E-commerce is one of digital medium commonly used by business practitioners from any levels and backgrounds. Currently, the number of e-commerce sites in Indonesia is about 185 companies. E-commerce sites are selected from e-commerce sites that not only sell one type of goods and exist on the type of e-commerce sites B2B2C and C2C so there is no unequal comparison. This study is made to evaluate the quality and to observe top e-commerce sites in Indonesia based on usability values by applying the combination of Consistent Fuzzy Preference Relation (CFPR) and Linear Weightage (LW) methods to 11 e-commerce sites. The usability values applied to the 11 e-commerce sites include load time, page rank, traffic, design, size, broken link, accessibility error, bounce rate, average per session, and backlink. The data from 10 criterias were tested three times within one month by using online-analysis software, where every process of data collection was conducted simultaneously, the processed by using CFPR and LW in a system developed with Waterfall method. This study has found a system that is able to apply both CFPR and LW methods in evaluating those 11 e-commerce sites based on 10 determined criterias, where Blanja has become the best quality e-commerce. All criterias in this study have an impact on the level of service provided to facilitate users using e-commerce sites, especially load time as a biggest criteria.

Keywords: E-commerce, Consistent Fuzzy Preference Relations, Linear Weightage, Waterfall, Usability Website.