Multidimensional data contain only physical quantities and the learning task itself belongs to physics, where data types and measurement procedures are well developed. In this case, the measurement theory [Krantz et al, 1970, 1981, 1990] provides formalized empirical systems and the groups of permissible transformations of all quantities. The use of the mentioned methods is most appropriate. However, the following problems remain:

a) To establish the invariance of the data mining methods within permissible transformations of quantities of the data is needed. The invariance of the methods is a necessary condition of their meaningfulness. The invariance means that the resulting learned rule should not depend on choosing particular numerical representations and measurement units. As is shown in [Kuzmin V.B. et al, 1977; Orlov A.I. 1979, 1977; Terehina A.Y. 1973; Tyrin Y.N. et al, 1981; Roberts F.S. et al, 1976], the proof of the invariance of the methods is a rather difficult task and most methods are not invariant for permissible transformations.

b) Nevertheless, the invariance is not a sufficient condition for a rule to be meaningful. Even if a method is invariant for the permissible transformations of a data type, this does not mean that the results are interpretable in terms of empirical systems [Luce et al, 1971, 1981, 1990; Pfanzagl J. 1971; Roberts F.S. et al, 1976]. However, for many practical tasks this strong interpretability is needed to obtain valuable knowledge.

c) The methods, which are invariant, satisfy a weaker condition of interpretability. For instance, we may be able to interpret relation "=" if we discover that $y = f(x_1,\ldots,x_n)$ for data D, but this does not mean that we will also be able to interpret the function f itself. The function f can use non-interpretable relations and operations, but be invariant for permissible transformations. In other words, it is possible that we can not interpret function f, but we are able to interpret "=" for values of this function. For example, in "black box" approaches such as neural networks, we can not interpret a particular network f, but we can interpret that NN produced the same correct pattern for two different inputs.