CROSS-COUNTRY DIFFERENCES IN ENTREPRENEURIAL ACTIVITY: ADDING INSIGHT THROUGH SIMULATIONS (SUMMARY)

Jaehu Shim
Queensland University of Technology, Australia & Chung-Ang University, South Korea, jaehu.shim@qut.edu.au

Per Davidsson
Queensland University of Technology, Australia

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CROSS-COUNTRY DIFFERENCES IN ENTREPRENEURIAL ACTIVITY: ADDING INSIGHT THROUGH SIMULATIONS

Jaehu Shim, Queensland University of Technology, Australia
& Chung-Ang University, South Korea
Per Davidsson, Queensland University of Technology, Australia

Principal Topic

Our study aims to explain the possible roles of social network structures (Dodd & Patra, 2002) and informal investors (Bygrave et al., 2003) in determining countries' new firm formation rates. It is difficult to capture informal investment activities (Mason & Harrison, 2008), and even more difficult to figure out their social network structure (Hoang & Antoncic, 2003). To overcome these difficulties, simulation can be a useful tool. Simulation is regarded as an effective way to elaborate on theories (Davis, Eisenhardt, & Bingham, 2007); furthermore, agent-based modelling and simulation (ABMS) can test lower-level mechanisms that produce stylized facts on the aggregate level (McMullen & Dimov, 2013). This study tries to explain the opportunity-driven new firm formation rates across countries by simulating nascent entrepreneurs' networking activities with informal investors, and to propose a new agent-based model (ABM) of venture creation process.

Method

We established our ABM to reproduce the venture creation process. The ABM is composed of two types of main actors: nascent entrepreneurs and informal investors. The numbers of main actors in each country were assigned according to the adult population survey (APS) of the GEM. Then, we implemented each country's social network structure by connecting every actor, considering the known features of social networks in each country (e.g. Dodd & Patra, 2002). To confirm the validity of the implemented social network structure, we used each country's social network-related response reported by the GEM. We then set several behavioral rules for the actors. During simulation experiments for each country, the virtual entrepreneurs try to network with informal investors on their social networks, and launch their businesses based on the behavioral rules.

Results and Implications

Among the countries we have simulated, virtually half of the countries' new firm formation rates are within the confidence intervals of 95%, compared to the GEM survey. Moreover, this simulation approach explains the cross-country differences more effectively than the statistical approach. However, we also found that some countries' simulated results were below their GEM survey. Most of these countries' individualism indexes were relatively high by Hofstede's Culture Dimensions (Hofstede, Hofstede, & Minkov, 2010); therefore, this result may be associated with these countries' individualistic culture. In individualistic cultures, entrepreneurs prefer to gain resources by formal contracts rather than informal relations (Tiessen, 1997). Our simulation results trigger insights into the role of country culture as a moderating factor, and illustrate how simulation can guide theory elaboration.

CONTACT: Jaehu Shim; jaehu.shim@qut.edu.au; (T) +617 3138 2035; Australian Centre for Entrepreneurship Research, Queensland University of Technology, 2 George St, Brisbane, QLD, Australia.