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An Integrated Theory of Creativity and Innovation

The explanation of creativity and innovation has become an important topic for all post-industrial societies which develop more and more in knowledge based societies. Whereas in psychology the measurement and explanation of creativity has been more in the focus, innovation adoption and diffusion has been dealt with by sociology, political science, economics and geography. In this paper we try to develop an integrated multilevel process model. Based on clear definitions of creative and innovative behavior it distinguishes between 4 different levels of explanation: individual, group, organizational and national. These levels are relevant both for the dependent and the independent variables. We illustrate the different levels by selected studies collected for a metaanalysis on culture, values and innovation. In a next step we propose to integrate on the individual level the Dual Pathway to Creativity Model of De Dreu,Baas and Nijstad(2008) with the generalized value expectancy model for explanation of innovation proposed by Kaufmann/Schmidt(1976) and the explanation of creativity and innovation by values(Dollinger /Burke/Gump 2006 and Schwartz/Bardi 2001). In addition we discuss how classical demographic variables like age, gender, education and professional status can be integrated into such a model to reconcile inconclusive emprirical evidence as summarized in Rogers classic book(1998) on diffusion of innovations.

To test such an integrated model in experiments and surveys one has to model the underlying mechanisms and mediation hypotheses by using simultaneous equations in structural equation modeling. We demonstrate this by a selected example.

The next higher level of explanation is represented by the group level. In this part we try to integrate the Motivated Information Processing in Groups model(De Dreu 2007, De Dreu/Nijstad/Baas 2011) with the social network tradition from sociology(Coleman/Katz/Menzel 1957, Rogers 1998) and the concept of group and cultural values values(Schwartz 2011 and Bardi/Schwartz/Arieli 2011). As an outcome we formulate a multilevel model with individual creative and innovative behavior as dependent variable. Especially important seems to be to specify the causal mechanisms in the underlying micro-macro model (Bullock et al. 2010).

In the last part we deal with the process character of the theory. On the theoretical level this implies to use other models than classical linear equations as they do not reflect the time dimension in the underlying process. For this purpose one has to use on the theoretical level stochastic differential equations and on the empirical level panel data (longitudinal data) with at least three waves to estimate such models empirically. To illustrate this we formulate one such model and show which additional information one gets from these models compared with cross-sectional data or even autoregressive models or growth curve models using panel data(Völkle/Oud/Davidov/Schmidt resubmitted 2011) .