

## Linguistics Analytics in Data Warehouses Using Fuzzy Techniques

P. P. G. D. Asanka

*Department of Computer Science and  
Engineering*

*University of Moratuwa  
Moratuwa, Sri Lanka  
dineshasanka@gmail.com*

A. S. Perera

*Department of Computer Science and  
Engineering*

*University of Moratuwa  
Moratuwa, Sri Lanka  
shehan@cse.mrt.ac.lk*

### Abstract

*A data warehouse is used intensively in many industry domains to gain competitive advantage over its competitors. In modern data warehouses, linguistic analytics is an important aspect, so that it has the ability to take more precious decisions. In most of the data warehouse implementations, it is designed for crisp analysis. Crisp analysis has its own limitations and boundaries with the major assumptions that every situation belongs to one state and denial to other states. Hence, crisp data warehouse does not allow to carry out linguistic analytics. When a fuzzy data warehouse is implemented, because of the fuzzy nature of the data warehouse, linguistic analytics can be done to a certain extent. In this research, non-functional requirements such as performance and configuration are also covered so that this method can be implemented in the real world.*

**Keywords:** *Data Warehousing, Fuzzy Theory, Fuzzy Membership Function, Linguistics*