

DEVELOPING A BUSINESS INCUBATOR MODEL IN HIGHER EDUCATION: THE CASE OF FACULTY OF ECONOMICS UNIVERSITAS NEGERI JAKARTA

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Abstract

Purpose of the study: This study aims to provide an overview of the implementation model of technology-based entrepreneurship education in Higher Education with business incubators.

Methodology: This qualitative research was conducted at the Faculty of Economics, Universitas Negeri Jakarta as an entrepreneurial-based University Studied documents and obtain data about the implementation of the Business Incubator in entrepreneurship education in Higher Education. The data collection method used were surveys and interviews, reviewing data and documents on the development of business incubators, as well as following the Development of lecturers' shared perceptions in teaching and developing entrepreneurship through lesson plan development meetings, and Focus Group Discussion (FGD).

Main Findings: The University establishes a policy of developing digital entrepreneurship with performance indicators that are the target of shared performance, it requires business incubator facilities, financing, cooperation program assistance, expert facilitators, as well as providing opportunities for start-up businesses to develop. The curriculum is developed and evaluated with the mastery of digital technology mastery, big data. The Career Development Center functions as a support facility and development cooperation with sponsors. Faculty of Economics, Universitas Negeri Jakarta establishes a policy of developing digital entrepreneurship with performance indicators that are the target of shared performance, it requires business incubator facilities, financing, cooperation program assistance, expert facilitators, as well as providing opportunities for start-up businesses to develop. The curriculum is developed and evaluated with the mastery of digital technology mastery, big data. The Career Development Center functions as a support facility and development cooperation with sponsors.

Applications of this study: This research can be used by the Faculty of Economic Education in developing technology-based Business Incubators, Lecturers in entrepreneurship and developing Course competencies, Students in developing entrepreneurial ideas, and Universities in developing policies based on entrepreneurship, digital business, and career development centre.

Novelty/Originality of this study: This study contributes to the existing literature related to the development of technology-based entrepreneurship learning in tertiary institutions. Start-up student's business is growing rapidly, designing online-based businesses while in college. This research found the role of universities in entrepreneurship education policies, faculties, and study programs in developing student's competencies and learning services, as well as providing broad services to students in entrepreneurial practice through business incubators.

Keywords: *Business Incubator, Entrepreneurship Education, Technopreneurs, Digital Business Start-up.*

INTRODUCTION

The poverty circle can be disconnected with entrepreneurial education as productivity, answering the challenges of the Industrial Development 4.0. The change started from leader, structure, behavior, and culture. Education prepares future leaders, so it needs to be facilitated with good character, innovation, and change. Labour skills with competency in the Industrial Era 4.0 encourages higher education as an institution to prepare a Leadership entrepreneur. Labour skills without an entrepreneur will make the worker nation. Colleges guide, teach, and train, the training aspect is often abandoned in education in college. Colleges that are incapable of providing self-employment skills will print unemployment—all courses of study as a basic science that leads to competency and provision of student life.

Poverty is an important study for developing countries to take off into developed countries (Cobbinah et al., 2013). The economic indicators of the Government in measuring welfare include per capita income, inflation rate, and economic growth. Poverty has always been a highlight for the effectiveness of development and economic growth (Cage, J, 2009). The expertise of the 4.0 industrial mass revolution is important to be examined to develop an independent generation of entrepreneurship (Nurkholis, 2018); (Aulbur et al., 2016). The United Nations Development Programme, Human Development Index stated that Indonesian was ranked at 110 from 187 countries and entered the medium Human Development category, HDI Indonesia's value for 2018 was 0.707- which placed the country in 111 from 189 countries and territories (UNDP, 2019).

The new challenge in the world of education is to form digital-based entrepreneurship. High unemployment rates can be overcome with digital entrepreneurship ([Audretsch & Thurik, 2008](#)) with economic growth ([Thurik, 2016](#)). The digital business study program is very important, including the Faculty of Economics, State University of Jakarta. The basic need for education today is mastery of information technology on a large scale, big data, and coding. In the long term, students will face the opportunities and challenges of living in the technological era—all life, both socio-economic and cultural. In the long run, this cycle will create a cycle of productivity as a breaker of poverty.

Indonesia is a country with abundant natural wealth with products of palm oil, cocoa, spices, plywood. Able to export agricultural products and import technology-based products. These conditions become opportunities and challenges in facing world trade in digital-based marketing ([Abdul et al., 2016](#)). The amount of unemployment that is quite large and still fluctuating is one economic constraint. According to the number of open unemployment in the year 2018, 7 million people and increased in the year 2019 to 7.05 million people ([Statistic, Indonesia, 2019](#)). Of course, the above problem becomes complex because it further increases unemployment, poverty level, and has a large impact on the welfare of the community that will ultimately determine the progress of a country. It takes a solution and the best alternative in alleviating poverty and economic welfare for Indonesian society and the nation.

The curriculum is one of the important components that determine in the unit of the education system and is a tool to achieve educational objectives and as well as guidance in the implementation of teaching on all types and levels of education ([Thaib. et al., 2015](#)). The importance of curriculum in the education system requires curriculum preparation flexible by the development of the world that is concerned with skills in the 21st century ([OECD, 2018](#)). Because the curriculum will impact the poor quality of Indonesian Students due to the uncontrolled learning process, thus the quality of education in Indonesia will weaken. The weakening of the quality of education will result in human resources that have no quality and low competence to compete in the global world ([Wilkinson et al., 2010](#)).

Factors that affect students' interest in entrepreneurship include the curriculum that supports teachers who have the capability, adequate school infrastructure facilities ([Dewanti, 2015](#)). Piaget and Vygotsky in his theory on constructivism ([Verenikina, I., 2010](#)) said that the improvement of knowledge is the result of the construction of learning, meaning that the school can design learning for the construction of knowledge and good learning for student and the ability to design knowledge of understanding and learning experience. Thus, constructivism theory is More about student independence; it is in line with entrepreneurial principles. Technology-based entrepreneurship is very important for the future economy and industry, expertise and expertise are needed in developing it and intensive use of technology, introducing all innovations ([Selladurai, 2016](#)) and Productive ([Sumon Bhaumik, 2011](#)).

The capabilities resulting from the implementation of this entrepreneurship based curriculum will be able to connect between the affective, cognitive, psychomotor competencies, improving skills of hard skills and the Soft student skills, also can increase the interest and motivation of student who stimulates the birth of young entrepreneurs and will eventually be able to overcome the sustainable economic problems in Indonesia ([Lackéus et al., 2015](#)). Entrepreneurship education will influence economic and financial literacy ([Trunk & Dermol, 2015](#)) that eventually establishes student entrepreneurial skills ([Suparno & Saptono, 2018](#)), so there need to be appropriate measuring instruments in developing entrepreneurship ([Saptono & Najah, 2018](#)) based on creativity and innovation ([Vandenberg et al., 2016](#)); ([Mahendra et al., 2017](#)).

A business incubator is part of a partnership program to develop the business together, to make the business a real business, and develop by the vision of the company. A business incubator is becoming a trend in Indonesia, ranging from business people, SMEs to the level of ministry ([Thaib. et al, 2015](#)). It is understandable that amid the problems of Indonesian unemployment and employment, the incubator has been a hope for many parties to become an alternative solution for the absorption of Indonesian people in Indonesia. One of the ways governments have to grow and develop small entrepreneurs is through business and technology incubator programs. The impact of business incubators is very important for social, organizational, technical, and financial performance indicators in business incubators ([Olkiewicz et al., 2018](#)).

Digital entrepreneurship can lift local and national wealth into global products. Innovation and creativity are needed in a digital information environment that is unique to international marketing ([Jelonek, 2015](#)), based on technology in taking advantage of new opportunities in the global market ([Reuschke & Mason, 2020](#)). Large global marketing opportunities need to be anticipated by higher education to provide learning entrepreneurship education ([Hannon, 2013](#)) to improve the national economy and economic success ([Wong et al., 2005](#); [Thurik, 2016](#)).

The Government launched the National Movement 1,000 Digital Startup program. The internet is a necessity and economic and business Development ([Dijkman et al., 2015](#)) build business and marketing ([Satalkina, 2020](#)) and shaping the community in developing its business ([Bai & Chen, 2010](#)). In collaboration with local *Community Builders*, the program aims to create 1,000 startups up to 2020, With total valuations reaching the US \$10 billion or around Rp133 trillion. Business incubator with a start-up is growing rapidly in Indonesia ([Gozali et al., 2015](#)). One of the five strategies the Government used is the incubation stage. Governments using incubation are referring to the notion of incubation itself which is the process of assisting start-ups while still in the early stages

or not getting funding from outside parties. Assistance such as mentoring, referrals, co-working space, and funding usually presented in incubator programs, are expected to accelerate the growth and success of startups in Indonesia.

Digital entrepreneurship needs to be improved in Indonesia, especially for the younger generation as challenges and opportunities in the future economy. The number of start-ups in Indonesia reached 2,000 or the highest in Southeast Asia (Marti, 2017) with a target of reaching 13,000 by 2020 and developing fintech, namely Modalku, Investree, Funding, Bareksa, which reached 142 local fintech companies operating in Indonesia. Educational institutions need to anticipate and develop business practice groups, guided by independent business partners through business incubators so that they can take digital business opportunities.

Development of an entrepreneurship education-based business incubator in theoretical studies by the theory of Icek Ajzen (Patricia & Silangen, 2016) that an entrepreneurial intention is formed from the theory planned behavior. The college is capable of designing learning activities and social environment (Bandura & R.H. Walters, 1963) which leads to a productive and innovative behavior so that it is a conducive environment to support learning (bandura, 1971). The condition of optimization of resources in education to welfare (Azhar et al., 2018) will be human capital (Wilkinson et al., 2010) in the future where success is measured by the achievement of education and income (Nurkholis, 2018).

Incubator programs do not only accept teams or startups who already have a product, but also accept ideas that are still raw or prospective startups that only bring new business concepts, thus requiring the process of validation of ideas, products, and also markets. Business incubators are also not only owned by investment firms, but rather governments, institutions, and SMEs (Bismala, L., Andriany, D., Siregar, 2020). So it is important to develop a business incubator in the college according to the industry era 4.0.

The economics Faculty of Jakarta State University is interesting to research because many achievements are achieved by students in national and international activities in the business of start-up-based entrepreneurs. The stub of the lecture class is facilitated by the curriculum, coaching by the lecturer, business Incubator lab that faculty provided, as well as support on national and international activities. Gebyar Point Start-up activities, Startup Bootcamp Founder Academy, student entrepreneurship Program, is lively followed by student's, various innovative works of digital business students have begun to interest investors by starting to finance and developing. The Faculty of Economics of Jakarta State University has emerged 5 startup teams each month which are capable of developing and supported in business incubators. The student has begun with the creation of websites, applications involving the Internet of Things (IoT), the Internet of Service (IoS), and the Target factory. It is interesting to be researched as a model of entrepreneurship development based on start-up business in higher education in Indonesia. It is part of the Digital Business Entrepreneurship Development Program for the 21st century in Asia.

The State University of Jakarta has a startup that has been mentorship for deeper developments such as @yourspace_id, @bookita. ID and @picku. Officials who are controlled by partners from @wuhub. ID; #letshare and is directly managed by the team from Citraone, @kulinary. Id. They work directly with @warjak_warungjakarta; @mottoban gets a mentor directly from @hepicar. Id. For a digital start-up business @promoin. Indonesia has joined the apps @sipromo with an equity share of 20%. In its development, students are not only in college but are building the future as a digital-based entrepreneurial movement which allows obtaining minimum standard funding of investors at a minimum of 50.000 USD. The expectation is to be a portfolio when graduating later and work even into one of the unicorns. Changes in the digital world and technology are changing the environment and the way of human life, including markets and needs. This requires small and medium scale business strategies in the business competition (Bismala, et.al, 2020).

Educational institutions as centres of innovation and change must focus on developing entrepreneurship. Advances in technology and the breadth of the market are real challenges for learning economics in higher education. On the other hand, the abundant natural resources and human resources in Indonesia are entering the era of the demographic bonus. Millennials need to be educated and directed as basic knowledge to enter the world's digital business. The study in this research is what is the model of entrepreneurship education in universities based on start-up business incubators?

LITERATURE REVIEW

Business Incubator

Business incubators become important studies and as an effective model of entrepreneurial education. According to the National Business Incubation Association (NBIA), business incubation is defined as "the process of business support that accelerates the successful development of startups and startups companies by delivering several resources and services targeted to entrepreneurs (Auburn, 2017). This service is usually developed or regulated by incubator management and is offered both in the business incubator itself and through a network owned by the business incubator. Business incubators (BI) are growing rapidly, established around the world to acquire new businesses

(Bruneel et al., 2012), according to the needs and programs that drive acceleration towards business success. Business accelerators have been developing for a long time; in the future, there will be more challenges. For today's successors are business incubators that need to be developed, even in Europe with a business incubator model and its evolution (Pauwels et al., 2015). It signifies that the business incubator provides entrepreneurship programs with mentoring, the trigger, networking, financial mentoring, and a conducive competitive environment to grow and thrive.

Business incubator as an infrastructure to maintain and develop incubation start-up with a variety of essential resources so that it can grow. Business incubation is an organization that supports new business growth, supports ordering and new business growth through infrastructure in the form of business equipment and equipment, administration, and resources with full resources or taking rental fees (Hausberg & Korreck, 2020). Business incubators can provide business development service assistance in business practice in the form of mentoring and mentoring business activities (Gozali et al., 2015).

Minister of State of Cooperatives and SMEs Indonesia No. 81.3/Kep/M. KUKM/VIII/2002, Incubation is a process of coaching for small businesses and or the development of new products conducted by business incubators in the provision of business facilities and infrastructure, business development, and management and technology support. The incubator is an institution that is engaged in the provision of facilities and business development, both management and technology for small and medium enterprises to enhance and develop its business activities and or development of new products to be able to develop into a tough entrepreneurial and or new products that are competitive within a period.

Business incubators usually give programs to budding entrepreneurs (*early stage*) or startups, which are designed to foster and accelerate the success of business development through a series of capital programs followed by partnership support or construction of other business elements to make the business to be a *profitable* company, have the right organizational and financial management, and become a *sustainable* company until it has a positive impact to the Start-ups that go through incubation or coaching programs don't always work, survive, and run their business well. The Defining factor of startup success is the commercialization of ideas as the most important success factor, the innovation criteria among the four successful design startup criteria. Goal orientation and entrepreneurial competence are the defining factors for the startup (Kim et al., 2018). Business incubators are urgently needed in supporting the development of young entrepreneurs, start-ups by providing business and administrative consulting support (Li et al., 2020).

Business incubators are very important to develop the optimization of the potential for regional and cultural wealth which is limited to the local to become a technology-based global business—creating new entrepreneurs through business practices, developing innovation and creativity so that they can penetrate the global market. This capability is supported by the use of big data, coding, and market development based on internet/e-commerce. Personal and national social welfare is a common goal in achieving economic growth.

Based on the study of the experts and development of theory on business incubator is a process of business support that accelerates the success of the development of startups and beginner companies by providing several resources and services targeted to the entrepreneurs include: 1). Capital Access and Assistance, 2). Open the related network and can help the business development, 3). Development of marketing strategies (marketing), 4). It is assisting in accounting or Finance Management, 5). Business Mentoring and coaching, 6). Management of corporate and corporate culture management, 7). To provide recognition and emphasis on business ethics, 8). To provide information about the business industry in general, 9). To help with regulatory matters.

Business Incubator Model

The business incubation model as a Model assesses the implementation, performance, and efficiency of business innovation objectives. Business incubation is a concept that involves a lot of stakeholders, institutions, facilities, and infrastructure, and a variety of programs designed for entrepreneurship. The business incubation Model is examined as follows to further define, analyze, design, calibrate, evaluate, and think about business incubation. Smilor model (Smilor et al. 1990) in the Business incubator is shown in Figure 1.

Smilor identifies important factors for success the importance of entrepreneurship training, working in communities and networks, the presence of procedures and policies, the existence of financing support. The model is reinforced by the "Priori model of incubator Success Factors" (Gozali et al., 2015) in his research developed indicators of successful incubator business several success factors such as service, facilities, financing and support, incubator governance, tenants in and out criteria, mentoring and networking. Bergek and Norman (Bergek, A., Norrman, C., 2008) in the business incubator emphasized the importance of business mentoring, and counseling to achieve the objectives set. Pro activation support in business ventures is a very important and dominant role in the success of a business incubator. The business incubator process model consists of selection, business support, and mediation.

From the various models of studies and frameworks of the researchers above, we can map how to form a business incubator model, shape it, provide a mentoring service, and perform measurements of business incubators in universities in the era of Industrial Revolution 4.0. Consists of selection, business support, and mediation. Among them are: 1) Joint

services, 2) facilities and location 3) financing and support 4) incubator governance 5) criteria of incoming and outgoing tenants and 6) mentoring, and networking.

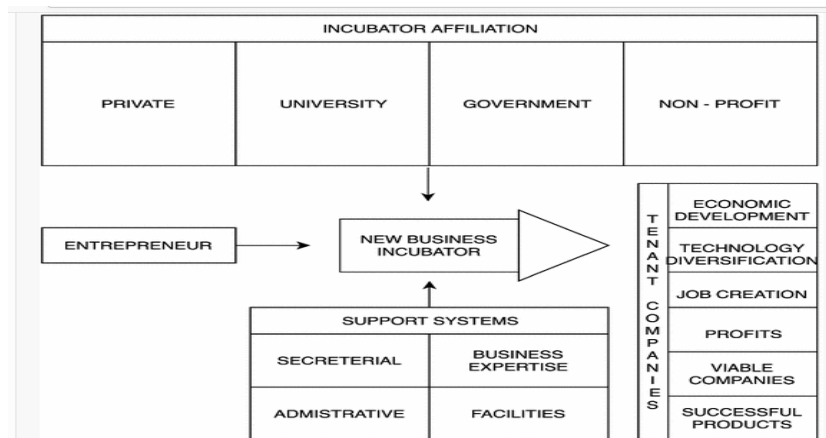


Figure 1: Smilor Model (Smilor et al., 1990) in a Business incubator

The entrepreneurial education-based business incubator in the Industrial ERA 4.0

Industry 4.0 is the rapid development of a new world in production, management, efficiency, competitiveness, and others (Piccarozzi et al., 2018) that need to be studied and developed as a study of learning in higher education. Energy, marketing, and technology are new developments at this time as the great trends of this century, and their changes from education. The business incubator in Indonesia is growing with a more and more pioneering business in the field of technology to product innovations are varied. Indonesia is a country that has achieved achievement as the country's most start-up unicorn producing. Indonesia has a great opportunity to be the Qibla technology in south-east Asia as the demands of the world's 4.0 industrial development.

Tech start-ups in Indonesia were inspired by the success of five tech start-up Indonesia who successfully became unicorns. Five tech startups in Indonesia that now manages to become a unicorn, namely: Tokopedia, Gojek, Bukalapak, Traveloka, and Ovo. A Business Incubator can be expected to be a model of pioneering business coaching in a self-reliant and able to thrive on meeting economic capacity for the community.

A business incubator is an institution or company that can come from various sectors to create a program for novice entrepreneurs and specially designed to build a company in accelerating its business development. The way business incubator works in accelerating the success of businesses is implemented through a program supported by partnerships and other business elements. These elements include capital, work facilities, training, guidance, and so on.

Such elements and support are performed to drive small-scale companies, or known as tenants to be able to have a more directional organization and Financial management that can achieve profit faster and are expected to stand on an ongoing basis. Business Incubators can be organized by 1). Colleges. Menristekdikti supports the establishment of a business technology incubator at various colleges in Indonesia with the development of a beginner's company technology. Menristekdikti targeting colleges has a business incubator by the demands of the era of Industrial Revolution 4.0 such as the business Incubator Bogor Agricultural Institute "Incubie", 2). Institutions. The establishment of a business incubator by the institution serves to strengthen business and institutional development. IDX Incubator or Indonesian Stock Exchange was established in 2017 with the aim of loading and strengthening the stock business, 3). Private parties. The development of entrepreneurial pathways in developing business can be done by private. It is a model of network coaching and expansion of businesses that are currently developing through network business, 4). Private Co-workers and Colleges Model. This form is an ideal model that is capable of being implemented. Industry, the company has a budget of CSR, and higher education can form the "fundraising" model to develop entrepreneurship education in college. The practical application of this cooperation is the direct tenant internships in the industrial company as a link and match. It also addresses the mismatch between PT and Industri. Kompas Gramedia Group and Multimedia Nusantara University collaborate to Develop the Skystar Ventures incubator program.

A business incubator in college provides entrepreneurs with an early-stage aid program that covers business concepts, business models, and early product manufacturing. In the advanced stages, you can do a business accelerator program for three months with share mode ownership or with an assistance program to support a start-up business that already has its product by assisting with funds, guidance, and consultation.

Based on the above studies, the Business Incubator in college is a Relief Program for entrepreneurs in the early stages, which includes business concepts, business models, and early product manufacturing. In the advanced stages, you can do a business accelerator program for three months with share mode ownership or with an assistance program to support a start-up business that already has its product by assisting with funds, guidance, and consultation.

RESEARCH METHODS

The research method used in this research is a type of qualitative research, with surveys, interviews, observational studies of business incubator implementation documents, as well as in-depth interviews with related parties which aim to determine the patterns and models of entrepreneurship education based on the Industrial Age Business incubator 4.0 in Higher Education in producing start-up business.

The data collection method used is document study, proposing related party research in developing business incubators including observation and interviews, as well as following the Development of lecturers' shared perceptions in teaching and developing entrepreneurship through lesson plan development meetings, and Focus Group Discussion (FGD). Document studied are obtained through extracting secondary sources in the form of journals, articles, books, documents, newspapers, the internet, and other sources that support this research, the data in this study also comes from entrepreneurship learning documents (Gauchi, V, 2016); (Togia & Malliari, 2017) that study document (literature) is the process of placing, obtaining, reading, and evaluating research literature. In contrast, the search technique uses content analysis techniques by analyzing recorded speeches or written speeches.

Data obtained from the development of entrepreneurship education at the Faculty of Economics, State University of Jakarta, with resource persons from the Dean, strategic development plan, curriculum development documents, lecturers, and business incubator practice students. Observations on the involvement of tenant groups and the use of entrepreneurial lab facilities in entrepreneurship learning. The qualitative method is a holistic method, which is a method that combines data analysis with related aspects. To obtain a comprehensive data analysis, this study also uses triangulation techniques, namely data validity checking techniques that utilize other things beyond the data, to check or compare data (Moleong, 2009).

Faculty of Economics, Universitas Negeri Jakarta with a study program in Economic Education, Business Education, Management, Accounting, Office Administration Education, with 88 lecturers, and 1000 students are in all study programs. Jakarta State University accepts 6000 students every year, has a campus-based digital entrepreneurship excellence program.

RESULT AND DISCUSSION

The study of economic education with the development of digital entrepreneurship became the focus of the higher education curriculum in Indonesia. In the scope of economics Faculty of the University of Jakarta, developed a digital entrepreneurial development program to a start-up business. Based on the study above the implementation of entrepreneurship education at the economics faculty of State University of Jakarta, Indonesia.

Entrepreneurship Learning Curriculum in college

Through the curriculum, entrepreneurship courses are developed that discuss the basic concepts of entrepreneurship and motivate into entrepreneurial, definitions and various theories about entrepreneurship, business ownership forms, and franchises, entrepreneurial values and behaviors, creative and innovative ideas, creating business plans, strategy management, marketing and business finance and succession management.

This course gives student's an understanding of how to develop a business plan through its ideas, observations, comparisons, and abilities. This course also provides students with the opportunity to understand more details, exploit the ability to develop ideas to create a business plan, and make it happen to be a real business. The achievement of learning graduates are developed with general skills: able to implement logical, critical, systematic, and innovative thinking in the context of development or implementation of science and technology that pays attention and implements the value of humanities by the field of expertise, able to make decisions precisely in the context of problem-solving in the field of expertise, based on the results of information and data analysis, able, colleagues, associates both inside and outside the institution.

In particular, the skills developed are the ability in the identification of funds sources, debt and equity, practice and Develop entrepreneurship, Create innovative ideas and processes, implement strategic management in entrepreneurial, develop strong marketing plans, manage good cash flow, compile and present a superior business plan, choose a location and design the right layout, manage and lead the company and plan for succession management.

The lecturer directs the student's in the development of business incubators through entrepreneurship courses, in the learning of being in the area of 1). The concept of entrepreneurship, which is the student is equipped with the concept of entrepreneurship both on a Broad and wide concept of entrepreneurship. 2). Market analysis and management, students should be able to think about what products to be made or sold must first do the market analysis. The market analysis aims to see the market share and purchasing power of the community, what the community needs, or what products/services can be received. Management is the most important thing in entrepreneurial, every student must have this competence. 3). Designing the Business Plan, after students have an understanding of the concept and analyze the market, new students are allowed to create a Business Plan. Business plans are important as the beginning of starting the business. 4) Implementation and evaluation of Business Plan, students are provided how to implement the business plan

even though only in the small level of the end of the final Semester exam, then the lecturer evaluated the business plan that has been created by giving input and criticism and give the final assessment.

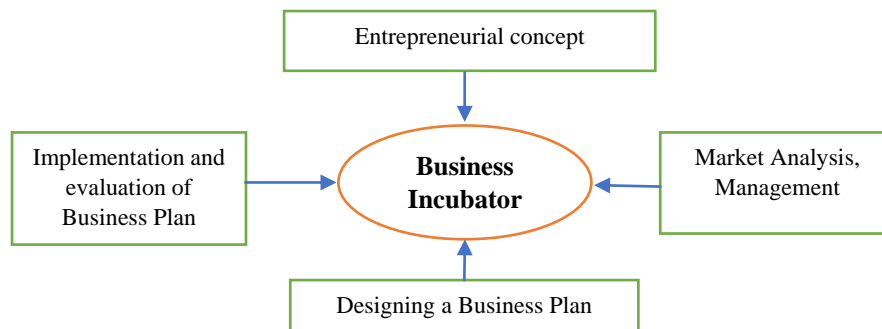


Figure 2: The learning provided by entrepreneurship lecture

The role of Economics Faculty in the business incubator

The role of the Faculty in Entrepreneurship incubator development: 1). To provide an education system, namely by providing supporting courses in addition to the Institute of Citizenship, such as financial management, human resources, risk management, business ethics, and other supporting courses. So that students can supply comprehensive knowledge. 2). Providing services in mentoring and improving creativity. The faculty provides a means of providing services and mentoring e.g. appoint lecturers as the party that will provide mentoring and provide input in improving student creativity in starting a business. 3). Provide monitoring and development services. In addition to assisting, the faculty should also provide facilities in monitoring the process of entrepreneurship incubator and provide facilities in its development such as periodically there are parties appointed by the Faculty of the Dean to monitor the stages that students have done and encourage student's to develop products/services in starting the business. 4). Provision of trial facilities. In this case, the faculty is required to provide facilities and infrastructures as a test, both in the form of the sale of college and special laboratories when the product is a chemical product or the like. 5). Create a cooperative network. This last stage is a very necessary step student's in starting a business, namely, the faculty are expected to assist or provide facilities in bringing together the students as businesses with other parties such as the Government, and large-scale companies that will become business relations of novice businessmen. 6). Facilitate students in the scientific work, Research business, entrepreneurship student Program, and participate in national and international competitions in the Development of digital business Start-up. 7). Opened a digital business study program.

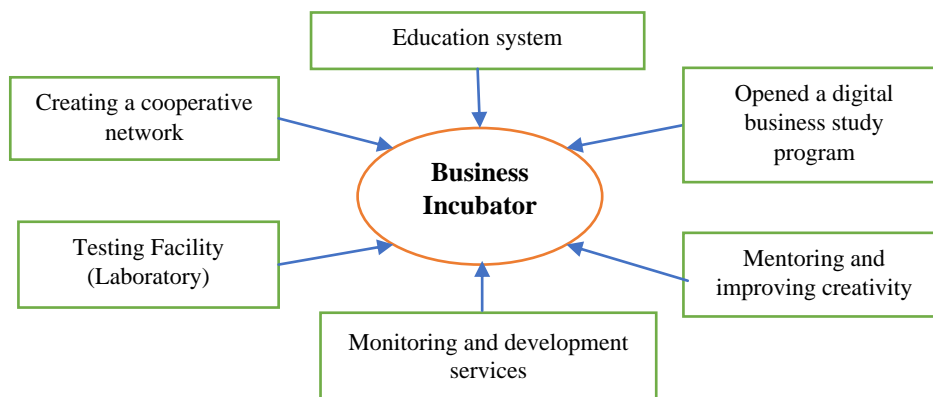


Figure 3: The faculty role in the business incubator

The University's role in the Business Incubator

In the development of a business incubator, the University has a very important role: 1). Initial stage financing facility. The University should be able to provide funding for the early stage if the faculty only does the partnership, then at the university level should be able to provide funding early stage. This funding mechanism is commonly done by giving grants with certain magnitudes after through several selection phases so that it can be known that the business plan can be implemented, 2). Increase in human resources. The University will provide training and education for the students who have escaped in the later stages. This human resource increase as a deepening of the concept and competence that has been given by the faculty by bringing the resource competent in their field. This is related to the training of training conducted by the University's career center in bringing the competent resource, 3). Business development services facilities. Similarly, the university faculty must provide business development services facilities. But the difference in the university facilities, students can collaborate with various other courses so that student creativity can be more developed. Business development services at the university level form a specific cluster so that students can focus more

on development, such as startup clusters, food product clusters, clothing product clusters, and others, 4). Pitching with stakeholders or cooperation with external parties. The University is doing cooperation with external parties both in terms of funding and cooperation or collaboration of products between students and external so that students can realize the business comprehensively.

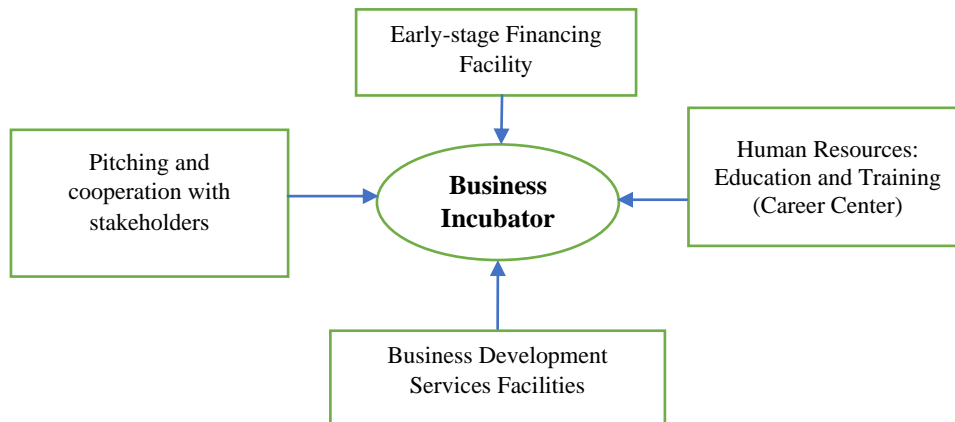


Figure 4: The University's role in the business incubator

From the figure presented above shows the participation of each level in the University is very important in building the entrepreneurial spirit of students and able to realize it in the competence so that the products or services that can be implemented in the real business. The support of each level will be key to students' success in building an entrepreneurial spirit.

The University's Business Incubator Model in Faculty of Economics, Universitas Negeri Jakarta

Based on the study of the development of the business incubator model developed in the higher education learning curriculum, the economics faculty of Universitas Negeri Jakarta, as well as university policies in developing entrepreneurship through business incubators, the complete model can be put forward as follows:

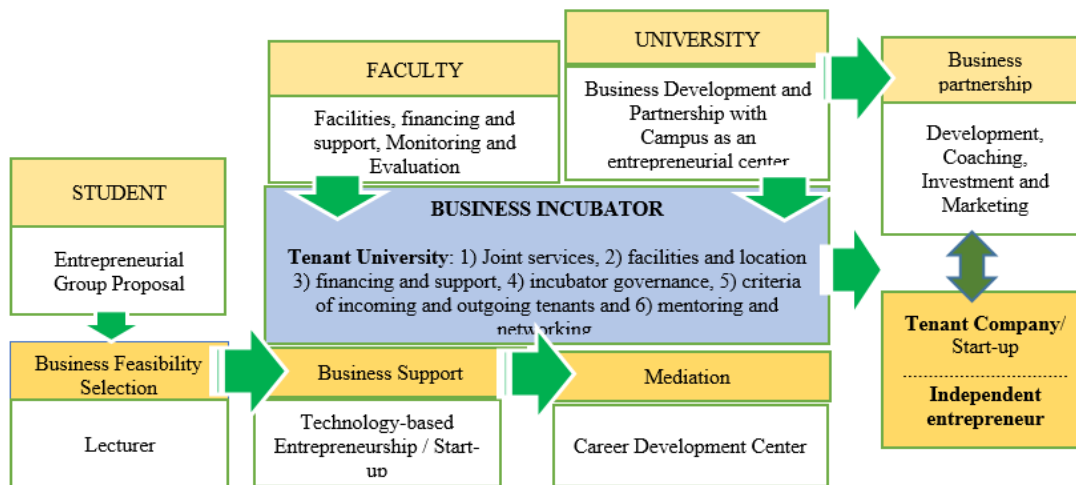


Figure 5: The University's Business Incubator Model in Faculty of Economics, Universitas Negeri Jakarta

The development of a business incubator at the level of the Faculty of Economics, Universitas Negeri Jakarta can be concluded according to the process developed by Bergek and Norman. The process flow includes Selection, Business support, and mediation. The entrepreneurial program begins with compulsory lectures, with management, business, finance, mastery of big data and coding and entrepreneurial practices—the formation of innovative, creative groups with the theme of business results in business feasibility proposals.

Based on lecturer guidance, students can practice in the business incubator provided by the faculty. Not all businesses can grow and develop, so they will get business learning. The guidance is continued with a career development centre that already has a list of business partners with financial and investment institutions. Rigorous selection and analysis are carried out for continuity of cooperation. Business partner institutions usually choose start-ups that have developed and have great opportunities in the digital market; the business risk is reduced to a minimum. This is where the role of the University can provide strengthening in cooperation. As an entrepreneurial campus, the University has collaborations with multi-national corporate institutions. The hope is that there will be development, coaching, investment, and

marketing as practical learning in higher education. The result is that students become independent entrepreneurs, they become start-ups and as tenant companies.

The above studies are by the results of previous researchers, as well as strengthening that important aspect in the business incubator (Shaqiri, 2015) which will form the fundamental learning (Gozali et al., 2015) with new experience (Allahar & Brathwaite, 2016; Al-Mubarak & Busler, 2017) an independent young entrepreneur (Özdemir, Ö.C., Sehitoğlu, Y., 2013), able to keep up with times (Bone, J et. al, 2017; Pompa, 2013) Competitive in Industrial era 4.0 (Anbumozhi & Kimura, 2018). Business incubators can develop technopreneur (Bruneel et al., 2012; C. Paramasivan, 2018; Marsh, 2018) as technology-based entrepreneurship. In addition to being a business entrepreneurship student's development incubator, also learning to improve skills in business (Sudana, et. al, 2019). The technopreneurs in college develop the entrepreneurial spirit of the student's as a breakthrough strategy of developing an independent entrepreneurial future in the era of industrial 4.0. A variety of business incubator models need to be examined and developed to be by the learning in college and able to be applied effectively. The competency model and its implementation are conceptual important studies for entrepreneurial researchers.

CONCLUSION

The Development of digital entrepreneurial Business became the need for higher education in educating student's in the 21st century with the era of Industrial Revolution 4.0. The economics Faculty of Jakarta State University in the development of digital business is implemented as follows: 1). The University established a digital entrepreneurial development policy with performance indicators as faculty performance objectives, as well as providing the University's level business incubator facility. 2). The Faculty of Economics provides business incubation facilities, financing, cooperation program assistance, facilitating experts, as well as providing an opportunity for start-up businesses to participate in national and international activities. 3). The curriculum was developed and evaluated by the deputy dean of the curriculum and student affairs, as well as following the development of the demands of the Industrial Revolution of 4.0. Digital competence, and technology with big data become part of curriculum development, as well as analysis of economic data as supporting. 4). Lecturers play a lecture on the development of the syllabus, the implementation of lectures, mentoring, and coaching in the start-up group. 5). Students actively participate in practice programs, develop innovations and creativity, and follow the development of digital-based entrepreneurs. 6). The Career Development Center serves as a supporting facility of cooperation and facilitates cooperation between start-up business students with sponsorship.

AUTHORS CONTRIBUTION

The first and third authors have involved devised the project, the main conceptual ideas, and proof outlines. The second and the fourth author provided the technical details and performed on the study. The second and the fourth author wrote the entire paper then it translated and proofread by the first author.

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