Analysis of usage of data-based modelling techniques in soft sensing is provided in Section 2. The analysis is based on research articles published in the following journals between 2015 and 2019.

* Journal of process control
* Industrial and engineering chemistry research
* Computers and chemical engineering
* Control engineering practice
* IEEE transactions on industrial electronics
* IEEE transactions on control systems technology
* IEEE transactions on industrial informatics
* Chemometrics and intelligent laboratory Systems
* AICHE Journal
* Journal of chemometrics

Soft sensors are categorized into white, black and grey box models, depending on the approach that is followed to develop a soft sensor. Black box models are further classified into two groups. The first group uses statistical approaches such as PCA, PLS, ICA and GMM whereas the second group employs machine learning algorithms like ANN, SVM, RF, etc. Categorizations shown in Figures 1 to 4, and 6 are based on the content of each article considered for the analysis. Figures 2 to 4 provide statistics about the actual usage of data-based techniques in inferential measurements. Most soft sensing methodologies have been tested in industrial case studies in an offline fashion, and may not have been implemented in real industrial processes.