Review of: "Science desperately needs disruptive innovation"

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The paper deals with disruption in science. For analysing this issue, the authors suggest a disruption index and derived from that stages of disruptive pattern, disruptive year etc. The suggested indicators primarily reflect the size of variance.

The representation of the results is quite fuzzy, e.g. in Figure 1.

This analysis has several shortcomings:

- All inputs, investments, publications etc., are taken from foreign sources. The definition of the search strategies is unclear. However some search strategies e.g. for artificial intelligence are quite complex and the quality has to be checked.

- Usually, disruptive changes are analysed by comparing publication and patent trends. The analysis of formal values is not sufficient. A deep knowledge of the analysed technology is necessary. It is useful to ask experts in the area.

- The pure formal analysis implies errors. E.g. the claim "Based on the four-stage pattern identified here, Artificial Intelligence, Quantum Computing, and other tech-science disciplines are expected to reach their Plateau stage in 2-5 years (Fig. 3)." is definitely wrong. Both fields will reach the plateau much later.

All in all, the analysis of disruption needs deep knowledge on the fields and cannot be replaced by mathematic formula.