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Entrepreneurship Education: Process of Effect or Causality

Educación para el emprendimiento: proceso de efecto o causalidad

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ABSTRACT

Entrepreneurship education development requires a process approach that is appropriate for a student to start their business. The effect and causation process are approaches to teach entrepreneurship. The research is using the qualitative method, distributing a semi-structured interview to 78 students from Entrepreneurship Program Study. The result is that students start their business through the causation process, shown by the data that student's perception toward their entrepreneurial process is in line in how they start their business. The causal process is considered as an approach to exercise business intuition that is also important in teaching entrepreneurship.

Keywords: New venture, entrepreneurial process, goal-driven, opportunity generation

RESUMEN

El desarrollo de la educación empresarial requiere un enfoque de proceso que sea apropiado para que un estudiante comience su negocio. El proceso de efecto y causalidad son enfoques para enseñar el espíritu emprendedor. La investigación usa el método cualitativo, distribuyendo una entrevista semiestructurada a 78 estudiantes del Estudio del Programa de Emprendimiento. El resultado es que el estudiante comienza su negocio a través del proceso de causalidad, que se muestra en los datos de que la percepción del estudiante hacia su proceso empresarial está en línea con la visión de cómo comienza su negocio. El proceso causal se considera como un enfoque para ejercitar la intuición empresarial que también es importante en la enseñanza del espíritu emprendedor.

Palabras clave: Nueva empresa, proceso empresarial, orientado a objetivos, generación de oportunidades

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INTRODUCTION

Over the last few years, the field of entrepreneurship education has grown. In the late 1990s, the world of academia gradually began to accept that entrepreneurship was a study that could be taught. It has led to a rapid increase in the birth of courses that teach entrepreneurship at universities. In 1999, a total of 170 universities offered courses in entrepreneurship, while three years earlier, in 1996, less than half offered these courses (Brown: 1999). School of Business Management, Institut Teknologi Bandung, Indonesia, is a state-owned educational institution that is a pioneer as a school that offers the first entrepreneurship education program in Indonesia.

Continued interest in entrepreneurship education also stimulates the development of entrepreneurship literature. Studies have tried to uncover entrepreneurship education with different approaches to find out a suitable scenario to teach entrepreneurship. Studying entrepreneurship start with the definition. Based on previous research, entrepreneurship can be seen from the perspective of economics, sociology, and psychology; others view from management and social perspective. Therefore, entrepreneurship is a multi-dimensional concept (Verheul et al.: 2002, pp. 11-81).

Global Entrepreneurship Monitor (GEM) defines entrepreneurship as "any venture into a new business or the creation of a new venture, such as a new business organization, or expansion of an existing business, by an individual, team, or established business" (Ismail et al.: 2017; Kelley et al.: 2016). This definition is supported by Hatten, which states entrepreneurship is the process of identifying opportunities that have a marketable need and assuming the risks of creating organizations to satisfy them (Hatten: 2015). This definition is quite clear and understandable and becomes a basis for defining who the entrepreneur is in this research.

Cowden & Tang define an entrepreneur as someone who sees opportunities and creates organizations to pursue them. He is an actor, who owns a business, carries out entrepreneurial activities such as identifying opportunities, gathering and mobilizing the necessary resources, implementing practical action plans, maximizing opportunities, and harvesting rewards in a timely and flexible manner (Cowden & Tang: 2021, pp. 69-86). Ahmad and Seymour and Shane and Venkataraman also support this definition; entrepreneurs are people (business owners) who seek to generate value, through the creation or expansion of economic activity, by identifying and exploiting new products, processes, or markets (Ahmad & Seymour: 2008; Shane & Venkataraman: 2000, pp. 217-226). Lounsbury et al. define an entrepreneur as someone who is always looking for a change, responding to, and exploiting them as opportunities (Lounsbury et al.: 2019, pp.1-12). The challenging question is how to teach entrepreneurship. It is becoming an interesting part of this research. What kind of method or process appropriate to support a student to become an entrepreneur? What skill and knowledge should be given to a student to earn experiential learning as an entrepreneur? What is the objective? Should student literally have their own business during the study or have real business experience? This study intends to find out the entrepreneurship education approach by using student's perceptions toward the entrepreneurial process; and the effectuation and causation process. The motivation of this research is continuous improvement to the development of entrepreneurship education. The impact of the results is to provide a new understanding of the development of the entrepreneurship education process.

LITERATURE REVIEW

To conduct this research and answer the research questions, it starts with a literature review regarding an entrepreneurial process and then discusses the effectuation and causation process. The entrepreneurial process defines how entrepreneurs start their new venture from opportunity identification, idea generation, launching their business, and managing the business. Sarasvathy proposes an effectuation model of entrepreneurship, stated that effectuation is a new approach to explain the success or failure of entrepreneurs, while in the causation approach, the entrepreneur is not considered to be driven by a concrete goal and to choose between different alternatives (Sarasvathy: 2001, pp. 243-263). Instead, the entrepreneur evaluates

the alternatives (Schlüter et al.: 2011, pp. 126–131). Furthermore, Sarasvathy argued that expert entrepreneurs used the effectuation approach when creating ventures (Sarasvathy: 2009). Thus, whether the effectuation process would be suitable to increase student's experience, skill, knowledge, and attitude to become an entrepreneur.

The new venture creation process in entrepreneurship education covers several aspects, from business ideation to business implementation.

Business ideation

The definition of pre-business planning is explained by Petrakis and Castrogiovanni, which define the process of exploiting an opportunity, creates a vision of the future, and develops the necessary goals, resources, and procedures to achieve that vision. Planning begins with design thinking. The goal is to find the problems and needs of the customer. The next process is opportunity identification, opportunity evaluation, market analysis, market validation, and business feasibility (Petrakis: 2020, pp. 193-223; Castrogiovanni: 1996, pp. 801-822).

Business initiation

A business plan is crucial in this process. The purpose of planning is to predict what will be faced and how to deal with it. The student will make a business plan that will be used as a guideline in running their business. After that, a student will start to initiate their business. According to Hermansen et al., Delmar and Shane, there are three advantages for people trying to start and improve their new business if they plan (Hermansen et al.: 2013; Delmar & Shane: 2003, pp. 1165-1185):

1. Planning helps faster decision making by identifying missing information without first requiring the commitment of resources
2. Planning provides tools for managing the supply and demand of resources in a manner that avoids time-consuming bottlenecks
3. Planning identifies action steps to achieve broader goals on time

Business growth

The emphasis in this process is on how to manage and grow the business. It is also important to plan business growth. A successful entrepreneur usually has a vision of his or her business. Business growth planning is a detail of the business strategy that will be implemented to achieve business goals in the future.

The entrepreneurial process

Moroz and Hindle mentioned that to determine entrepreneurship differs from other phenomena such as leadership or management, one must have activities that are both generic and distinct to entrepreneurship (Moroz & Hindle: 2012, pp.781–818). Then it leads to the conception of the entrepreneurial process. According to Moore's model, Mazzarol and Reboud entrepreneurial process are a set of stages (cognitive and behavioral steps) and events that follow one another (Mazzarol & Reboud: 2020, pp. 21-30). These stages are the idea or conception of the business, the event that triggers the operations, and business implementation and growth. The entrepreneurial process is divided into two sub-process that are interrelated. Those are (Davidsson: 2005, pp. 249-249):

- a. Discovery conceptual side of venture development started from an initial idea to a fully developed business concept where many specific aspects of the operation are explained in detail.
- b. Exploitation refers to the action side of venture development. It is the act upon a perceived opportunity and the behaviors that are undertaken to achieve its realization. Exploitation thus simply means the attempted realization, or implementation, of ideas.

Discussing the types of the entrepreneurial process, Engel et al. categorized it into two main types depending on which came first: the wish to start a business or the specific business idea that was being pursued (Engel et al.: 2017, pp. 35-51). Engel et al. named it as externally stimulated and internally stimulated. Externally stimulated is the more textbook-like process, meaning that it starts with a decision or desire to start a new business, thus typically focused on searching business opportunities. While internally stimulated is less textbook-like. Initially, there is no particular intention to start a business. Instead, he or she experiences a problem then tries to find a solution to the problem, and if demand is high enough, they start to think of starting the business (El-Awad et al.: 2017). Moreover, Davidsson argued that those types of entrepreneurial processes are considered overlapping or have a relationship with the effectuation and causation process developed by Sarasvathy (Davidsson: 2005, pp. 249-249). The effectuation and causation concepts are explained in the following section.

The effectuation Process

The concept of Effectuation is related to behavioral processes that involve entrepreneurs using available means, such as resources and skills, to create the desired results. The effectuation process takes a set of means as given and focuses on the selection between possible effects that can be achieved with these means (Sarasvathy: 2001, pp. 243-263, Davidsson: 2005, pp. 249-249). Instead of following a clear plan and making predictions about the future, entrepreneurs identify resources at a certain point in time and use them flexibly (Sarasvathy: 2001, pp. 243-263, Fisher, 2012).

According to Schlüter et al., an effectual entrepreneur is not committed to a particular product or goal but only to the desire to run an enterprise. Instead of carrying out expensive market studies, he or she chooses from alternatives (Schlüter et al.: 2011, pp. 126–131). A major means of an “effectual” actor is to utilize knowledge and network to find cooperation partners.

Based on Sarasvathy, effectuation is a logic of entrepreneurial expertise which describes as the opposite of causation (Sarasvathy: 2001, pp. 243-263). Effectuation enables entrepreneurs to co-create new and unanticipated effects from known means (Read & Sarasvathy: 2005, pp. 45 -62; Sarasvathy: 2009, Wiltbank et al.: 2006, pp. 981-98). Entrepreneurship, involving effectuation, has proved an elusive target for economic theories, mainly because those theories have, with rare exceptions, been limited to choices among given alternatives, applying pre-specified criteria, to achieve predetermined goals (Hermansen et al.: 2013).

Causation Process

The causation process is more textbook-like (Davidsson: 2005, pp. 249-249). A process that follows the causation focus on achieving a wanted goal through a set of means. Since the goal is set pre-start of a venture, the “search and select” process in which causation is will be a static one (Read et al.: 2016). Causation involves the process used to select and/or predict actions towards a set goal – a predictive and thus more consequential decision-making logic (Sarasvathy: 2001, pp. 243-263). “Causation processes take a particular effect as given and focus on selecting between means to create that effect. Effectuation processes take a set of means as given and focus on selecting between possible effects that can be created with that set of means” (Sarasvathy: 2001, pp. 243-263).

According to Schlüter et al., A causal entrepreneur starts by carrying out comprehensive (and rather expensive) market studies to clearly identify a dedicated market opportunity, then settled as a goal. The entrepreneur only decides between different alternatives to achieve the goal (Schlüter et al.: 2011, pp. 126–131).

The Principles

The five principles of effectuation are (Sarasvathy: 2001, pp. 243-263):

1. Means-driven (as opposed to goal-driven): focus on the question ‘What can we do?’ with our means rather than ‘What should we do?’ given our environment. The emphasis here is on creating something new

with existing means rather than discovering new ways to achieve given goals.

2. Affordable loss (rather than expected returns): Causation models focus on maximizing the potential returns for a decision by selecting optimal strategies. Effectuation predetermines how much loss is affordable and focuses on experimenting with as many strategies as possible with the given limited means. The effectuation prefers options that create more options in the future over those that maximize returns in the present.

3. Strategic alliances (rather than competitive analyses): Causation models, such as the Porter model in strategy, emphasize detailed competitive analyses. Effectuation emphasizes strategic alliances and pre-commitments from stakeholders as a way to reduce and/or eliminate uncertainty and to erect entry barriers.

4. Exploitation of contingencies (rather than exploitation of pre-existing knowledge): When pre-existing knowledge, such as expertise in particularly new technology, forms the source of competitive advantage, causation models might be preferable. Effectuation, however, would be better for exploiting contingencies that arose unexpectedly over time.

5. Controlling an unpredictable future (rather than predicting an uncertain one): Causation processes focus on the predictable aspects of an uncertain future. The logic for using causation processes is to the extent that we can predict the future; we can control it. Effectuation, however, focuses on the controllable aspects of an unpredictable future. The logic for using effectuation processes is to the extent that we can control the future; we do not need to predict it (Sarasvathy: 2001, pp. 243-263). This effectual logic is called non-predictive control.

METHODOLOGY

This research is conducted by using the qualitative method. Data are gathered from 78 participants by distributing a semi-structured interview using Google form. The participants are the students from Entrepreneurship Program Study. We use this sample because students of the Entrepreneurship Program Study are expected to build a new venture during their study; thus, by the time they graduate from school, they will have their own business.

The source of questions is derived from the entrepreneurial process and effectuation principles by Sarasvathy. The semi-structured interview is divided into two types, namely the multiple-choice type and the exploratory type. Student's perception of the entrepreneurial process and the effectuation and causation process, captured by a multiple-choice typed question, while the latter is the exploratory study. Furthermore, the data are analyzed using a coding template and categorization. Following are the interview question lists. Respondents are expected to choose and explain in which situation when they started a business during their study in Entrepreneurship Study Program.

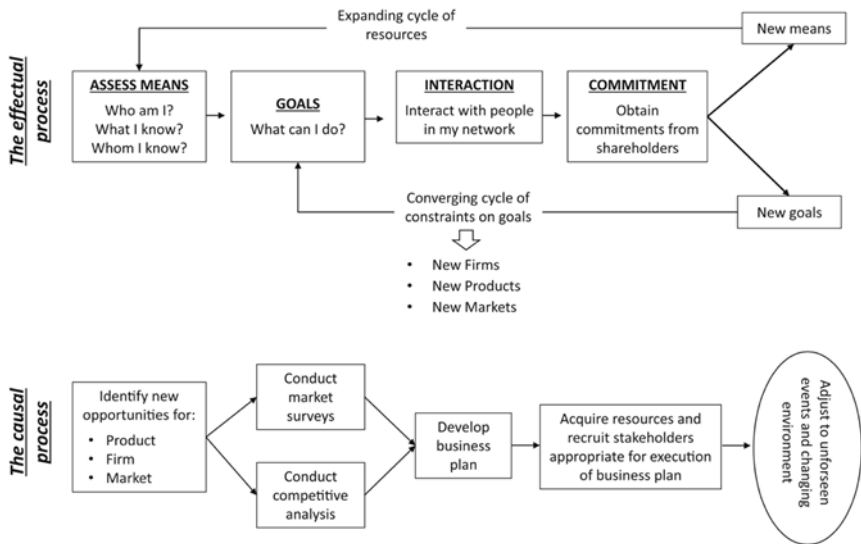
Entrepreneurial Process

Externally Stimulated

Internally Stimulated

Effectuation and Causation

Respondents are expected to define their perspective regarding the situation when they started their business by choosing the suitable picture below.



Source: Adapted from Reid et al. (2009)

Figure 1. Effectuation versus Causation

Source: (Magalhaes & Abouzeid: 2018, pp. 1-22)

According to your answer, please tell us your experiences!

1. The product/service that we now provide is essentially the same as originally conceptualized.
2. We experimented with different products and/or business models.
3. The product/service that we now provide is substantially different than we first imagined.
4. We tried a number of different approaches until we found a business model that worked.
 - (A). Follow the trends (prediction of the future), and you let the market forces reveal the future.
 - (B). Create trends (creation of the future). The future is made. Not found, nor predicted. Which option fits you when you started a business (business idea generation process), please explain!
 - (A). Goal-oriented / growth intention: Set your goals first, and your lists to do were based on maximization.
 - (B). Means-oriented: start with who I know (social & professional networks, e.g., family, Business school professors), What I know (personal experience, training, education, expertise), and Who I am (traits, such as trust, risk propensity; tastes, and abilities. Which option fits you when you started a business, please explain!
 - (A). Expected returns: how much did you need to borrow to reach a predetermined goal? How much an expected return to minimize risk from this target.
 - (B). Affordable loss: how much did you and your stakeholders personally have to spend, and are you maximally willing to lose? Which option fits you when you started a business, please explain!
 - (A). Competitive analysis: which competitors are identified and analyzed? With a competitive attitude toward outsiders, you desire to limit ownership of outsiders as far as possible and protect what you have, and maximize your share of the opportunity. You look at other players rather as competition than partners.
 - (B). Use of alliances or partnerships: what sort of alliances are mentioned? You build a network of self-selected stakeholders. Realized partnerships and/or potential partnerships are discussed. Which option fits you when you started a business, please explain!
 - (A). Avoid contingencies; the surprise is bad. Develop techniques to avoid or prevent surprises. Prediction, careful planning, and focus enable the firm to minimize the impact of unexpected events.
 - (B). Embrace contingencies; the surprise is good. Leveraging/embrace contingencies, rethinking possibilities

are challenges. Leverage contingencies and even failures- not avoid them. Prevent from predictions and imaginative rethinking of possibilities. Contingencies are seen as opportunities for novelty creation— and hence to be leveraged. Which option fits you when you started a business, please explain!

RESULTS

Data presenting in the finding section is divided into three parts. The first part discusses the entrepreneurial process. The second part discusses the effectuation and causal process, and the last part discusses the explanation of entrepreneurship education.

Entrepreneurial Process

The question asked regarding the type of entrepreneurial process and the driver factor leads a student to start their business. Data from Figure 2 showed that 64% of students consider their entrepreneurial process as externally stimulated. The meaning is that the external factors are dominant in determining and deciding how student start their business. In contrast, 36% of students consider their entrepreneurial process as internally stimulated.

Externally stimulated.

“I started the business and chose the nano-coating for shoes as the main idea of business. But when I developed this product, the market survey and resources were not fit”.

“we start a decision or desire to start the business together. This business also more textbook because this business also for our project at university and supervised by a mentor from entrepreneurship major”.

Internally stimulated

“Hi! Drops begin from the real problem that was faced by one of the founders. It’s about the problem with indoor gardening. We are wondering why most of the plants that we planted inside the house tend to die faster and can’t survive inside. We browse and search through some facts and data, also create a possible solution, and lookup for the existing solutions. We found that the main factor that could keep the plants alive is sunlight. That’s why we came up with the solution of making a smart pot device that provides automatic lighting for the plants to grow indoors”.

“My process is more like I was involved too deep in agricultural industries, I don’t eat vegetables daily, I prefer to eat meat-based food than veggies, but apparently I sell veggies for others because I know the industry well, doing market surveys with the team and found a good opportunity in the urban farming sector.”

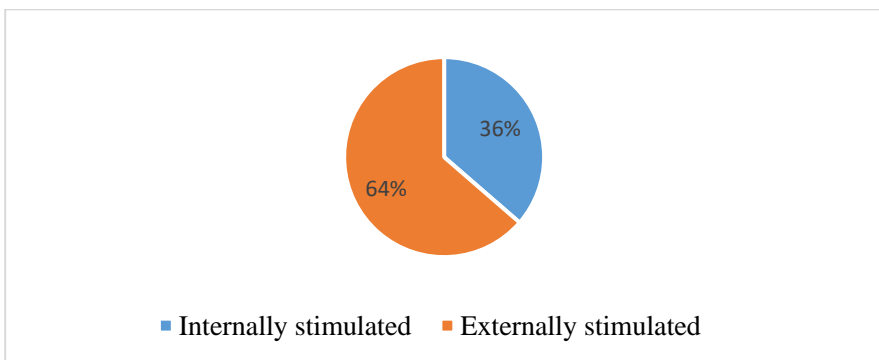


Figure 2. Percentage of student's perception toward their entrepreneurial process

Effectuation and Causal Process

Finding from entrepreneurial process analysis is strengthened with effectuation and causal process analysis. In this question, students were asked to choose pictures that fit to define their situation when they start their business, whether effectuation or causation process. As described earlier in the literature review, entrepreneurial proses and effectuation, and causal processes are overlapping. Those who experienced "internally stimulated" are more likely to follow the "effectuation process." As shown in Figure 3 data regarding the percentage of student's perception toward effectuation and causation process. 78% of students' perception of how they start their business is by following the causation process, while 22% of students follow the effectuation process.

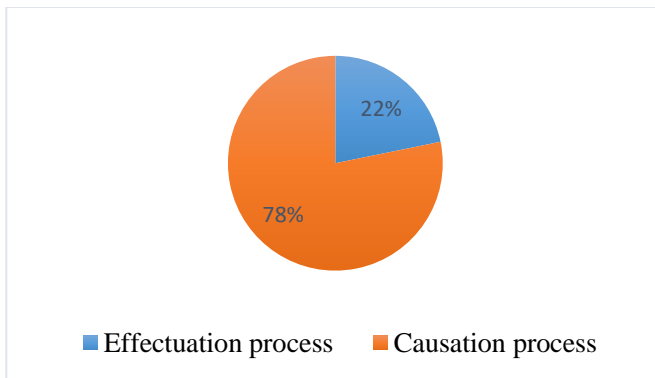


Figure 3. Percentage of student's perception on how they start their business

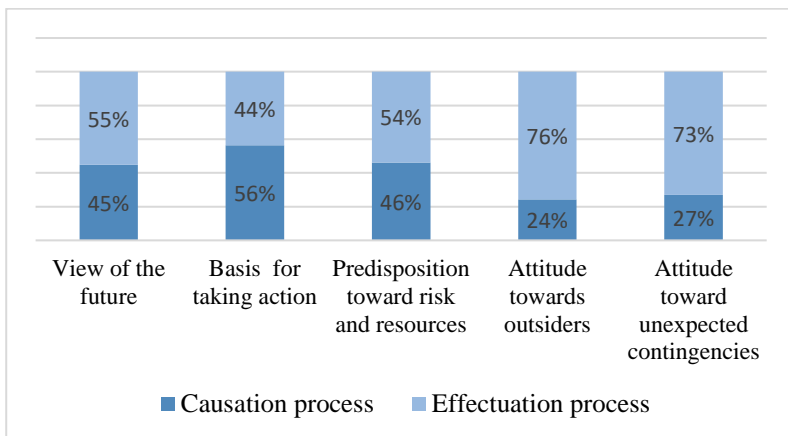


Figure 4. The Effectuation Principles

Figure 4 shows the data of student's perception toward the effectuation principles. Discussion in each aspect are following:

DISCUSSION

View of the future

The finding showed that 55% of students are creative and make the future is co-created (at least in part). Students view the future by creating trends. As per 45% of students are predictive logic casts the future as a continuation of the past. Accurate prediction is both necessary and useful.

The basis for taking action

The finding showed that 55% of students are goal-oriented. They focus on goals, even when constrained by limited means, resources, and actions. In contrast, 45% of students are considered to be means-oriented, where the goals emerge by imagining courses of action which start from available means.

A predisposition toward risk and resources

The finding showed that 54% of students are "affordable loss." Students pursue satisfactory opportunities without investing more resources than stakeholders can afford to lose. Students predetermine how much loss is affordable and focuses on experimenting with as many strategies as possible with the given limited means. While 46% of students are "Expected Return." Students pursue new opportunities based on the expected value. The focus is on the upside potential.

Attitude towards outsiders

The finding showed that 76% of students choose partnership or strategic alliances rather than competitive analyses. Students intend to share what they have with committed partners to shape the trajectory of the opportunity. Students emphasize strategic alliances and pre-commitments from stakeholders as a way to reduce and/or eliminate uncertainty and to erect entry barriers. In contrast, 24% of students protect what they have and maximize their share of the opportunity and emphasize detailed competitive analyses.

Attitude toward unexpected contingencies

The finding showed that 73% of students consider surprise as good. Students are imaginative rethinking of possibilities transforms the unexpected into new opportunities. Students are exploiting contingencies that arose unexpectedly over time rather than the exploitation of pre-existing knowledge. While 27% of students consider surprise is not good. They more like prediction, planning, and focus-enable the firm to minimize the impact of unexpected events.

Discussing entrepreneurship education at School of Business and Management, Institut Teknologi Bandung, especially in Entrepreneurship Program Study held with the causation process approach. Lectures are structured by reference and followed in order. In the entrepreneurial process, lectures start from discovery to exploitation. The process focuses on achieving a goal, what product or service will be made, produced, or sold. Followed by doing a comprehensive market study to identify market size and presented in a business plan report. The idea of business generation focuses on technology products that will be developed or commercialized at the school level.

This is in line with the results of research showing that student's perception of their entrepreneurial process is aligned with student's perception of how they start their business. Students start the business through the causation process approach. This is reinforced by the results of the dominant process of entrepreneurship externally stimulated rather than internally stimulated. Although some of the students also started from their internal resources, their hobbies, and their expertise/passion. This type of entrepreneurial process focuses more on internally stimulated and focuses on the mean oriented instead of goal-oriented. Sarasvathy's work mentioned that exploiting newly formed markets and gaining a long-term competitive advantage favors a management team with a causal approach (Sarasvathy: 2009). Further analysis from the objective of entrepreneurship study programs are graduates who have skills, Knowledge, and Attitudes such

as Business Knowledge, Value Creation, Business Practice, and Sustainable & Ethical Business Strategies. The entrepreneurship education curriculum is provided with an experiential learning approach. Students are expected to have a real business experience during their studies. Regardless of learning goal achievement, the experiential learning approach follows the entrepreneurial process in a structured order and in accordance with the aim of exercising their business intuitive. A. business intuitive can be built by providing business knowledge and experience. This is consistent with research by Seebo, "the experiences that are obtained in each of us are obtained through a filtering system of the world around us. If we have sufficient background, the system can tell us to change our actions when we are short on data, or time, to make a more systematic or quantitative analysis of the problem" (Seebo:1993, pp. 27-34). The importance of exercising business intuition was also conveyed by La Pira, the successful entrepreneurs attribute their success to their intuition, Bill Gates says, "you cannot ignore your intuition." Oprah states, "My business skills have come from being guided by my intuition," and Donald Trump admits in his book, "I've built a multi-billion-dollar empire by relying on my gut instinct" (La Pira: 2011).

CONCLUSION

The objective of entrepreneurship education in the School of Business and Management, Institut Teknologi Bandung, especially in Entrepreneurship Program Study, is to create graduates who have skills, Knowledge, and Attitudes such as Business Knowledge, Value Creation, Business Practice, and Sustainable & Ethical Business Strategies. The curriculum is provided with an experiential learning approach that follows the entrepreneurial process in a structured order.

During their study, students are expected to have a real business experience, and the finding shows that student's perception of how they start their business is through the causation process approach. It is indicated by the data that student's perception of their entrepreneurial process is mostly externally stimulated. It is a more textbook-like process, meaning that it starts with a decision or desire to start a new business and is typically focused on searching for business opportunities. In entrepreneurship curriculum implementation, business intuition is also exercised or trained through experiential learning; as a result, that business intuition can be built by providing business knowledge and experience.

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BIODATA

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