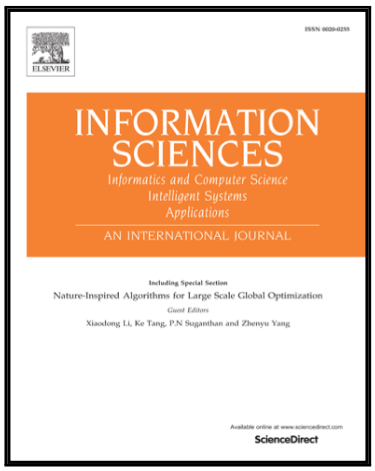

Measuring consensus and dissensus: A generalized index of disagreement using conditional probability

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Measuring consensus and dissensus: A generalized index of disagreement using conditional probability

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Abstract

We generalize an index of disagreement recently proposed by Akiyama et al. (2016), which can be applied only to surveys that measure opinions expressed using the standard 5-scale Likert scale, to a general case that uses any scale with more than five response levels. As stated in the aforementioned study, the variance alone, computed from a survey that employs the Likert scale, is not an adequate indicator for measuring the disagreement within a group because the range of the variance is a function of the mean. To overcome this limitation, they define the disagreement index using a conditional probability density function, which allows us to compare responses to questions having different means or between groups across different time periods. However, developing a measure that considers Likert scales larger than five has not yet been developed, and our work addresses this lacuna. As an example, we illustrate an advantage of our generalized measure by calculating the disagreement within consumers' price expectations.

Keywords: Consensus measure, Dissension measure, Dispersion, Likert scale

1. Introduction

People in a group tend to have a wide variety of opinions on various issues. Accordingly, it is critical to be able to determine a population's general position

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