Drink. Water Eng. Sci. Discuss.,
doi:10.5194/dwes-2017-19-RC2, 2017

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Discussions

Interactive comment on "Modeling and Clustering Water Demand Patterns from Real-World Smart Meter Data" *by* Nicolas Cheifetz et al.

Anonymous Referee #2

Received and published: 13 April 2017

The authors present a comparison of two approaches for water demand pattern clustering. The topic is of interest and the manuscript is logically structured and technically sound. I have only a couple of concerns:

1) The authors should explain more clearly how the clustering information provided by the proposed procedures could be effectively used for system management and/or customer services. In particular, at page 2, line 11, the author state that "Analyzing smart meter consumption is useful for water utilities in order to develop innovative capabilities in terms of grid management, planning and customer services. Functional clustering aggregates data mining techniques, which aims to identify homogeneous groups among functional data without using prior knowledge about their group labels". How information about homogenous groups can be used for grid management? Please provide practical/field based example of application of the clustering analysis for grid

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management and customer services.

2) Page 7, lines 23-25: the length of the time series yi of each monitored user is T=11016. After the extraction of the periodic seasonal patterns, the length of the time series xi of each monitored user should still be T=11016, but according to line 25 it seems that the length is 168. Please clarify. Indeed the time series of each user is made up of around 11016/(24*7) weekly series. Are you averaging these 65 weekly time series of each user? In such a case it should be worth noting that the weekly pattern of each user during a year can change significantly. Indeed, for example, in winter morning and evening peaks can be more or less the same, whereas, for the same users, in summer the evening peak can be significantly higher than the morning peak. Are you taking into account this aspect?

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