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Technopreneurship Strategy to Grow Entrepreneurship Career Options for Students in Higher Education

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Abstract

Technopreneurship is one of the technology-based entrepreneurship that can influence in increasing the economic growth of a country. It could reduce the intellectual unemployment rate among recent higher education graduates by creating jobs. Various studies have proven that higher educations have an influence in motivating and shaping the character and mindset of students to choose technopreneurship as a career orientation. This article aims to provide literature about technopreneurship. Technopreneurship studies were conducted by reading and analyzing 28 review journal articles and were summarized in a table of categorization of articles based on article names, objectives, findings and recommendations. The problem faced in this study is that there is a gap between the knowledge and skills of technopreneurship faced by students from various disciplines. To overcome such gaps the higher education is expected to be able to take strategic steps in ensuring that technopreneurship can be an interest and career choice for all students. In conclusion, the study found that there was a significant influence of entrepreneurship education and technopreneurial learning through business incubators integrated into the higher education curriculum in shaping the character and mindset to start a career as a technopreneur among students.

Keywords: *Entrepreneurship Education, Technopreneurial Learning, Curriculum, Business Incubator, Technopreneurship*

1. Introduction

The advent of industry 4.0 in recent years has resulted in an increase in the number of technology-based firms that boost GDP and job opportunities [1]. As technology advances, businesses must adopt trends and incorporate it into their operations [2]. The use of advanced technology in business, such as automation, the Internet of Things, and smart technology, is emphasized by industry 4.0, and traditional entrepreneurs must transition to technopreneurship [3]. Technopreneurship is a straightforward entrepreneurship in a technology demanding context and which is a process of merging technology prowess, entrepreneurial talent, and skills in the transformation of goods and services [4]. Technopreneurship has recently been seen as a key driver of increased economic growth in both industrialized and developing nations [5]. In addition, technopreneurship can be considered as a key driver of economic growth, economic competitiveness, job creation, and the promotion of social interests from the perspective of social development [6], [7]. Technopreneurship is becoming the source of sustained long-term competitive advantage [5].

Additionally, as a result of the Covid-19 pandemic, many companies are compelled to implement technology and innovation into their business practices in order to accommodate future scenarios in the post Covid-19 period [8]. The rapid advancement of information and communication technology fosters the expansion of technology-based businesses and opens up new avenues for employment and financial gain [9]. Technopreneurs play a key role in promoting and developing innovative information and communication technologies (ICTs) goods and services for the local and worldwide markets to meet consumer demand in the digital economy [10]. As well as lucrative markets, business competencies and technology are combined to developed new goods or services [11]. Technopreneurship is crucial for enhancing economic output and creating jobs [12]

Higher education is one of the educational institutions that acts as an agent of change in creating a variety of innovations and creations. Creating digitally based entrepreneurship is the current challenge facing the education sector [13]. There is currently demand on higher education to create more graduates who can work as technopreneurs [14]. Through the provision of highly educated and competent human resources to the industry, the academic environment indirectly supports technology transfer efforts [15]. Higher educations have a crucial role to play in encouraging entrepreneurial thinking and mindsets among students and in communities [16]. Despite this situation, a solution is now required to improve education and grow individuals who have an entrepreneurial spirit [17].

The goal of technology-based entrepreneurship education, commonly referred to as technopreneurship, is to combine the theory and application of diverse scientific abilities relating to technology and industry [18]. Higher education institutions need to implement practical entrepreneurial learning patterns based on empirical information to provide students with useful knowledge and foster student excitement for entrepreneurship [19]. Students must possess the ability and motivation to harness, develop, coordinate, and manage business enterprises derived from engineering ideas in order to be prepared to become technopreneurs [20]. They must also possess the innovative mentality and problem-solving abilities that the engineering profession is known for [21]. The higher education should be in charge of imparting entrepreneurial knowledge to its graduates and inspiring them to pursue entrepreneurship as a vocation [22]. Students are expected to be adept in learning technology that supports an entrepreneur through entrepreneurship education that leads to technopreneurship [23].

Although technopreneurship or technology-based entrepreneurship is significant in the future competitive landscape, many people still view it as a new breed of business. As a result, there are still many obstacles, particularly with regard to entrepreneurial education and development [24], [25]. Indonesia is a country that is great at networking but weak at utilizing technology, according to the Global Entrepreneurship and Development Institute (GEDI). Startup Ranking reports that Indonesia ranks fifth as one of the 10 countries with the largest number of startups in the world with a total of 2,346 domestic startups [26]. Although these conditions provide good news, there is still a gap between the availability and quality of digital talent that needs to be improved. Currently, digital talent skills in Indonesia are identified 50% at the middle down level, while advanced level is not up to 1% of the current workforce [26]. The nation's competitiveness will suffer from a lack of technology adoption, thus

the higher education's position must be able to make the best use of available resources to expand student access to technology [22].

This gap is also faced by students in higher education. Some things that are the obstacles to technopreneurship include the lack of knowledge, digital literacy, the low quality of products and skills that students have [27], [28]. This can also causes many of students of higher institutions are lack of enthusiasm in entrepreneurial career. Thus, this can trigger new intellectual unemployment due to the inability of students to innovate new products and services that can create jobs. The Minister of Labour of the Republic of Indonesia, Ida Fauziyah, noted that 12% of total unemployment in Indonesia are diplomas and academics [29].

Based on some previous studies that have been referenced, there are gaps in literature that have not been discussed by previous researchers. Most previous research has empirically proven that academic support and educational study backgrounds can shape student interest in starting entrepreneurship in the field of technology. On the other hand, the higher education has a role to play in encouraging students to transform such interests into a real action for students in choosing technopreneurship as their careers through the entrepreneurship education. Therefore, this research is important to respond to previous research also conducted by [30] in formulating strategies on the development of technopreneurship in higher education to grow entrepreneurship career options for students.

2. Research Method

In finding an article on this literature review, the researchers used the Google Chrome Web Browser. The researchers obtained data from literary sources that the researchers acquired electronically through searches on Google Scholar to obtain data and collect and link as many relevant studies as possible. In reporting this research, researchers design designs when these reviews present data and are followed in the form of evidence from field studies.

Then, a search was performed on site visits with the same keyword (criterion 1): "technopreneurship, technopreneurship in higher education and technopreneurships in university". The results obtained from the search for the first criteria are 40 articles from the Google Scholar database. In the next stage, criterion 2 is narrowed to the number of articles most relevant, with the following criteria: 1) article focused on technopreneurship in higher education or university, 2) the year of publication from 2017 to 2023, 3) The title of the article consistently discusses and reviews technopreneurship in higher education both at the polytechnical level and at the undergraduate level, 4) abstract briefly describes one of them with keywords, 5) peer-reviewed articles, 6) complete text in English, 7) empirical research, technopreneurship in university, 8) downloadable (electronic format). Based on some of these criteria, some relevant articles were obtained in meeting the requirements for a literature review. A total of 40 articles were obtained, they were reviewed based on the content that reviewed technopreneurship development strategies in tertiary institutions, 28 articles were obtained which were used as references. There are some authors who have more than 1 article. This final data total was re-verified to ensure that a number of articles met certain criteria for review.

Table 1. Category Articles by Article Name, Objectives, Findings, Recommendations

No.	Article Name	Objectives	Findings	Recommendations
1	Knowledge Management Strengthening Character of Entrepreneurs Student Department of Technopreneur at School of Technopreneur Nusantara [9]	To enhance the entrepreneurial character of students STMIC Kuwera with knowledge management methods.	The knowledge generated by the management system model supports socialization, externalization, combination, and, processes of internalization.	

2	Factors Influencing Technopreneurial Intention among Undergraduate Engineering Student in the Phiippines [31]	To analyze factors are related to the intention of technopreneurial.	Computer skills, access to capital, and entrepreneurial experience have a significant and positive impact on entrepreneurship intentions.	
3	University Strategic Planning and the Impartation of Technopreneurship Skills to Students: Literature Review [32]	To explore the relationship between university strategic planning and the provision of technopreneurship skills on science, technology, engineering and mathematics (STEM) students in Sub-Saharan Africa.	Strategic planning of technology and entrepreneurship in the form of vision, mission and strategic goals impact on the transfer of students' technopreneurship skills. Strategic planning determines the future direction, provides a coherent basis for decision-making, and sets priorities.	Future studies may focus on empirical studies of the impact of strategic planning on the provision of technopreneurship skills at STEM universities in Africa, and other parts of the world.
4	Development of Model for Technopreneurship for Students at Universitas Sumatera Utara [33]	To identify to what extent dynamic models of technopreneur incubation and such simulated design models can help innovative products get funding.	There was a 17.6% increase when the incubation program was extended, an increase of 27.46% when infrastructure improvements occurred and 21.47% when mentor capacity was reduced.	Other indicators of success are needed, so that the results obtained are more comprehensive so that they can produce different strategies.
5	The Factors Influencing University Students Decision in Selecting Their Career as a Technopreneur in Malaysia [5]	To identify the factors of entrepreneurial intent by studying attitudes, interests in the field and employment after graduation as a key factor in identifying the intention of students to become technopreneurs in Malaysia.	The decision to start a business is influenced by personality traits such as gender, family business background, student character that tends to take risks as extroversion, hospitality and attractive openness affect entrepreneurial intentions.	
6	The Role of Nurturing Technopreneurship Education and Building University Students' Entrepreneurial Mindsets and Skills Sets in Fostering Digital	To explore the existence or absence of different educational qualifications associated with the success of start-up technology founders through	There is an educational impact that focuses on the development of creative thinking, innovation and teamwork skills on technopreneurial success. These findings may have implications for universities in Bahrain in promoting successful entrepreneurs by	

	Innovation and Augmenting the Tech Start-Up Ecosystem in Bahrain [34]	pedagogical approaches, strategies, skills, and goals that may have contributed to the success leading technopreneurs, local and global in an effort to suggest proper practices applied in Bahrain to take their educational experience.	integrating best practices in innovation and entrepreneurial education into the curriculum, and strengthening cooperation with governments and various supporting organizations.	
7	Technopreneurial Intention Among University Student of Business Courses in Malaysia: A Structural Equation Modeling [4]	To analyze the influence of technopreneurial self-efficiency (TSE) on technopreneurial intention (TI) as well as to investigate the impact of techno learning (TL) as a mediator in the relationship between technopreneural self -efficience (TSE) and techno intention (TI).	There is a direct positive and significant impact, namely TSE on TI, TSE in TL, and TL on TI. The study also found that TL partially mediated the relationship between TSE and TI.	Further research could explore other faculties at different universities to see students' technopreneurial intentions.
8	Strategies to Grow the Technopreneurship in Polytechnic Student [22]	The research is focused on knowing the influence of various factors, both regarding production-based education (PBE) methods of learning as contextual factors, attitudes towards the importance of entrepreneurship Polytechnic University of Technology	There is a positive and significant influence of academic support, attitude, self-efficiency on technopreneurial interests. The role of academic support has a significant impact on the improvement of student attitudes. Academic support also has a significant impact on self-efficacy. Attitude and self-efficiency are able to mediate the relationship between academic support and entrepreneurial interest in the field of technology.	
9	Entrepreneurship Education Influencing Technopreneurship for Student Innovation in the Industrial Revolution Era 4.0 [23]	To analyze the impact of entrepreneurial education on the ability of technopreneurship on student innovation in the era of the	Entrepreneurship education plays a role in influencing students' technopreneurship capabilities towards student innovation in the era of the industrial revolution 4.0.	

		industrial revolution 4.0.		
10	Categorization of Problems and Solutions in Technopreneurship Course: A Literature Study [30]	To categorize problems in technopreneurship courses and the solutions offered to those problems	There are five aspects of problem in the learning of entrepreneurship courses: curriculum, human resources, motivation of students, means of business and regulation. There are four categories of solutions offered: learning models, learning strategies, learning methods and learning techniques.	Educators should be able to improve the cognitive, affective, and psychomotor abilities of students, so that the student's interest in becoming a technopreneur increases and contributes to reducing the unemployment rate of a country.
11	Factors Influencing Intention towards Technopreneurship among University Students [35]	To identify individual factors that influence student interest in technopreneurship	Computer skills and internet capabilities, as well as individual entrepreneurial orientation positively and significantly affect the intention of technopreneurship. Higher education institutions should offer non-traditional technopreneurship curricula and improve technological infrastructure.	Further research could develop future competitive technopreneurship by requiring additional efforts from higher educations and governments.
12	The Influence of Technopreneurial Learning on Technopreneurship Intention Students [36]	To analyze the influence of technopreneurial learning on the interests of students in techopreneurship	Technopreneur learning is categorized as effective and the level of intensity of technopreneurship in the high category. It is known that the learning variables of techno-preneurs have an influence on the interest of technopreneurship.	Higher educations are expected to implement a competence-based curriculum that is oriented to technopreneur.
13	Technological Predictors of Technopreneurship Engagement Among Nigerian Undergraduates: Policy Imperatives [37]	The study investigated several predictors namely the attitude of technology, skills, and knowledge in relation to the involvement of technopreneurship among Nigerian scholars.	The technological attitude gives the highest contribution, followed by technological knowledge, and then technological skills in the involvement of technopreneurship	Institutional orientation should encourage students to have a positive attitude of disposition towards technopreneurship. Students need to work on technology skills that find the lowest contribution to technopreneurship engagement.
14	Identification of the Influence of Academic's Personal Characteristics and Academic's Perceived Support on University Students'	To measure the influence of factors in academic personal character and academic perceptions support the intention of students to	The personal characteristics of academics have a positive and significant influence in part on the intention to become a technopreneur, while the support of academic perception has no positive and substantial influence	

	Intention to Become Technopreneur [15]	become technopreneurs.	on the intent to be a technopreneur in students.	
15	Technopreneurial Intentions: The Effect of Innate Innovativeness and Academic Self-Efficiacy [21].	The study investigates the impact of innate innovation and academic self-efficiency (ASE) on technopreneurial self-eficiency (TSE) and the formation of technopraneurial intentions.	TSE has a positive and significant impact on TI. ASE has a direct and indirect positive impact on TI. The effect occurs directly through an increase in TSE. Embedded innovation has a direct impact on IT, but has no significant indirect impact through TSE.	
16	The Impact of Knowledge and Skills Acquired on Business Performance of Malaysia and Indonesia TVET Graduates [28]	To identify the impact of knowledge and skills acquired by engineering graduates from the TVET Malaysia institution on business performance. The research also aims to identify the problems and challenges faced by engineering graduates in business.	Communication and technical skills, networking and motivation are also essential to starting andining a business. A dynamic curriculum, management-related and technopreneurship courses, as well as more cutting-edge facilities are also recommended to help prepare TVET Malaysia graduates in the future business.	The government can support the entrepreneurial education program to further develop, so that students will not only be focused as workers, but also become entrepreneurs, which in addition to reducing unemployment can also help the economy of the country of course.
17	Technopreneurship Intention Among Nonbusiness Student: A Quantitative Assessment [10]	To identify the predictive strengths of technopreneurial-related activists (TRAs), technopreneural self-efficiency (TSE) and technopreneurial motivation (TM) on techno intention (TI) among non-business students	There is a positive and significant influence of TRA, TSE, and TM on IT among non-business students in Pakistan. This research will benefit university planners and policymakers to improve the mode of technopreneurship and can encourage students to develop strong convictions, abilities and skills to start new ventures.	Further researchers can analyze variables that have not been used in research and use the broader theoretical foundation of many TPB theories, sampling of larger sizes especially in business students.
18	Research of Technopreneurship Understanding Among University Students: A Case Study in Bali Province [38]	To study the factors that influence the understanding of technopreneurship among students in Bali.	The understanding of technopreneurship is directly influenced by academic majors, gender, and the desire to adopt the latest technologies. Another factor that indirectly influences is the father's occupation.	

19	Technopreneurship Intention: A Study of Economic Education Study Program Students Influenced by Entrepreneurial Learning [39]	To analyze the impact of entrepreneurial learning on student intensive technopreneurship.	The overall effective learning of entrepreneurship and technology-based business activities are ranked high. Entrepreneurial learning has been found to affect technology-based business activities. The need to enhance entrepreneurial learning by participating deeply in the industry, recognizing opportunities through cultural participation, and applying practical theory of entrepreneurship action to increase the intensity of technopreneurship in students.	Further research can further deepen and expand the scope of research related to technopreneurship intention. Further research is expected to be more focused on issues that affect entrepreneurship learning and intense student techopreneuship.
20	Factors Influencing Students Intention to Become A Technopreneur [40]	To analyze the influence of integrity, coherence, excellence, and innovation that students of Trilogi University have on the intention of becoming technosocioprene urs.	Based on the five core values that Trilogy University students have that influence the intention of becoming a technosociopreneur are integrity, solidarity and innovation.	
21	Significant Contributions of University Business Incubators in Enhancing the Business Graduates' Employability and Technopreneurship [41]	To determine the significant contribution of the university business incubator (UBI) in selected higher education institutions in Region II to the employability and involvement of graduates of business technopreneurship.	The results led to the development of a model of significant contribution of the university's business incubator in improving the knowledge and business skills of graduates working and technopreneurship.	
22	The Influence of Digital Literacy Mediation on the Effect of Entrepreneurship Knowledge on Technopreneurship [12].	To analyze the impact of digital literacy mediation on the influence of entrepreneurial knowledge on technopreneurship.	Knowledge of entrepreneurship has a positive and significant impact on technopreneurship. Digital literacy mediates the influence of entrepreneurial knowledge on technopreneurship.	For universities, it is advisable to plan, implement and evaluate to what extent the contribution of entrepreneurship education on campus to add to entrepreneurial knowledge thus increasing students'

				technopreneurship skills.
23	Perception and Challenges of Select Higher Educational Institutions on its Role in the Technology Business Incubation in the Visayas, Philippines [42]	To document perceptions and identify challenges on the participation and role of the technology business incubator (TBI) of selected academic institutions in Visayas, Philippines.	Most key informants have good knowledge of the Technology Business Incubation operations and intellectual property rights, but acknowledge the need to develop capacities and facilities for the technology business incubation operation.	Relevant government agencies and non-governmental organizations may also be encouraged to provide additional support necessary for business incubation operations at the university.
24	Integrating Technopreneurship Education in Nigerian Universities: Strategy for Decreasing Youth Unemployment [43]	Research suggests the integration of technopreneurship education at Nigerian universities as an effective strategy that can be used to reduce youth unemployment, eradicate poverty, and drive economic growth in Nigeria.	Entrepreneurship courses, entrepreneurial practices and internet facilities are significantly related to the business concerned. The findings suggest that inadequate facilities and financial constraints are challenges that hinder technopreneurship, while adequate facility and availability of funding are considered solutions to those challenges.	Governments, banks and other stakeholders in the field of education should assist higher educations in the provision of aid funds to students with business intentions.
25	Likelihood in Choosing Technopreneurship as Career among Undergraduates Students [3]	To identify the expansion of possibilities in choosing technopreneurship as a career among students and related characteristics to it.	The likelihood of students becoming technopreneurs is not related to gender and family who have a business background. However, their technopreneurship career choices are relevant to the background of business and technology-related studies, residence in urban areas and e-commerce experience.	Higher educations and governments should continuously offer well-planned technopreneurship courses or training, improve technological infrastructure and provide technopreneurship support to boost the development of technopreneurship.
26	Assessing the Relationship between Technopreneurship Education and Business Intention among Undergraduate Students in Kwara State, Nigeria: A Partial Least Square Approach (PLS-SEM) [44]	To analyze the perceptions of students' level of awareness of technopreneurship education and to assess the relationship between technoprenurship training and business intentions.	Entrepreneurship courses have a positive impact on students in business intentions while the use of online materials positively affects students' intentions to start a business. The use of social media by students positively influences their decisions for business purposes.	Adequate facilities should be provided by stakeholders so that technopreneurship education can be advanced at the university.
27	Developing a Business Incubator Model in Higher	To provide an overview of the model of implementation of	Digital entrepreneurship development policies with performance indicators that are targeted for joint	

	Education: The Case of Faculty of Economics Universitas Negeri Jakarta [13]	technology-based entrepreneurial education at the higher education with a business incubator.	performance, require business incubator facilities, financing, supporting cooperation programs, expert facilitators, as well as providing opportunities for retail enterprises to thrive.	
28	The Level of Awareness towards Technopreneurs hip Dimensionm [45]	To identify the dimensions of technopreneurshi p as well as to explore the level of awareness of the technical dimensions among students of the Faculty of Technology and Business Management.	Awareness of the dimension of technopreneurship in respondents is at a high level. The average for the highest level of consciousness of the dimension of technopreneurship is entrepreneurship.	

3. Findings

Based on a review of 28 articles examining the application of technopreneurship in higher education in several countries that there is a significant influence of efforts to integrate entrepreneurship education and technopreneurial learning into the curriculum of the higher education in cultivating personal characteristics of students oriented to career choices as technopreneurs. Through the curriculum, the higher education is expected to be able to ensure that all students receive entrepreneurship education and technopreneurial learning during the course of education at the higher education regardless of the educational background that is currently undergoing.

Technopreneurship is considered an important part of today's digital economy because it allows individuals to launch technology based. As a business, and an educational background related to science and technology is important, the potential technopreneur must be equipped with technical knowledge and business skills. It takes extra effort to encourage students to become technopreneurs, which is why technopreneurship can be taught through a proper educational system. Technopreneurship combines technical knowledge and entrepreneurial skills to create a new versatile business model.

Higher education should focus on attracting students' interest in entrepreneurship by encouraging students to attend training or courses to enhance their intentions and open their minds. For example, research has given further evidence of the importance of entrepreneurship education to create a entrepreneurial mindset as well as support previous findings. Therefore, the role of more higher education should not be ignored. Education in entrepreneurship can be carried out in higher education and applied to all students regardless of the field of science studied. Therefore, higher education should consider emphasizing the delivery of entrepreneurship education to students.

An entrepreneurship education can be implemented for all students, because the entrepreneurship education material relates to the formation of an entrepreneur character, innovative behavior in purchasing the added value products required for all professions. Entrepreneurship education was found to be an effective way to instill entrepreneurial values in students. As is well known, entrepreneurship courses can significantly help raise the entrepreneurial spirit of graduates. There is a positive relationship where attributes of personality, character, self-confidence and communication skills influence students' decisions in choosing their careers. As a result, without the will to learn and explore, it would not lead students towards becoming technopreneurs or choosing technoprenurship as their career choice. The results showed that in higher education it was able to provide knowledge, adequate facilities in inspiring about business opportunities so that students would choose

entrepreneurship as a career path. The educational environment plays an important role in forming attitudes, because it lays the foundation for understanding and moral concepts in each individual. The entrepreneurial process is formed on the basis of processes that originate from individuals and then proceed to organizational and family processes as well as environmental processes. Learning support is part of the environmental process that motivates a person to enter the entrepreneurial environment, so the possibility of becoming someone or participating in a startup for the first time is determined by each individual's personal attitude. People.

Scholastic back through entrepreneursip instruction and a trade environment in an instructive environment has an affect on the viability of self-esteem, with scholarly bolster through business enterprise instruction in higher instruction having a noteworthy affect on understudy self-efficiacy. Students' information of enterprise obtained through instruction in a better instruction environment can make strides self-efficiency by choosing a career as an business person. The education they receive will equip students with some essential competencies, skills and knowledge that will benefit entrepreneurs as well as experience in running a business. With the impetus of the higher education of entrepreneurship education in the form of a course and also the desire to become an entrepreneur, higher educations are able to change their mindset not only as an officer, but also as an entrepreneur. Entrepreneurship education is not only aimed at changing the mindset or attitudes of students who meet the criteria of entrepreneurships, but also aims at improving certain skills and expertise so that they can support someone in entrepreneurial work. Entrepreneurship education in the world of education is good to implement and pursue in depth, because students are not only taught the aspects of business but also how to run it. With entrepreneurship education, the student's mindset is shaped not only as a worker, but how to become an entrepreneur and be able to create jobs.

Entrepreneurship education is not only sufficiently theoretically studied, but also practiced by forming entrepreneurial groups among students, so that they can study and analyze the science they have received with actual situations. More focus on practical experience than the theory or classroom lectures will help students to understand more about technopreneurship so choosing technopraneurship as their career. Students' introduction to the hypothetical perspectives of business enterprise will be of awesome offer assistance to them some time recently beginning their down to earth viewpoints. In case understudies are gone up against with the hypothetical and viable angles of business enterprise and combine them with innovation, it'll offer assistance understudies gotten to be technoproneurs and self-reliant.

Higher education need to equip students with the opportunity to obtain formal or informal technopreneurship education as well as to create a culture of technopreneurs among students in order to provide awareness, knowledge and education of technopreneurial learning. The capacity to combine business and innovation may be a prerequisite for getting to be a technopreneur. Essentially, the key to business enterprise is imaginative and inventive, so inventiveness and development in utilizing innovation legitimately is the key in creating the soul of technopreneurship. Such technopreneurship instruction ought to highlight the improvement of aptitudes and gifts essential to produce specialized considering and prepare future pioneers to fathom complex issues. Therefore, the education of technopreneurship must address technical and business problems. Students who have taken technopreneurship courses as a learning showed a change in their mindset from being employed to being owners of their business own. Technopreneurial learning is a primary service for the well-being of the younger generation through the transformation of younger generations into techopreneurs.

3.1 Strategic Steps in the Field of Technopreneurship at Higher Education

Curriculum Development

Higher education institutions must design advanced curricula to support technopreneurship. A change of educational programs plan that guarantees a adjust between hypothesis and hone is pivotal. Conventional or primitive programs are not pertinent in creating the competitiveness of techopreneurs. Hence, higher instruction ought to plan a non-traditional educational programs for the technopreneurship program. For illustration, the educational programs ought to emphasize the impulse of advancement, imagination, basic considering and

the utilize of innovation. The educational modules ought to center on the advancement of imagination and explanatory considering, advancing development, particularly the utilize of innovation.

Higher education need to increase the number of courses or technopreneurship activities per student in each faculty in their surrounding institution. The program is based on enterprise courses, which cover the basics of venture, conceptual plan, legitimacy and specifics, advertise examination, and corporate technique advancement. In expansion, college teach must have the unwavering quality of representatives who are competent in executing modern learning strategies for entrepreneurial instruction. Teachers must be able to move forward students' cognitive, emotional and psychomotor capacities, so that students' intrigued in getting to be technopreneurs increments and contribute to lessening a country's unemployment rate It is accepted to construct information and encounter that can be connected mutually within the field of understudy mastery in trade.

Business Incubator Provision

Separated from the formal enterprise instruction given by higher instruction, technopreneurship programs such as commerce hatcheries are moreover imperative within the improvement of technopraneurship. Technopreneurship learning is given to understudies in each course of ponder within the trust that understudies get it the ideas of business enterprise and technopreneurships and are required to create yields within the frame of models of items. Business incubators at higher educations facilitate the exchange of ideas and collaboration between startups, thus helping them succeed in creating new business. To achieve better results from a technopreneurship incubator, it must be managed and operated in a creative way. The purpose of having an incubator available at a university is to help students develop the perfect prototype and provide guidance to improve their understanding of business and product innovation so that follow-up programs can be implemented. The business incubator also serves as an element in providing access to information aid business capital financing, training technopreneurship and all skills as well as business management basics as one of the possible additions in the incubators. Through high turnover business incubators can facilitate students obtaining funding from prospective investors who are willing to fund their technology-based business.

Incubator programs should be considered as important university activities to foster innovation and value creation. Implementing a technology entrepreneurship program in a higher education institution can pose several challenges, including issues and concerns related to current operations and interventions that can be used to improve operations. When it comes to implementation, incubator management requires specific competencies and skills. Faculty and staff involved in companies must continually improve their abilities. Training is also the development of a significant human resource strategy for a company or organization. Through specialized training, each employee can acquire new abilities or skills and even further develop the abilities that have been applied to the organization's progress.

Collaboration with Industry

Higher educations are usually a source of knowledge and technology for industry. Moreover, there must be strong ties and partnerships between supplier groups, retailers, and other partners to succesful business. Subsequently, higher instruction and industry ought to be working together as the two segments can have the same objective in progressing innovation and trade and maximizing its assets. Both segments can work together to overcome and illuminate particular real-world challenges. Through collaboration between a better instruction and a effective high-tech company or graduated class to guarantee that its educational programs is relevant, up-to-date and meets the wants of the industry. Additionally, private companies, non-governmental organizations (NGOs) and charities can promote the process of technopreneurship in higher education by helping to provide ICT facilities that can be used to further the business intentions of students. is needed. Meanwhile, academic-industry relationships serve both higher education and gaining and sustaining competitive advantage in today's dynamic global environment. Build strong partnerships and emulate success stories to help startups progress.

Role of Government

Developing future competitive technopreneurship requires additional efforts from higher educations and governments. It is also worth highlighting the role of governments in the development of techno-pneumatics. Government must be the locomotive for the development of technopreneurship. For example, government efforts to promote technopreneurship include creating a favorable business environment and setting strategic and targeted policies. Additionally, the government should start offering programs such as loans and capital provision to support aspiring students interested in technopreneurship. Related government agencies may also provide funds or technology-based start-up grants to encourage students to start technopreneurship. Governments must establish profitable regulations and policies, inject venture capital and create supporting infrastructure such as electricity as basic facilities, enhanced telecommunications and the Internet. To develop technopreneurship, higher education should also consider improving technological infrastructure so that students can become familiar with advanced technologies. The use of technology is critical in the era of Industrial Revolution 4.0, so giving students the opportunity to become familiar with advanced technologies such as robotics, the Internet of Things, work automation, and intelligent technologies is an effective way to prepare for it. . To become a competitive technopreneur.

4. Conclusion

This research has a range of scope that limits the things that are being studied. Further research can study more in-depth entrepreneurial marketing material so that it can be applied to the high turning curriculum related development in technopreneurship strategy. It can add the necessary material to entrepreneurship education in higher education. It is intended to enhance students' insight into managing their technology based business. So higher education not only manages to prepare students to rise their oriented career for becoming technology-based entrepreneurs who have ideas and creativity in creating new jobs but can also create entrepreneur who is ready to face changes in the market and the external environment that is full of uncertainty. In addition, through this material, the higher education is expected to create entrepreneurs who can ensure the sustainability of their business by raising the scale of their technology based business to a higher level.

For higher education, it is preferable to be able to multiply and integrate entrepreneurship education in the form of entrepreneurship courses, coursework, training and seminars. Higher education can also integrate technopreneurial learning in the form of business incubators into the curriculum, given that technopreneurship combines theoretical and practical aspects. The higher education is also expected to work with the government to facilitate the infrastructure needed for the development of technopreneurship. Besides, collaboration with industry to help students in obtaining investors who are willing to fund their technology-based business.

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