

Doctoral Dissertation

**Entrepreneurial Learning through Effectuation and Causation for
Behavioral Development and Firm Performance:
A Psychological Process Analysis**

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Dissertation Abstract

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Since entrepreneurs these days have to face uncertain, vague, and adverse environments, they must have a diverse set of skills to respond appropriately to the market, to understand the business needs to act up based on the available resources, to identify and create new business opportunities, to access financial sources, and manage them amongst all the restrictions. Consequently, the entrepreneurship paradigm was shifted from a static perspective of a trait-based approach to a more dynamic one based on learning (Cope, 2005; Gemmill, et al., 2011; Rae, 2006; Wang and Chugh, 2014). Prior entrepreneurial learning literature focused on the role of prior work experience (Box et al., 1993; Lamont, 1972; Ronstadt, 1988; Sapienza & Grimm, 1997), and related the experience to venture performance (Bailey, 1986; Box et al., 1993; Lamont, 1972; Sapienza & Grimm, 1997). For the general population of entrepreneurs, composed of nascent and expert ones including the intrapreneurs, as well as those who have an intention to enter the entrepreneurial world, the role of experience may not be very common particularly for nascent and potential entrepreneurs including students. Therefore, how entrepreneurs learn through education or experience throughout the whole learning process becomes a question that needs to be addressed extensively. As entrepreneurial learning is defined as a continuous process of developing necessary knowledge and behavior for effective startup and management of ventures, research on entrepreneurial learning should cover that of potential and nascent entrepreneurs in addition to fully established ones.

Considering potential, nascent, and corporate entrepreneurs, this study tries to explore how entrepreneurial behavior is developed by means of education and/or experience. Entrepreneurship education (EE) literature has already reached its matured stage, yet it has been faced with critical concerns for inconsistent findings and generalizability in terms of learning. Nabi et al. (2017) raised three potential problems in EE literature behind those inconsistencies: lack of strong theoretical background in EE research, weak methodological issues, and lack of detailed pedagogical interventions. This study tries to resolve those issues and provide a comprehensive framework of entrepreneurial learning by using entrepreneurship psychology testing with randomized controlled groups in experimental training of EE, particularly for potential, nascent entrepreneurs, and corporate intrapreneurs; and for current entrepreneurs, through their experience.

By applying Frese and Gielnik's (2014) framework for entrepreneurship psychology and action planning from the health behavior change model, this study applied motivational, cognitive, and volitional paths to understand the learning process for all entrepreneurs in general. As preconditions of entrepreneurs' behavioral development and performance directly and through motivation and cognition, I utilized the combination of effectuation and causation approaches as well as an additional effect of action planning intervention to influence the comprehensive perspective of motivational, cognitive, and volitional aspects of entrepreneurial learning. To examine the entrepreneurial learning process, three empirical studies were conducted for this dissertation.

Study 1 aims to analyze the motivational, cognitive, and volitional perspectives in entrepreneurship behavior development through EE based on effectuation and causation. In

this study, 86 students taking entrance exams for executive master's degrees from a university in Myanmar were randomly assigned into two different groups _ designing the EE training with "effectuation and causation" versus "causation only". The intervention took five weeks of integrated effectuation and causation vs causation training, with ten days (2 hours per day x 2 days a week) for both groups. Data collection took place two times;_ the first time before the training and the second time immediately after the training. Entrepreneurial self-efficacy (ESE) and exploration and exploitation were measured for motivational and cognitive development while a volitional path was captured by the direct effect of the intervention on the entrepreneurial behavior, that is, objective measures for opportunity recognition based on an opportunity evaluation framework of Winsor and Hanlon (2016) and it was evaluated by two different researchers independently. ESE was positively and significantly improved as a motivational development. As for cognitive development, ambidexterity in exploration and exploitation was expected thanks to the effect of integrated effectuation and causation EE compared to causation-only training, but the hypothesis was not approved. However, cognitive development could be said improved somehow, seeing the t-test result on exploration and exploitation comparing before and after the training. Nascent and potential entrepreneurs' behavior was measured with opportunity recognition in this study, and it was also found to be improved as a direct volitional effect of EE. Serial mediation analysis revealed that only ESE served as a specific mediator but no serial mediation through ESE, and ambidexterity on the relationship between EE and opportunity recognition. The findings contribute to the EE literature by the application of entrepreneurship psychology with motivation, cognition, and volitional paths.

Some students cannot achieve the target behavior right after the education. A clearer mechanism should be adopted to enhance this gap. By adding the volitional planning interventions, this gap can be resolved. Therefore, study 2 was conducted with the purpose of exploring where an EE with an additional action planning intervention (API) could provide motivational, and volitional development for enhancing entrepreneurial behavior. Therefore, this study aims to evaluate the impacts of action planning intervention (API) following entrepreneurship education (EE) on ESE, EI, and opportunity recognition and to examine the behavioral change process from motivational and volitional perspectives through the serial mediation effect of ESE and EI. By utilizing a randomized controlled trial (RCT), the impact of action planning after EE was tested with the sample included 83 participants from a university in Myanmar. The students were randomly assigned to the API and control groups at the final day of the five week/ ten days long EE training integrating effectuation and causation. Data was collected on ESE and EI before and after training. The objective measures were used for opportunity recognition through an opportunity evaluation framework. Serial mediation analysis in SPSS Process Marcos revealed that the volitional impact of API on opportunity recognition was positively significant. From a motivational standpoint, the impact on ESE was significant, but we found no significant impact on EI; ESE and EI were serial mediators, with no specific mediation solely by ESE or EI.

In study 1 and study 2 in this dissertation, it was found that the volitional effect in both studies from the main EE and from the API was significant. Obviously, the effect size was significantly larger for study 2 whose main test was the additional effect of API to main EE. Whatsoever, there is a volitional effect to performing the entrepreneurial behavior development process of EE. This finding can help design the EE trainings solving the problem of having the inconsistent findings in EE impact literature.

Entrepreneurial learning is not only important for the startup process, but its importance also extends continually to the growth, sustainability, and success of the firms. Learning and organizational effectiveness are very commonly related concepts for established firms. Learning something requires not only to know how to play the game but also to understand

how to be flexible and adaptive under the conditions of uncertainty and complex situations for entrepreneurs. Therefore, study 3 was conducted to understand how current entrepreneurs learn and behave to react to the situation. A survey of 249 entrepreneurs and top-level managers from MYEA was conducted to find the relationship among the entrepreneurial decision profiles of effectuation and causation, exploration-exploitation, and firm performance in the turbulent market situation in Myanmar. According to the cluster analysis results, entrepreneurs were found to possess four clusters of decision profiles: highly ambidextrous, moderately ambidextrous, cautious adapters with low decision profiles, and adaptive survivors with the lowest in both profiles. Creating the dummies for decision profiles with the highly ambidextrous group as a reference profile, structural equation modeling (SEM) was conducted to test the relationship between different decision profiles and firm performance, with the mediation effect of exploration and exploitation, compared to the reference profile. Obviously, compared with the highly ambidextrous group, the moderate ambidextrous group was a bit lower in exploration and exploitation, followed by the adaptive survivors' group and cautious adapters as the lowest. It seems cautious adapters with low causation and lower effectuation seem to be using wait and see policy for this turbulent situation. In terms of performance, sales decline was used to measure the firm performance to reflect the turbulent situation. It was found that compared to the highly ambidextrous group, the moderate ambidextrous group faced significantly less sales decline, followed by adaptive survivors. Cautious adapters faced no significant difference in sales decline compared to the highly ambidextrous group. The results show that entrepreneurs also need to learn how to behave modestly but be flexible enough to survive in extremely turbulent situations.

This study contributes to the literature by employing the entrepreneurship psychology framework. Although the original framework did not show a theoretical foundation on the direct path from interventions to behavior change, this study provides a rationale for it as a volitional path from education to change behavior by adding API as post training intervention. This framework can be used not only in the entrepreneurship field, but also in other fields of behavioral development processes well.