## Consumer Utility Analysis of Halal Certification on Beef Using Discrete Choice Experiment: A Case Study in the Netherlands

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Abstract: Halal is a dietary law observed by people following Islamic faith. It is considered as a type of credence food quality which cannot be easily assured by consumers even upon and after consumption. Therefore, Halal certification takes place as a practical tool for the consumers to make an informed choice particularly in a non-Muslim majority country, including the Netherlands. Discrete choice experiment (DCE) was employed in this study for its ability to assess the importance of attributes attached to Halal beef in the Dutch market and to investigate consumer utilities. Furthermore, willingness to pay (WTP) for the desired Halal certification was estimated. Four most relevant attributes were selected, i.e., the slaughter method, traceability information, place of purchase, and Halal certification. Price was incorporated as an attribute to allow estimation of willingness to pay for Halal certification. There were 242 Muslim respondents who regularly consumed Halal beef completed the survey, from Dutch (53%) and non-Dutch consumers living in the Netherlands (47%). The vast majority of the respondents (95%) were within the age of 18-45 years old, with the largest group being student (43%) followed by employee (30%) and housewife (12%). Majority of the respondents (76%) had disposable monthly income less than € 2,500, while the rest earned more than € 2,500. The respondents assessed themselves of having good knowledge of the studied attributes, except for traceability information with 62% of the respondents considered themselves not knowledgeable. The findings indicated that slaughter method was valued as the most important attribute, followed by Halal certificate, place of purchase, price, and traceability information. This order of importance varied across sociodemographic variables, except for the slaughter method. Both Dutch and non-Dutch subgroups valued Halal certification as the third most important attributes. However, non-Dutch respondents valued it with higher importance (0,20) than their Dutch counterparts (0,16). For non-Dutch, the price was more important than Halal certification. The ideal product preferred by the consumers indicated the product serving the highest utilities for consumers, and characterized by beef obtained without pre-slaughtering stunning, with traceability info, available at Halal store, certified by an official certifier, and sold at 2.75 € per 500 gr. In general, an official Halal certifier was mostly preferred. However, consumers were not willing to pay for premium for any type of Halal certifiers, indicated by negative WTP of -0.73 €, -0.93 €, and -1,03€ for small, official, and international certifiers, respectively. This finding indicated that consumers tend to lose their utility when confronted with price. WTP estimates differ across socio-demographic variables with male and non-Dutch respondents had the lowest WTP. The unfamiliarity to traceability information might cause respondents to perceive it as the least important attribute. In the context of Halal certified meat, adding traceability information into meat packaging can serve two functions, first consumers can justify for themselves whether the processes comply with Halal requirements, for example, the use of pre-slaughtering stunning, and secondly to assure its safety. Therefore, integrating traceability info into meat packaging can help to make informed decision for both Halal status and food safety.

**Keywords:** consumer utilities, discrete choice experiments, Halal certification, willingness to pay

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