

# *Insights from two empirical quantitative research papers*

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Getting Started / December 2022

# Structure

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- Overview of the two papers
  - Theoretical Background
  - Methods, Hypotheses
  - Findings and Discussions
- Insights gathered
- Conclusion and Final Remarks

# Papers analyzed

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Martin, B. C., McNally, J. J., & Kay, M. J. (2013). Examining the formation of human capital in entrepreneurship: A meta-analysis of entrepreneurship education outcomes. *Journal of business venturing*, 28(2), 211-224.

Schubert, T., & Tavassoli, S. (2020). Product innovation and educational diversity in top and middle management teams. *Academy of Management Journal*, 63(1), 272-294.

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- ***Motivations***

- Journal of Business Venturing
- Topic and focus areas of the research
- Slightly "older" paper than the other

- **Theoretical Background**

- Human Capital Theory
  - "Predicts that individuals or groups who possess greater levels of knowledge, skills, and other competencies will achieve greater performance outcomes."
- Entrepreneurial Education Training (EET)
- Links between EET and Entrepreneurial Knowledge & Skills
- Input vs. Output --> Human capital investments and corresponding assets

## ***Martin, B. C., McNally, J. J., & Kay, M. J. (2013)***

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- ***Hypotheses***

- H1. EET will be positively associated with entrepreneurship-related human capital assets.
- H2. EET will be positively associated with entrepreneurship outcomes.
- H3
  - a. Training-focused EET will be more positively associated with entrepreneurship-related human capital assets than will academic-focused EET.
  - b. Academic-focused EET will be more positively associated with entrepreneurship outcomes than will training-focused EET.

- **Method(s)**

- **42 independent samples (N=16,657)** --> existing studies on EET and its effects from academia
- **Predictor and Criterion Variable**
  - Predictor: "entrepreneurship education (e.g., a university course or program of study) or training"
  - Criterion: knowledge, skills, and entrepreneurship outcomes
- "The authors coded each of the 42 independent samples identified on 25 items, which were grouped into five categories: a) entrepreneurship-related human capital assets; b) entrepreneurship outcomes; c) moderators; d) methodology; and e) publication bias."

## ***Martin, B. C., McNally, J. J., & Kay, M. J. (2013)***

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- ***Findings & Discussions***

- Hypothesis 1 was supported
- Hypothesis 2 was supported
- Hypothesis 3a was not supported
- Hypothesis 3b was supported
  
- "our findings suggest that those resources are having some positive impact in increasing interest and attitudes toward entrepreneurship among students who attend such courses, and in improving their financial performance as entrepreneurs"
  
- "Our study addresses these gaps in the entrepreneurship literature in an important way. We have provided a quantitative assessment of the EET literature showing that EET has positive, significant relationships with a number of entrepreneurship related human capital assets and entrepreneurship outcomes."
  
- "Our results were supportive of the notion that entrepreneurship-specific human capital formation can be influenced by entrepreneurship-specific education"

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- ***Motivations***

- Topic of educational diversity
- Product innovation --> somewhat related to Tua's dissertation
- Fairly recent paper (2020)

- **Theoretical Background**

- Benefits and drawbacks of educational diversity
- Forms and types of innovations in the market
- Differences in the roles of Top and Middle Management Teams (TMT, MMTs)
- "In practice, TMTs make strategic and crucial decisions about whether to innovate at all, while MMTs take these TMTs' higher-order decisions as given for their own decision making."
- "We distinguish between imitative innovation and genuine market novelties. We expect that the effects of MMTs' educational diversity are most pertinent for market novelties."

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## **Schubert, T., & Tavassoli, S. (2020)**

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- **Hypotheses**

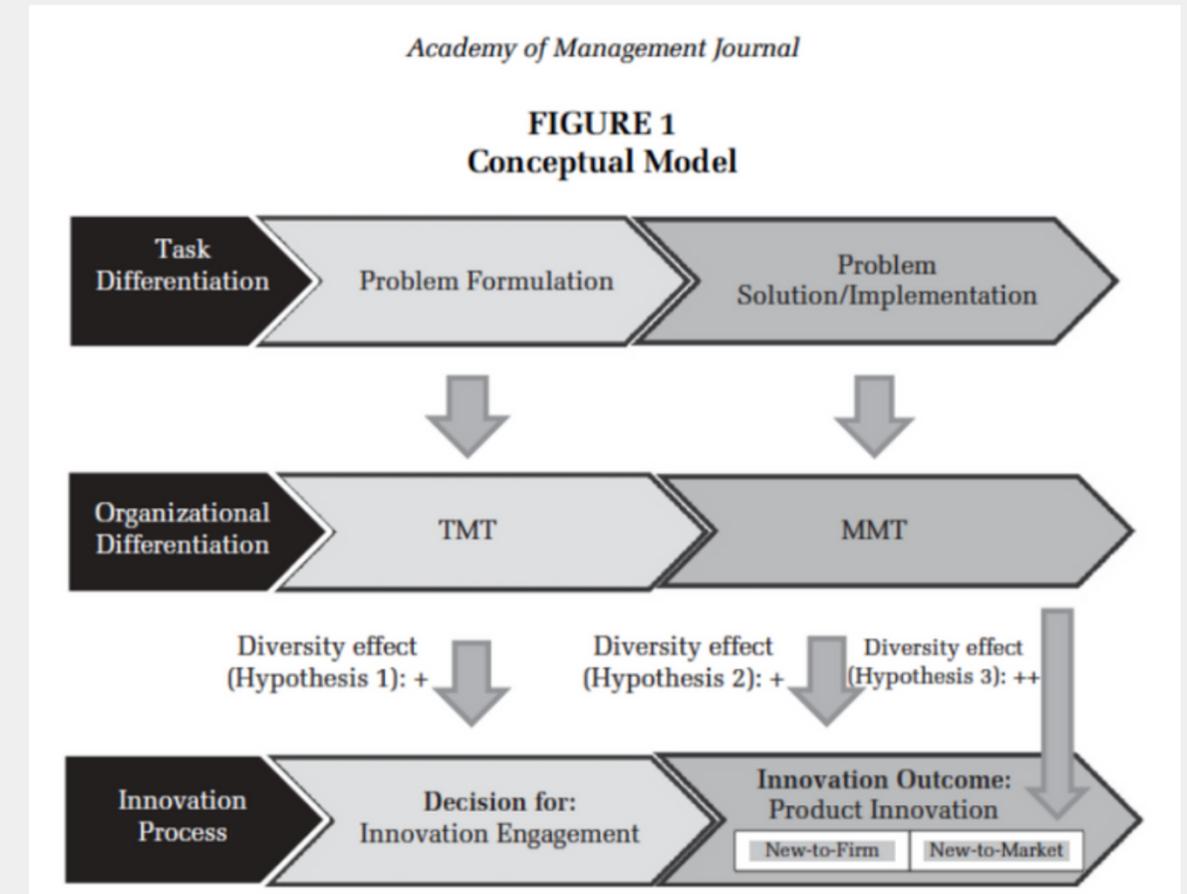
- H1. Educational diversity in TMTs has a positive effect on the firm's likelihood to engage in innovation activities (the decision to innovate).
- H2. Educational diversity in MMTs has a positive effect on the firm's likelihood of introducing new products (the outcome side of the innovation process).
- H3. The effect of educational diversity in MMTs is stronger for new-to-market innovation than for new-to-firm innovation.

- **Method(s)**

- "The dataset used in this paper results from merging three different data sources, all maintained by the Swedish Statistical Office. These sources are:
  - The Community Innovation Survey (CIS),
  - A matched population employer– employee dataset at the individual level (Longitudinal integrated database for health insurance [LISA])
  - A population dataset of registered firms in Sweden."
- 486 firms (1,873 observations)

## Schubert, T., & Tavassoli, S. (2020)

- "A product innovation, in line with the Oslo Manual (OECD, 2005) guidelines, is defined as the successful market introduction of a new or significantly improved service or good with respect to its capabilities, user friendliness, components, or subsystems."
- Educational diversity. Two commonly used indicators of variety are the Teachman's Entropy Index and the Blau Index.
- The groupings of educational background used in this paper are based on the official International Standard Classification of Education (ISCED97)
- "Theoretically, both diversity measures have a minimum value of 0 if all the TMT managers in firm  $i$  have exactly the same educational background  $j$ . The maximum values... are reached when there is an equal distribution of TMT managers over all nine educational backgrounds  $j$ ."



## **Schubert, T., & Tavassoli, S. (2020)**

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- Findings and Discussions
  - All 3 Hypotheses were confirmed
    - "Hypothesis 1 suggests that TMTs' educational diversity positively influences the strategic decision to engage in innovation activities."
    - "Thus, while MMT diversity has a generally positive effect on product innovation outcome, this only seems to be true for product innovations with a greater degree of novelty"
  - "We provided evidence that the organizational distribution of tasks between TMTs and MMTs implies that the TMTs primarily plan innovation activities and therefore affect the strategic decision of whether to engage in innovation activities, while MMTs implement the actual innovation process and therefore affect its outcome."
  - "Simultaneously, trust, debate, and conflict most likely play a decisive role in how diversity shapes the interaction of TMTs and MMTs, and how this interaction influences both the costs and benefits of diversity."

## ***General Comments and Remarks***

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- I found the manner in which both papers established their datasets useful and interesting
  - While the Martin et al. (2013) paper looked at previous empirical academic studies, Schubert and Tavassoli made use of data collected by the Swedish government and registries.
- The Schubert and Tavassoli (2020) paper also made use of explicit definitions from organizations such as OECD to help narrow down the focus of product innovation for their studies.
- I also found the further research avenues presented by both papers useful and topics that I myself may be interested in looking at further.
- I found the Schubert and Tavassoli (2020) easier to follow and read, as it felt like the structure and way of writing was more organized.
  - I also found the conceptual model figure utilized in the paper extremely useful.
- This exercise as a whole
  - Reduce my fear and stress of looking at and analyzing quantitative research papers.
  - looking at quantitative approaches towards knowledge and research areas of my own interest.

# Thank You

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