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In general, the consumer utility of network goods is affected by the entire network size. The present work departs from this standard assumption. We develop network structure, structure of utility function and consumer decision rule under the influence of local network externality concept. The significance of this work is illustrated by the association between network attributes and market equilibria. In addition, we introduce an agent-based modeling simulation (ABMS) as an alternative approach to the mathematical deductive reasoning approach. (Received January 13, 2012)