

Blockchain readiness

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Blockchain can revolutionize scientific research

A decentralized, distributed, immutable and transparent Blockchain-based system could revolutionize scientific research and provide solution to its urgent problems. It could be used for permanently and transparently storing and sharing data, run data analysis algorithms, and for altering the current system for research evaluation, publishing and research funding. But would scientists use a system like that?

VREs—overlap with Blockchain for Science

Virtual Research Environments (VREs) are innovative, online, community-oriented, flexible and secure working environments designed for scientific groups working together. Some features like data storage and sharing and performing collaborative or automated analysis overlap with the approach proposed for Blockchain for Science.

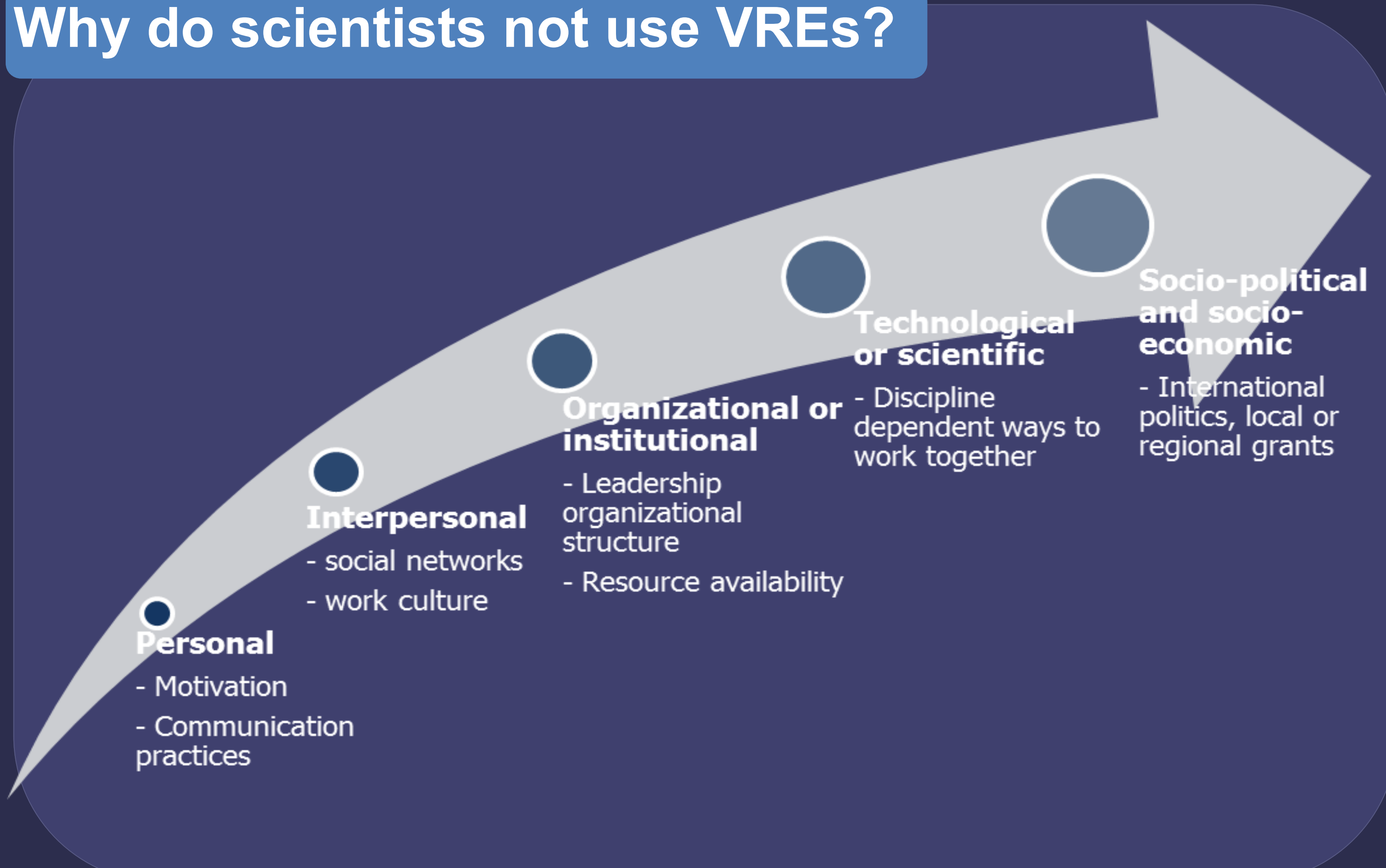


VREs were said to

- change research practices
- make research faster, more efficient and transparent
- speed up the shift between fundamental and applied science

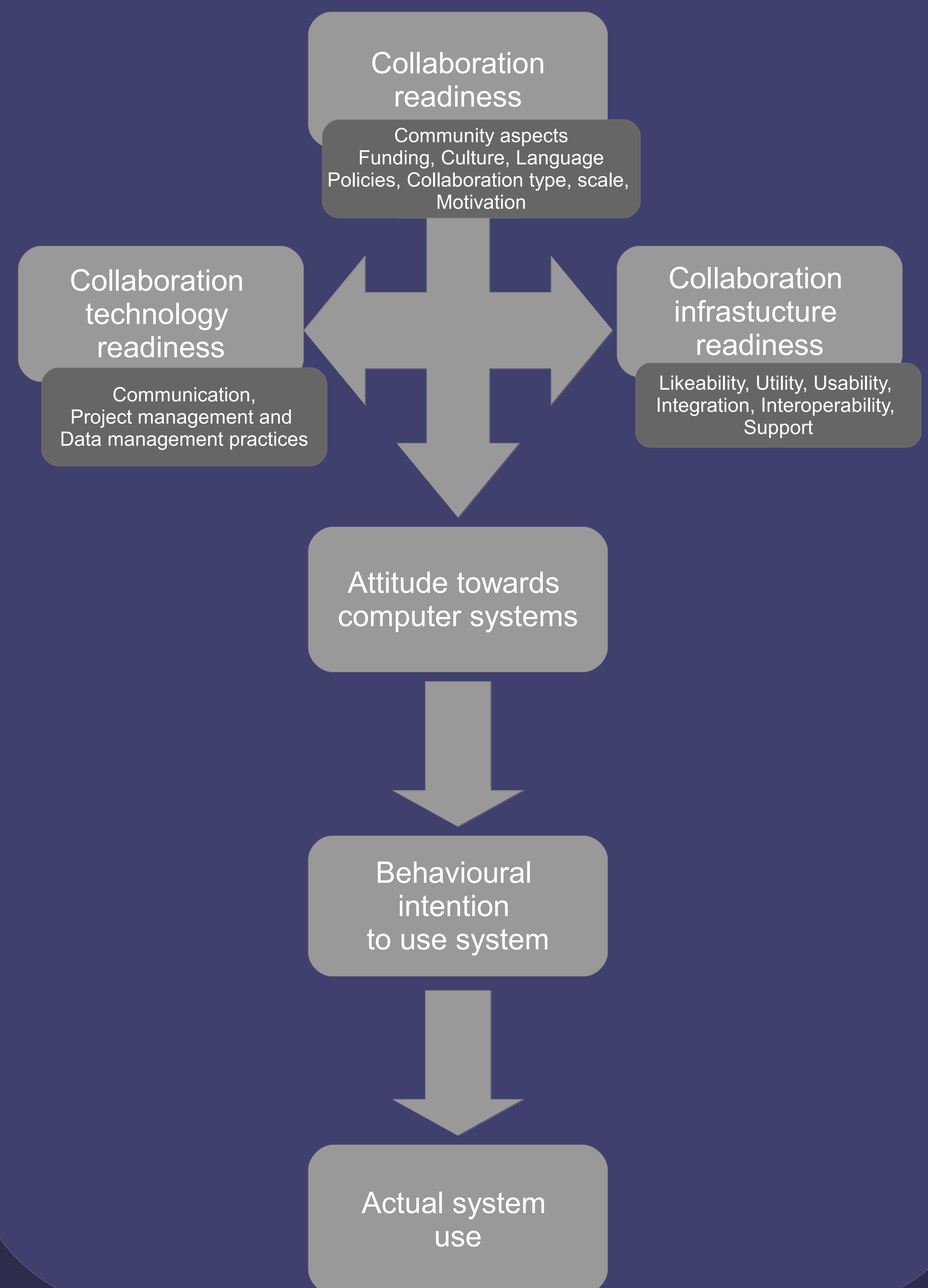
While policy makers are still pushing the agenda of developing and employing VREs, most scientists do not use these.

Why do scientists not use VREs?



Collaboration readiness

Using a literature study, data gained from interviews with VRE experts and scientists using VREs, and a questionnaire made for scientists, a collaboration readiness model was built. The factors that play important role in determining scientists' attitude towards VREs can be grouped into three categories.



Blockchain readiness

Taking into account the similarities of VREs and Blockchain for Science, I propose that the Collaboration readiness model, with few modifications could be used to map scientists' Blockchain readiness.

Based on this model, not only the infrastructure has to be in the focus of development, but the potential users should be integrated into the innovation process. The current problems are already present in the equation, but also the ideas, fears and current work practices have to be taken account if we want scientists to use the scientific research process revolutionized by Blockchain.

"Whether they be social networking sites, electronic laboratory notebooks, or controlled vocabularies, these must be built to help scientists do what they are already doing, not what the tool designer feels they should be doing"

Neylon and Wu 2009