

A Tool for Measuring the Potential Success in Implementing an Innovative Technological Idea among Tech Innovators

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Ph.D. Thesis

Submitted to the Senate of Bar-Ilan University

Ramat-Gan, Israel

February, 2018

Abstract

This research aimed to explore the technological entrepreneurship phenomenon, from a cognitive point of view, in order to identify personality characteristics and thinking skills of a technology entrepreneur to implement his or her idea successfully. In particular, this study scanned cognitive thinking factors associated with technological Idea Implementation. Our main hypothesis was that with these factors we can point out the entrepreneurs with a high potential to succeed in implementing his ideas in real business environments.

Technological innovation is the ability to translate an idea to a product or a service and is one of the main keys to the technology entrepreneurs' success (Amabile, 1988; Hargreaves, 2003; Kim & Maubourgne, 2005; Mumford, 2000). Innovation is also defined as creativity that was implemented successfully and depends on the entrepreneur's ability to think, learn and create (Amabile, 1988; Brazeal & Herbert, 1999; Janssen, 2001; Schumpeter, 1934; West & Farr, 1989 West, 2002).

The ability of technology entrepreneurs to innovate consist the ability to create new ideas - Idea Generation, and to implement their ideas - Idea Implementation (Janssen, 2001). Identifying these capabilities before engaging in a new venture will enable entrepreneurs or investors to predict the potential for successfully implementing innovation in the future by the idea generator, under the assumption that the predictor of future behavior is similar to past behavior (Sternberg, 1996).

The problem we identified:

A comprehensive study conducted by ReversExit in collaboration with IVC, among 10,000 active companies in Israel during the years 1999-2014, indicated that only 4.8% of all start-up companies established are considered to be successful. The Israeli Central Bureau of Statistics data for 2016 on this issue, indicated that 67% of technology companies operating 12 years or less declared closure.

The new ventures fail because the technological innovator did not take into account practical issues like Idea Implementation and ignored the constraints of the market and the organization (Goldenberg, Lehmann, & Mazursky, 2001). Most existing research tools measure the technological entrepreneurs' ability to create original ideas or to perform innovative thinking, but do not measure the potential to implement their ideas (Krause,

2004; West & Anderson, 1996). In addition, the cognitive dimension that was validated in most of the existing tools in measuring the potential was mostly focused on the cognitive style for adopting or creating innovation (Kirton, 1976) and not the cognitive style of the entrepreneur to implement successfully an innovative technological idea.

The purpose of this research:

To examine the issue of technological entrepreneurship from the cognitive perspective. The purpose was to check out existing models and tools for testing the technology entrepreneur's capabilities, key characters, personality factors and their relationship with idea implementation. In particular to suggest a cognitive model that links between different time styles, time perspective styles and test its reliability to point out the entrepreneur with the high potential success rate in implementing his/her innovative technological idea.

The research method:

Therefore, we choose a convenient entrepreneurs sample, which was taken from two different population groups: technological entrepreneurs and managers as a control group.

With them, we developed an integrated measurement tool, built from different existing sub-tools in the market and tested its validity and reliability.

The research main findings:

1. Entrepreneur' Idea Implementation tool (E.I.I) was found to be a valid and reliable tool ($\alpha=0.82$), for measuring the technological entrepreneur' potential success in implementing his/her ideas.
2. Four technological entrepreneurial types with idea implementation capabilities were identified. The first is a mission-oriented entrepreneur, focused on the present, an executioner, a goal-oriented person and a conformist. The second is a dynamic entrepreneur, focused on the future, proactive personality who can adapt to the changing situation in a flexible manner. The third is an analytical entrepreneur, who goes into details and has the ability to find solutions to logical problems. The fourth is an integrated entrepreneur (dynamic/mission) that function well in both styles, depending on the changing situation.

3. The findings of the study indicate that technological entrepreneurs with integrated entrepreneurial style (Dynamic/Mission), have experience in previous ventures, prior knowledge in the field of the venture area and invested money, are entrepreneurs with high potential to implement their ideas. At the stage of arriving with a product or service to the market, the entrepreneur is required to have a mission-oriented approach that focuses on the present, looks at past experience and future goals. After establishing the company, and in order to survive over time, the entrepreneur is required to have an integrated (dynamic/mission) entrepreneurial style focuses on the future, analytical thinking to solve problems while taking financial risks.
4. The mission and dynamic entrepreneurial styles can be predicted by different time styles and different time perspectives styles.

Theoretical contribution of the research:

The current study pointed out the need to develop an integrated tool for testing the potential success of technology entrepreneurs in implementing successfully their ideas. The research findings and the integrated measurement tool, we developed and tested could be used for:

1. Early identification of technological entrepreneurs which have the cognitive ability to move the entrepreneurship from an idea to a successful implementation stage and technological entrepreneurs who have deficiency in cognitive abilities to implement their ideas.
2. The deficiency in cognitive abilities can be completed through Entrepreneurship education, such as tailored courses and internships.