Review of: "Science desperately needs disruptive innovation"

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Potential competing interests: No potential competing interests to declare.

Your manuscript presents a very interesting and important solution for researchers of the issues of innovation, economic growth and commercialization. The presented concept of Disruption Index is clear and based on a large amount of data.
In recent years, attempts have been made to identify areas where disruptive innovation may appear. Identification of growth areas and those in which disruptive innovation may occur can also be assisted by methods using AI and big data. For example, to identify technology trends. However, finding here areas that may become highly innovative is methodologically difficult and may be burdened with a large forecast error.
In your paper you write that “many governments and funding agencies acknowledged scientific stagnation as a strategic threat to economic growth. They invest in scientific research, despite its plummeting effectiveness” This is true; you write here about R&D and implementations – maybe it's worth referring to basic researchas as those that in the long run can "translate" into economic growth as well.
In your paper you write that “previous studies aiming to define the dynamics of scientific breakthroughs analyzed the effect of research team sizes, the numbers and impact of citations and patents, the depletion of low-hanging fruit and the de-focus of scientific incentives, among other directions”. What about an important factors such cooperation, the ability to cooperate and social capital?
In your paper you write that “previous studies proposed disruption indices that use scientific citations as proxy for influence”. Some studies indicate the source of funding of research project as a kind of predictor of the implementation potential of its results and proxy for influence.
In my opinion, “investments normalized” requires more methodological explanation.
In your paper you write that in “Deep-Tech the discipline is, the faster tech giants exploit its disruption once it occurs, and attract much of the activity. It may be similar in the case of patenting, when patents do not indicate commercialization potential, but are used to block specific solutions from entering the market
In your paper you write in universities, that “they implement a supportive innovation strategy to drive research into business-related areas”. The question is, is it an effective strategy and what does an effective one look like? A serious challenge in many countries, there is simply no systemic transmission belt from science to industry.
You write that “their efforts to promote innovation and entrepreneurship, […] do not produce considerable breakthroughs. Their main discoveries are made in relatively new areas where little research has been done so far, or data has not been collected in large quantities to date”. This may be due to the role of universities and the "deficits" of basic research?
In your paper you write that in “decision makers in universities, funding agencies, and research institutes should adopt a

venture capital approach to boosting new disciplines, and allowing research pivots (i.e., unexpected turns), based on the understanding of disruption activity and patterns, as manifested in the DI and DP measures." … but Is it possible taking into account processes of financing the activities of universities? This probably also requires greater commitment and higher social capital among financial decision-makers. …in any case, leading to university strategies of such an approach as a new, basic and common modus operandi would itself be a disruptive innovation :-)