services, and non-smoking rooms. The study found that breakfast service is the most important attribute, followed by the availability of non-smoking rooms. These insights can help low budget hotel or managers in Medan City to modify their services to better meet consumer demands and improve market positioning.

Keywords: Consumer Preferences, Low-Budget Accommodation, Choice-Based Conjoint Analysis, Hotel Services, Medan City.

1. INTRODUCTION

Currently, the hotel accommodation service industry in Indonesia is experiencing significant growth after the end of the pandemic era which is followed by increased mobility in the scope of business and tourism activities. According to records from the Medan City Central Bureau of Statistics, more than 200 hotels have been established in Medan City, and a phenomenon, namely the presence of a number of middle-class hotels with more affordable prices, is located in almost all parts of Medan City. Information on consumer preferences and choice behavior is needed to forecast market demand for new or modified products, estimate the effects of product changes on market equilibrium and consumer welfare, develop and test models of consumer behavior, and reveal determinants and correlates of tastes.

Direct elicitation of stated preferences, perceptions, expectations, attitudes, motivations, choice intentions, and well-being, supplementing or substituting for information on revealed choices in markets is potentially a valuable source of data on consumer behavior, but can mislead if the information environments and decisionmaking processes invoked by direct elicitations differ from the settings for revealed choices in real markets. This study aims to identify how various hotel attributes, such as location, facilities, and price, influence prospective consumers' preferences in determining hotel accommodation services in Medan City using the choice-based conjoint (CBC) analysis statistical technique. CBC study offers a consumer a series of menus of alternative products with profiles giving levels of their attributes, including price, and asks the subject to choose the most preferred product in each menu. The menus of products and their descriptions are designed to realistically mimic a market experience where a consumer can choose among various competing products. By changing the attribute levels for the included products and presenting each consumer with several menus, a CBC experiment obtains information on the relative importance that consumers place on each of the attributes.

2. LITERATURE REVIEW

2.1 Consumers Behaviour

The neoclassical economic theory of consumer choice behavior is based on the “consumer sovereignty” postulate that utility is predetermined and stable, and consumer choice maximizes utility subject to a budget constraint determined by income and prices. Utility functions are defined over bundles of personally consumed continuous and discrete market goods. The utility of a particular bundle of goods is independent of the existence or availability of alternatives; thus, independent of prices and income, and of attributes of unchosen bundles. Intertemporal dependence is allowed, with current preferences influenced by consumption history and expectations, but interpersonal influences (e.g., altruism, social network effects) are usually excluded. When consumers face uncertainty regarding events that affect product attributes, additional postulates for strict neoclassical consumer theory are that consumers have realistic, statistically consistent perceptions regarding future events, and that they handle uncertainty by maximizing expected utility.

2.2 Choice-based conjoint

A classic CBC setup in marketing might be a laboratory experiment where subjects are offered a sequence of binary menus of actual products with varying attributes and prices, and asked to indicate the preferred alternative in each menu. For example, experiments on automobile brand and model choice have described alternatives in terms of price and attributes such as horsepower, fuel consumption, number of seats, and cargo space, and collected data using interactive internet sessions with randomly sampled consumers, see Urban et al. (1990), Urban et al. (1997), and Brownstone and Train (1999). These studies have determined with considerable predictive accuracy in the distributions of preference weights that consumers give to various vehicle features. Based on the in conducting stated preference experiments, and review of the literature, it conclude that there are a number of key issues that need to be addressed in any CBC study, see also Carson et al. (1994) and McFadden (2018).

2.3 Familiarity

The selection of subjects, the setup and framing of the elicitation, training of subjects where necessary, and testing of subjects’ understanding and consistency are critical in a CBC study, particularly when some products are novel with attributes that are not easily experienced or understood, or subjects have not had market experience with similar products. CBC studies can forecast market demand relatively well when the subjects’ task is choice among a small number of realistic, familiar, researcher needs to weigh the often conflicting goals of making subjects knowledgeable about products and avoiding distortion of the relative valuations of attributes these subjects would exhibit in real markets.

2.4 Sampling, Recruitment, and Background

Target populations may differ depending on the objectives of the study e.g., all current users of a class of products, only technologically savvy current users, the general population, It is sometimes desirable to sample from a target population that has experience or expertise with a class of products. Then it may be informative to study the preferences of experienced users, and separately study the differences in tastes of these users and the general population. Background information on socioeconomic status and product purchase history should be collected on subjects in a CBC study, to enable weighting to correct for sampling imperfections such as uneven attrition rates, and to provide the foundation for estimation of choice models that are accurate for various demographic groups.

2.5 Outside option

Obviously, a consumer’s history and future opportunities influence product choice. If the consumer has in the past purchased substitutes or complements that are still on hand, this affects the desirability of items on a current menu. Further, if a current menu choice opens, closes, or changes the attractiveness of options in the future, the utility of a product purchase will include allowance for its future impacts.

3. RESEARCH DESIGN AND METHOD

Choice-based conjoint analysis (CBC), also known as discrete choice modeling, is an advanced market research method that identifies consumers' preferences when considering a product or service. This is done by asking research respondents to make trade-offs between competing products, each of which has a variety of attributes. Asking consumers to choose their preferred product reveals the importance of different attributes in determining consumers' willingness to pay. Product attributes might include brand, design features, price, or style; attribute levels (within each attribute) might be.

3.1. CBC Design

The CBC method provides choice sets from a combination that has been designed previously. Attributes are factors that influence a respondent in determining their choice. Where each attribute consists of several levels. A group of choices consists of several tasks and one task usually consists of more than two product concepts. In this study, there are 5 (five) hotel service attributes that are used to determine the profile or selection stimuli by respondents, namely location, internet network, room service (amenities), availability of a café, breakfast, and whether or not it is smoke-free.

Table 1. Variable Information: CBC Design

Short name	Nbr. of categories	Category 1	Category 2	Category 3
Location	3	Center	Center2	PHERI
Wifi	2	YES	NO	
Amenities	2	YES	NO	
Café/Lounge	2	YES	NO	
Breakfast	2	YES	NO	
Smoking Area	2	YES	NO	

With the availability of a group of choices, then by using a standard factorial design, 12 profiles are formed which are a combination of hotel facility choices that have differences from each other. Furthermore, respondents are given the opportunity to choose a profile by comparing a profile with another profile to get preferences from respondents regarding the most attractive hotel services that will be the main preference of a consumer in choosing hotel services.

Table 2. Profiles Reduced factorial design

Observations	Lokacation	Wifi	Amenities	Café/Lounge	BreakFast	Smoking Area
Profile 1	PHERI	NO	NO	NO	YES	NO
Profile 2	Center	NO	YES	NO	YES	NO
Profile 3	Center2	YES	NO	NO	NO	YES
Profile 4	Center	YES	YES	YES	YES	YES
Profile 5	Center2	NO	NO	YES	YES	YES
Profile 6	Center	NO	NO	NO	NO	YES
Profile 7	PHERI	NO	YES	YES	NO	YES
Profile 8	Center	YES	NO	YES	NO	NO
Profile 9	PHERI	YES	YES	NO	YES	YES
Profile 10	Center2	NO	YES	YES	NO	NO
Profile 11	Center2	YES	YES	NO	YES	NO
Profile 12	PHERI	YES	NO	YES	YES	NO

4. RESULT AND DISCUSSION

Based on the results of the analysis of data collected from 40 respondents, it can be stated that the respondents' preference is to choose a hotel that is not too centrally located (PHERI), with free internet service (WIFI) and with room services that are usually received in low budget hotels such as towels, toothbrushes, soap (AMENITIES), has a room to sit and discuss or can also be a café (CAFÉ), get breakfast services (BREAKFAST), and non-smoking rooms.

Table 3. Aggregated Utilities:

Source	Utilities	Std. dev.	Importances
Location-CENTER	0,007968497	0,085655	10,300
Location-CENTER2	0,017920478	0,082648	

Source	Utilities	Std. dev.	Importances
Location -PHERI	-0,025888974	0,084119	
WIFI-NO	0,024844123	0,062964	11,682
WIFI-YES	-0,024844123	0,062964	
AMENITIES-NO	0,029348066	0,05943	13,800
AMENITIES-YES	-0,029348066	0,05943	
CAFÉ/LOUNGE-NO	0,016294836	0,059697	7,662
CAFÉ/LOUNGE-YES	-0,016294836	0,059697	
BREAK FAST-NO	0,061921008	0,064897	29,117
BREAK FAST-YES	-0,061921008	0,064897	
SMOKING AREA-NO	-0,058352936	0,064462	27,439
SMOKING AREA-YES	0,058352936	0,064462	

When viewed from the importance value, it can be stated that the main consideration of the respondents is the availability or absence of breakfast services. This is understandable because low-budget hotels that are located far from the center of the crowd may make it difficult for guests to get food in the morning. The considerations that get attention from respondents are the absence of smoking rooms, or the hotel must be smoke-free. This is understandable because low budget hotels are generally physically minimalist buildings or residential houses that have been converted into hotels, so if someone smokes, it has the potential to disturb other guests.

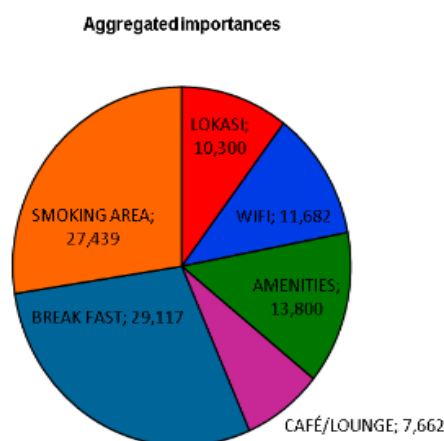


Figure 1. Aggregated importances

5. CONCLUSION

Conjoint analysis can be used to determine consumer preferences for choosing low-budget hotel accommodation services. The full-profile method is more efficient in evaluating attributes because this method can compare all attributes at once so that it is closer to the actual or more realistic situation. Based on the research that has been done, there are attributes that are considered important by consumers in choosing a hotel, namely breakfast service attributes, non-smoking attributes, room service attributes. When viewed from the utility value, it can be seen that all respondents prefer low-budget hotels that are not too centrally located, have internet services, room service, breakfast, and non-smoking rooms.

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