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## **Co-evolution between Trust in Teachers and Higher Education toward Digitally-rich Learning Environments**

Chihiro Watanabe <sup>a,b</sup>, Kashif Naveed <sup>a</sup>, Pekka Neittaanmäki <sup>a</sup>

#### Abstract

Based on a powerful notion that the quality of higher education is crucial for innovation in a digital economy and that this quality is subject to a conception of trust in teachers to deliver good education as well as the advancement of information and communication technology (ICT), the dynamism of the co-evolution between Teacher trust and ICT was analyzed.

Using a unique dataset representing the above system and consisting of: 1) the rate of trust in teachers providing good education in the context of quality of education 2)their social status, 3)the level of higher education and 4) the state of ICT advancement toward digitally-rich learning environments, an empirical numerical analysis of 20 countries was attempted. These countries were classified as *advanced*, *semi-advanced* and *growing*.

It was found that while ICT advanced countries have embarked on a co-evolution of ICT and higher education and trust, the ICT growing countries have not been successful in this due to a vicious cycle between ICT and trust. Finland's educational success can be attributed to this co-evolution which corresponds to the emergence of un-captured GDP similarly to the leading edge of an ICT-driven disruptive business model. The paradox of education productivity in ICT growing countries can be attributed to disengagement from this cycle.

It is suggested that steady ICT advancement fully utilizing external resources in digitally-rich learning environments may be essential to ICT growing countries in achieving higher education. On the other hand, continuing innovation to transform learning environments into new digitally-rich learning environments should be maintained in ICT advanced countries.

A new approach for constructing the above-described co-evolution in a systematic way is explained and explored.

<b>Keywords:</b>	Trust	in	teachers,	Pedagogical	love,	Education	productivity	paradox,
Digitally-rich	learni	ng e	environme	nts, Blended 1	earnin	g. Un-captu	red GDP	

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