Thesis for the Degree of Master of Management of Technology

The Impact of Entrepreneurship Education on the Youth Entrepreneurs in Indonesia: Considering Mediating Effect of Social Media Usage and Information Communication Technology (ICT) Usage

by

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(인도네시아의 청년 기업가정신과 기업가정신 교육이 미치는 영향: 소셜미디어 및 정보통신기술 (ICT) 사용의매개효과를 고려하여)

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Abstract

The increased population of Startups and entrepreneurs in Indonesia shows a rapid development from year to year. Its existence has a vital role in improving the national economy and absorbing labor. The crucial role of entrepreneurs makes entrepreneurship education one aspect that the government needs to consider. This study investigates the relationship between entrepreneurship education and youth entrepreneurs and understands the mediating role of social media and ICT usage. The approach adopted in this study is a quantitative method, where 255 respondents participated. The participants were sampled based on the following selection criteria: entrepreneurs aged 18-34 years, owning businesses that use social media and information and communication technology, and domiciled in Indonesia's seven most prominent cities. Participants were recruited from several of the Young Indonesian Entrepreneurs Associations (HIPMI) members and Young Entrepreneur Academy (YEA) Indonesia alumni members who were undergone an online survey. The result questioners calculated using structural equation modeling (SEM) Smart PLS 3.0. The findings of this study indicate that entrepreneurship education successfully influences youth entrepreneurs. Social media and ICT usage also successfully affects youth entrepreneurs. On the other hand, the study states that social media and Information Communication Technology (ICT) usage significantly mediates youth entrepreneurs. These findings indicate that the Indonesian government, particularly the Ministry of Cooperatives, or entrepreneurial organizations such as HIPMI (Indonesian Young Entrepreneurs Association) are continuously expected to provide the latest and actual entrepreneurship education coaching to youth entrepreneurs in their business success. We hope this study to be a reference for the Indonesian government, especially the State Minister for Cooperatives Small and Medium Enterprises and entrepreneurial organizations such as HIPMI and YEA, to continue guiding entrepreneurship education for young entrepreneurs to support their business activity and business performance.

Keywords: entrepreneurship education, youth entrepreneurs**,** social media usage, Information Communication Technology (ICT) usage

인도네시아의 청년 기업가정신과 기업가정신 교육이 미치는 영향: 소셜미디어 및 정보통신기술 (ICT) 사용의매개효과를 고려하여

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초록

인도네시아의 스타트업과 기업가의 증가 추세는 해마다 급속한 발전을 보여주고 있다. 두 회사의 존재는 국가 경제를 개선하고 일자리 창출에 중요한 역할을 한다. 기업은 나라에 중요한 역할이기 때문에, 기업가 정신 교육을 정부가 고려해야 할 한 측면이다. 이 연구는 기업가 정신 교육과 청년 기업가 사이의 관계를 조사하고 소셜 미디어와 ICT 사용의 중재 역할을 수행 한다. 본 연구에서 채택된 접근법은 255 명의 응답자가 참여한 정량적 방법이다. 참가자를 대상으로 18~34 세 기업가와 소셜미디어, 정보통신 기술을 활용한 기업, 인도네시아 7 대 도시 거주 등. 선정 기준을 토대로 표본조사를 실시했다. 참가자들은 온라인 설문 조사를 받은 인도네시아 청년 기업가 협회(HIPMI) 회원과 인도네시아 청년 기업가 아카데미(YEA) 동문 몇 명에게서 모집되었다. 구조 방정식 모델링(SEM) 스마트 PLS 3.0 을 사용하여 계산된 결과 질문지. 이 연구의 결과는 기업가 정신 교육이 청년 기업가들에게 성공적으로 영향을 미친다는 것을 보여준다. 소셜 미디어와 ICT 사용 또한 청년 기업가들에게 성공적으로 영향을 미친다. 반면, 이 연구는 소셜 미디어와 정보통신 기술(ICT)의 사용이 청년 기업가들을 크게 중재한다고 말한다. 이러한 결과는 인도네시아 정부, 특히 협동조합부 또는 HIPMI(인도네시아 청년기업가협회)와 같은 기업가 단체들이 청년 기업가들에게 사업 성공에 대한 최신 및 실제 기업가정신 교육 코칭을 지속적으로 제공할 것으로 기대된다는 것을 나타낸다. 우리는 이 연구가 인도네시아 정부, 특히 협력 중소기업 국무장관과 HIPMI, YEA 와 같은 기업가 단체들이 청년 기업가들을 위한 기업가정신 교육을 그들의 사업 성공을 지원하기 위해 계속 지도하는 데 참고가 되기를 바란다.

키워드: 청년 기업가정신, 기업가 정신 교육, 소셜미디어 사용의, 정보 통신 기술 (ICT) 사용의

I. INTRODUCTION

Currently, the population of entrepreneurs and startups in Indonesia each year has increased. Based on the Global Entrepreneurship Index by Acs et al. (2019), Indonesia posits 75 from 137 surveyed nations. Based on the Data on the Startup Ranking page, in 2019, Indonesia had 2,193 startups. That makes Indonesia the country with the 7th most significant number of startups in the world. That position is after the United States, India, the United Kingdom, and Canada. It implies that an enhancement of entrepreneurs in a country will drive greater welfare and poverty alleviation (Halvarsson et al., 2018; Sutter et al., 2019). Based on the Central Statistics Agency (BPS) data, SMEs in Indonesia experience growth every year. In 2010, the number of SMEs was around 52.8 million, and in 2018 it increased to 64.2 million businesses. This fact is also supported by data from HIPMI, an organization of young entrepreneurs in Indonesia. Data shows that the number of young entrepreneurs joining the organization has increased significantly.

On the other hand, the topic of entrepreneurship has received considerable critical attention among scholars over the past decade (Wiklund et al., 2019; Krueger and Brazeal, 2018; Ferreira et al., 2015). Entrepreneurship has

become a central issue in developed and developing countries to improve the nation's economic welfare (Wardana et al., 2020; Mathias et al., 2015). Besides, Doran et al. (2018); Kumar and Raj (2019) revealed that entrepreneurship stimulates the country's economic growth. The increase of entrepreneurship in a country will encourage people's welfare and poverty alleviation (Rantanen and Toikko, 2014; Halvarsson et al., 2018; Sutter et al., 2019). In Indonesia alone, the increasing number of SMEs has contributed to improving the national economy as a contributor in GDP (Gross domestic product) of 60.3% and 97% of the workforce absorbers.

The vital role of SMEs and entrepreneurs in the national economy makes entrepreneurship education one aspect that the government needs to consider. Because with entrepreneurial education, entrepreneurs can understand the importance of the science of entrepreneurship itself, especially on how to start, manage, and develop a business (Krueger, 2003).

While in the era of globalization, where social media use and ICT use are getting more comfortable and become everyone's needs, it becomes one of the conveniences to start a business. On the other hand, the number of social media users and internet users increases every year, especially in Indonesia. Based on

Wearesosial Hootsuite research released in January 2019, social media users in Indonesia reached 150 million users, or 56% of the total population. This number is up 20% from the previous survey. Based on the survey results conducted by the Association of Indonesian Internet Service Providers (APJII), in 2019, Internet users in Indonesia reached 196.7 million users, 73.7%of the total population, up from 8.9% percent from 2018. And in the last two decades, internet innovation has played an essential role in business performance. The dramatic growth of the Internet has led to the emergence of two critical phenomena: social media and online search engines.

Social media is a new communication channel between companies and customers that allows them to interact directly in a business context. Social media is a sufficient virtual world for accessing reliable and up-to-date information. Social media also enables open communication to help companies understand customer needs and motivate them to respond proactively and efficiently to customer needs. Simultaneously, using ICT in business can increase labor productivity (Evangelista et al., 2014) and increase competitive advantage, productivity, and efficiency, thus becoming a driver of business growth (Ongori and Migiro, 2010).

The previous study had a limitation. This study investigates the relationship between students' entrepreneurship education and entrepreneurial mindset and understands the mediating role of attitude and self-efficacy. The approach adopted in this study is a convenience random sampling method, and Participants were recruited from several universities in Malang of East Java in Indonesia undergoing an online survey. They were calculated using structural equation modeling (SEM) (Wardana et al., 2020). And This paper aims to explore how entrepreneurship education determines students' entrepreneurial intentions and examine the emerging role of the entrepreneurial mindset in supporting this relationship. A quantitative method was applied to understand better the relationship between variables utilizing Structural Equation Modeling (SEM) based variance Partial Least Square (PLS). This study's participants were recruited from several vocational students in East Java of Indonesia using an online survey (Handayati et al., 2020). The two previous studies above do not investigate the impact of entrepreneurship education on youth entrepreneurs in Indonesia.

On the other hand, our study would investigate the impact of entrepreneurship education on youth entrepreneurs in Indonesia and then moderated by social media usage and information communication technology

(ICT) usage. The quantitative method was adopted in this study. Also, this study used the judgmental sampling technique, where 255 respondents participated. The participants were sampled based on the following selection criteria: entrepreneurs aged 18-34 years, owning businesses that use social media and information and communication technology, and domiciled in Indonesia's seven most prominent cities. Then Data on measures was collect from several respondents via questionnaires. The questionnaire was made in google form, and I shared it through one of the Young Indonesian Entrepreneurs Associations members (HIPMI) (Executive Director of HIPMI) and Young Entrepreneur Academy (YEA) Indonesia member (Chairman of School YEA). I was using electronic surveys.

The explanation above needs an in-depth study of entrepreneurship education toward youth entrepreneurs, social media usage toward youth entrepreneurs, and information communication technology (ICT) usage toward youth entrepreneurs. Besides, social media usage could moderate youth entrepreneurs, and information communication technology (ICT) usage moderates, youth entrepreneurs.

After this introduction section, our research presents the literature review and Hypothesis in section 2. the research design in section 3. In Section 4, we offer our main results. Finally, section 5 concludes.

II. LITERATURE REVIEW

2.1 Entrepreneurship Education and Youth Entrepreneurship

Entrepreneurial education is a learning activity that discusses the enhancement of knowledge, skills, attitudes, and personal character related to entrepreneurship (Hussain and Norashidah, 2015). Indeed, it is also narrated by Kirkwood et al. (2014) as the ability to reflect one's actions in support of learning. This study uses student reflection about their entrepreneurial learning as our data collection to understand entrepreneurial education. Entrepreneurship, like other disciplines, can be learned and developed in which activities that discuss and learn about entrepreneurship are published advancement knowledge, skills, attitudes, and characters that support the students' success.

The gesticulation of education approach from teacher-centered to learner-centered education enables students to enhance their critical thinking on entrepreneurship (Commarmond, 2017). Students can also recognize the primary essential teaching approach after taking entrepreneurship courses, including providing a business practice, visiting a company, interviewing a successful entrepreneur. This teaching technique, which applied contextual learning and providing an authentic experience instead of a theory, is essential in enhancing their entrepreneurship and entrepreneurial skills (Farny et al., 2016; Potishuk and Kratzer, 2017).

According to Sugihartono et al. (2007: 3), education is an effort made consciously to change human behavior individually and in groups to mature humans through teaching and training to be responsible for their actions. According to Muhibbin Syah (2008: 10), education is a process with specific methods to gain knowledge, understanding, and behave according to their needs. Redja Mudyaharjo (2012: 11), education is a conscious effort made by families, communities, and government, Through lifelong guidance, teaching, and training in schools and outside schools, to prepare students to play roles in various environments appropriately in the future.

According to Retno and Trisnadi (2012: 113), entrepreneurship education is a learning process to change students' attitudes and mindsets regarding entrepreneurial career choices. Entrepreneurship education is guidance given by a person to change a person's perspective and stand so that he is interested in becoming an entrepreneur (Setiawan, 2014: 26). Zimmerer, Scarborough, and Wilson (2008: 20) state that one factor driving entrepreneurial growth in a country lies in universities' role by implementing entrepreneurship education in lectures and seminars and entrepreneurial practices.

Previous research conducted by Duygu and Selcuk (2008) concluded that when universities provide adequate knowledge and inspiration for entrepreneurship, it is likely to increase entrepreneurial desire among young people.

Scholars and agencies have defined youth in several different ways to compensate for essential factors such as age, economic strength, marital status, and level of mental strength, among others (Brown, 2006). The United Nations Population Fund (UNFPA) defined "youth" in 1997. Scholars and agencies have defined youth differently to account for critical factors such as age, economic strength, marital status, and level of mental strength (Brown, 2006). In 1997, the United Nations Population Fund (UNFPA) defined "youth" as the population segment comprised of young people aged 18 to 35.

Youth make up a sizable portion of an entire labor force. Known for their youth can stimulate economic growth, social progress, and actual average development in any culture (Echebiri, 2005). Youth Known for their agility and vigor, most people are willing to work, but they cannot find work anyplace. They resulted in youth unemployment, which is a

significant issue in contemporary Nigerian society. Entrepreneurship, on either hand, is regarded as a novel strategy for addressing the menace of youth unemployment.

Entrepreneurship as a particular topic goes back to Richard Cantillon and Adam Smith's work in the late 17th and early 18th centuries but was theoretically disregarded until the late 19th and early 20th centuries. It was also ignored empirically until the last 40 years when business and economics encountered a profound revival. Entrepreneurship's understanding in the 20th century owes its success to economist Joseph Schumpeter's 1930s work and other Austrian economists such as Carl Menger, Ludwig von Mises, and Friedrich von Hayek (Anyadike, Emeh, and Ukah, 2012). Entrepreneurship refers to an individual's or group's willingness and ability to develop, establish, and successfully operate a business. In this case, the individual or individuals become self-employed and have the option of hiring others. Entrepreneurship is the process of opportunities in various sectors and becoming an employer of labor.

Furthermore, the term "entrepreneurship" has been described in various ways to mean multiple activities. Entrepreneurship is the willingness and ability of the individual to seek out investment opportunities, create and successfully run a business, seek out investment opportunities, and start a company based on identified opportunities (Oviawe, 2010). Entrepreneurs take calculated risks, are focused, and are fueled by an inner drive. Entrepreneurship can be defined purely by creating a new venture or applying a new approach to an existing business. In other words, the individual provides a service or product to the marketplace by repurposing resources. Therefore, entrepreneurship is the effective manipulation of human intelligence as manifested through creative performance. This singular act of risk-taking enables the individual to create things valuable from almost.

Entrepreneurship is a mindset, a way of thinking, and a way of acting. It involves far more than simply starting a business. It is the process through which individuals become aware of self-employment career opportunities, develop ideas, take and manage risks, understand the system, and take the initiative in developing and owning a business. Entrepreneurship is only one source of income; the other primary source

is employment in either a paid job (Schoof, 2006). Entrepreneurship is fundamentally about self-employment, which creates employment opportunities for others who must collaborate because they cannot work alone. Entrepreneurship is the most effective method for bridging the gap between science and business, establishing new companies, and bringing new products and services to market. These entrepreneurial activities have a significant impact on the economy of any nation by reinforcing the economic base and creating jobs (Baba, 2013). As Ikeme and Onu (2007) defined, entrepreneurship is the application of human courage to seek investment opportunities and establish a profit-oriented enterprise. According to Aina and Salako (2008), entrepreneurship is defined as an individual's willingness and ability to seek out investment opportunities and leverage scarce resources to exploit those opportunities profitably. It is the process of creating something new with actual value by devoting the necessary time and effort, taking on the associated financial and social risks, and inevitably receiving a reward.

Entrepreneurship, according to Schumpeter (1954), is synonymous with innovation, creativity, and risk-taking. Entrepreneurs take risks with their time, effort, and money to start and operate a business

(Udeh, 1990). Carland, Hoy, Boulton, and Carland (1984) defined an entrepreneur as someone who establishes and manages a company with the primary objective of profit and growth. Entrepreneurs are also viewed as individuals' process of tracking and assessing business opportunities, amassing the necessary resources, capitalizing on them, and implementing the actions required to ensure success (Meredith, Nelson, and Neck, 1982). Entrepreneurs can identify financially valuable opportunities, create venture strategies, and act as the critical force in neat features of an idea from the mind to the marketplace (Stanford, 1975).

Entrepreneurs are innovative and creative, and they recognize opportunities where others do not. They have the fortitude to take calculated risks to establish and successfully run their businesses. Michael Adenuga of Globacom Nigeria, Aliko Dangote of the Dangote Group of Companies, Innocent Chukwuma of the Innoson Group of Companies, and Onyishi Maduka of Peace Mass Transit are all clear examples of successful entrepreneurs in Nigeria. Other minor entrepreneurs continue to exist in the country.

Using the definitions above, we define youth entrepreneurship as the capacity of young people to seek investment opportunities and establish profitable businesses. Youth entrepreneurship is then viewed as an option for generating sustainable livelihoods. In fact, with their ability to adapt to changes and innovate, young people have the potential to drive tech-entrepreneurship and sustained growth (Lisk & Dixon-Fyle, 2013).

Authors such as Baumol (1990, 2002), Boettke (2001), Boettke and Coyne (2003), and Kreft and Sobel (2005) have found that the best way to foster entrepreneurship is through better institutions rather than new government programs. Entrepreneurial education and training conducted by experienced entrepreneurs were pointed out as important factors for fostering productive entrepreneurship in the region (Herrington & Kelley, 2012). Bringing up these theories, prior researchers have proposed the nexus between entrepreneurship education and youth entrepreneurs

2.2 Entrepreneurship Education and Social Media

Entrepreneurship education also exponentially helps individuals to acquire resources through knowledge and information transfer. For instance, when taking entrepreneurial learning, students will have the experience to build an engagement with peers to promote a business (Zeng and Honig, 2016). In addition, to have a good experience in entrepreneurship, students will also obtain critical suggestions regarding business activities. Lastly, motivation from peers, business actors, and teachers will help and support entrepreneurial activities. However, entrepreneurial education faces a challenge in its development.

With social media support, customers are well-connected with the whole world with a finger tap (Hamzah and Shamsudin, 2020). Many scholars define social media from their point of view and application. Generally, social media refers to a website and applications by which users can create, view, share and interact content in virtual social media. Kietzmann et al. (2011) *depicted* social media as "interactive computer-mediated technologies that facilitate creation and sharing of information, ideas, career interests and other forms of expression via virtual communities and networks." Mangold and Faulds (2009) show a

significant transformation in media, especially in traditional networking, in the last ten years. Supporting them, Coulter et al. (2012) noted that conventional networking had been replaced by a system facilitating modern technology. Leung et al. (2019) brought the exact utility of social media. They stated that it is a track of information superhighway. Users can share any information in text, voice, image, video, and other people to read and get information conveniently. Rao (2019) states that social media is online websites that allow individuals to communicate and establish social networks such as Facebook and web-based videos like those viewed on YouTube.

The contribution of social media in the education classroom has generated increasing interest in such tools for assisted learning. Other classroom applications include those reported: Wang et al. (2012), who used Facebook as a two-course learning management system; Barhoumi (2015) and Sulisworo and Toifur (2016), who incorporated WhatsApp; and Menkhoff and Bengtsson (2012), who applied mobile phones and social media to entrepreneurship courses at a university in Singapore. These studies have shown that students were willing to use and satisfied with social media as a teaching tool and that the learning results were good.

In a survey conducted by Lupton (2014), the reasons respondents gave for using social media were working with other people in the class and outside learning and extending classroom contact time. Therefore, expanding the classroom contact environment is a reason for using social media. Validates the use of social media and expands the scope of the learning environment to access resources. Social media in courses allows learners to experience active participation, sharing, openness, and collaboration and simultaneously attracting them to engage in activities and even start their careers (Senges et al., 2008). Furthermore, the use of social media helps promote participants' development.

Bringing up these theories, prior researchers have proposed the nexus between entrepreneurship education and social media usage.

2.3 Entrepreneurship Education and Information Communication Technology (ICT) Usage

Entrepreneurial education is a learning activity that discusses the enhancement of knowledge, skills, attitudes, and personal character related to entrepreneurship (Hussain and Norashidah, 2015). Indeed, it is also narrated by Kirkwood et al. (2014) as the ability to reflect one's actions in support of learning. This study uses student reflection about their entrepreneurial learning as our data collection to understand entrepreneurial education. Entrepreneurship, like other disciplines, can be learned and developed in which activities that discuss and learn about entrepreneurship are published advancement knowledge, skills, attitudes, and characters that support the students' success.

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experience instead of a theory, is essential in enhancing their entrepreneurship and entrepreneurial skills (Farny et al., 2016; Potishuk and Kratzer, 2017).

Curtain (2003) sees it as encompassing the production of both computer hardware and software and the means of transferring the information in digital form. Information and communications technologies (ICT) are changing the way the world does business. New technologies can improve the delivery of information and services in sectors as diverse as education, manufacturing, agriculture, and health. The growth of the ICT sector has opened new avenues for youth employment and entrepreneurship, as the costs of developing ICT skills are within reach of low-resource communities. According to Ananidou and Claro (2009), ICT applications make up a particularly appropriate environment for higher-order abilities such as management, organization, critical analysis, problem resolution, and information creation. They added that ICT applications strengthen and increase communication possibilities and reinforce coordination and collaboration skills between peers.

ICT is increasingly being used to improve access to education and employment opportunities, supporting efforts to eradicate poverty. However, while ICT can empower young people and improve their lives in many respects, several questions have been raised regarding its roles in deepening existing inequalities and divisions globally. The global digital divide's essential concerns apply as much to youth as to any other age group. ICTs have vast potential to generate employment for young people. However, this potential will not be realized unless a country has a range of supporting strategies in place, including an enabling environment.

The role of ICT in facilitating job creation for the youths, especially in developing countries, cannot be overemphasized. ICT can enable developing countries" ability to combat the several socio-economic challenges confronting them. Increasing access to information through the power of the internet infrastructure, and creating several innovative tools and accessories, could make several opportunities that entrepreneurs can exploit (Danso, Affum, and Hayfron-Acquah, 2012). ICT has introduced new forms of entrepreneurship based on the use of information. ICT, along with education or training and research and development (R&D), is essential in building a platform for entrepreneurship and innovation.

During the first five years of the study (1995-1999), the entrepreneurship education curriculum incorporated mainly traditional business modules and was delivered primarily by conventional classroom methods.

Interestingly, however, over the second five-year period (2000-2004), the number and variety of entrepreneurship education courses have increased considerably. The curriculum incorporated a mixture of theoretical and practical modules. Furthermore, during this period, there was a noticeable increase in ICT usage and electronic platforms for curriculum delivery (Matlay, 2008). Bringing up these theories, prior researchers have proposed the nexus between entrepreneurship education and Information Communication Technology (ICT) usage

2.4 Social Media usage and Youth Entrepreneurship

Over the decades, numerous trends have been experienced in the business environment, especially on youth entrepreneurship. The arrival of some phenomena holds the power to change and influence the business environment to a great extent; one such phenomenon is social media, often

interchangeably used with Web 2.0 (Kadam & Ayarekar, 2014). Various social media platforms range from social networks, private social networks to blogs and micro-blogs (Shabbir et al., 2016). Despite its inception in 1997 (Shabbir et al., 2016), there was a boom in social media in 2000, when a significant increase was seen in the number of social networking sites (Kadam & Ayarekar, 2014). As a result, the way customers and entrepreneurs communicate transformed because this platform allowed businesses to have greater access to a broader range of target audiences; comprehend their varying needs and wants; improve and innovate products and services; and encourage customer engagement with the business (Smith and Taylor, 2004; Jagongo & Kinyua, 2013).

Amongst all the social media sites, the most widely used social media platform by businesses and marketers is Facebook (Sachs, 2016; Slabbert, 2018; Driver, 2018). According to the reports of Statista (2018), the leading social media platforms for marketers all over the world include Facebook (94%), Instagram (66%), Twitter (62%), LinkedIn (56%), YouTube (50%), Pinterest (27%) and Snapchat (8%). The various advantages of doing business on social media have reshaped the conventional marketing methods in the country. Many can start a startup

on social media from students to housewives since it does not require physical space or enormous human resources (Farhin, 2018).

Fruhling and Digman (2000) stated that social media could upsurge the customer base and market share, facilitating the growth strategies of a business. Logically, two-way communication between the customers and the business can provide information and ideas, enhance the business's market offerings, and encourage them to innovate. Therefore, the platform can provide opportunities to attract potential customers and retain existing ones, building a stronger relationship between the parties involved (Mangold & Faulds, 2009). Social media can help provide "marketing that is more effective, new communication and distribution channels, shorter time to market, customized products, 24-hour online technical support, and online interactive community" (Mukolwe & Korir, 2016, p.249). The reason businesses are taking full advantage of social networking sites is because there is a new generation of consumers whose buying behavior is very different from the previous groups of customers. This emergence of an entirely new economy on the Internet results from consumers seeking more convenience in shopping,

better communication, more engagement, and the power to decide (Tigo, 2012; Perju, 2015; Tosifyan & Tosifyan, 2017).

Entrepreneurs consider social media a valuable tool because it encourages identifying opportunities in the business environment (Park & Sung, 2017). There are varying views about "entrepreneurial opportunity"; where Schumpeter (1932) stated that one must look for new information available in the market to create an opportunity, Kirzner (1997), on the other hand, argued that a business must use the existing data to discover an option. Social media is such a platform that has now enabled entrepreneurs to learn and create opportunities by assessing both current and new information by communicating and interacting with peers on the network (Park & Sung, 2017). Bringing up these theories, prior researchers have proposed the nexus between youth entrepreneurs and social media usage

2.5 Information Communication Technology (ICT) Usage and Youth Entrepreneurship

Youth entrepreneurship is the capacity of young people to seek investment opportunities and establish profitable businesses. Youth entrepreneurship is then viewed as an option for generating sustainable livelihoods. In fact, with their ability to adapt to changes and innovate, young people have the potential to drive tech-entrepreneurship and sustained growth (Lisk & Dixon-Fyle, 2013).

ICT is increasingly being used to increase access to education and job opportunities, thereby assisting in the fight against poverty. While ICT can empower young people and improve their lives in numerous ways, concerns have been raised about its potential to exacerbate existing inequalities and divisions in the world. The fundamental problems of the global digital divide apply equally to youth as to any other age group. ICTs have enormous potential to create jobs for young people. This potential, however, will not be realized unless a country implements a variety of supportive strategies, including an enabling environment.

Cao Q. & Dowlatshahi S. (2005) found empirical evidence on a significant relationship between ICT use and business performance. The author assumes ICT contribution for the business performance may extend in two different ways. ICT may directly influence the organization's productivity and support the product, process, market, and organizational innovations.

At the same time Vilaseca-Requena J., Torrent-Sellens J. & Jime´nez-Zarco A.I. (2007). Found intensive ICT use in marketing makes the company more innovative. It perceives that its usage breaks down barriers to innovation and speeds up processes that become more efficient. It explains how ICT promotes entrepreneurship within the organization related to the marketing function, which is a prime responsibility of an entrepreneur at the startup stage. Increasing ICT use in marketing encourages company predisposition to collaborate with and integrate particular agents within the business environment to develop the innovation process, improving the new product's adaptation to market demands.

Moen Q. Madsen T. K. & Aspelund A. (2008). Danish and Norwegian SMEs use ICT is predominantly for market information search and to develop long-term customer relationships. In both those areas, the use of ICT is positively associated with the firm's satisfaction with its development of new market knowledge; significantly, this will develop entrepreneurial insight into the market.

According to the literature, there is a strong relationship between ICT and business performance. Similarly, the ICT solution may substantially impact entrepreneurial performance as it is supported by enriching the entrepreneurial climate within organizations by facilitating tools for innovation.

Markides C.C. & Anderson J. (2006) suggested ICT as one prominent enabler to successfully implementing radical new strategies. They further emphasis strategic innovator needs to identify these gaps before everybody else. Placing the gap doesn't guarantee success; entrepreneurs need to exploit the hole competitively. ICT support for identification of new "who" the unidentified or ignored customer segment,

new "what" products or new value propositions they expect, and new "how" innovative and economical ways to produce that product or service.

At the macroeconomic level, ICT adoption has been linked to increased global competitiveness, total factor productivity growth, GDP growth, and a slew of other direct economic benefits (World Bank report, 1999). Additionally, ICT has boosted enterprise performance in emerging economies by increasing sales, employment, profitability, labor productivity, and total factor productivity. Curtain (2003) identified several ICT entrepreneurial opportunities, including the ability to follow: selling phone line services; young people as information intermediaries (accessing vast amounts of information on the Internet and interpreting it in light of the local context); developing websites in mother tongues or facilitating communication between NGOs, and using email to respond to feedback on behalf of program beneficiaries. ICT enables increased access to information, capital, markets, and training necessary for pursuing a career or studies and increased participation in political processes and recognizing youth as responsible citizens in today's society. By identifying the immense support ICT can give for entrepreneurs and new startups, a concept was devised as Cyber entrepreneurship. Cyber

entrepreneurship emerged, highlighting the impact of Information and Communication Technology on entrepreneurs' success(Weeramanthri et al., 2015). Entrepreneurship, facilitated by access to technology, the Internet, and information, is rapidly gaining traction as a potential source of jobs for youth. As a result, ICT not only facilitates entrepreneurship but also provides entrepreneurial opportunities. Additionally, the youth must develop his or her business skills and ICT expertise for the business to succeed. The study proposed the following Hypothesis based on these studies:

H1: Entrepreneurship Education positively and significantly affects Youth Entrepreneurship

H2: Social Media Usage mediating the relationship between Entrepreneurship Education and Youth Entrepreneurship

H3: Information Communication Technology (ICT) Usage mediating the relationship between Entrepreneurship Education and Youth Entrepreneurship

Table 2.1 Related studies of Entrepreneurship Education, entrepreneurs, Social Media Usage and ICT Usage

Author / Year	Studies	Method	Variable	Main Result
(Mahendra et al., 2017)	The Effect of Entrepreneurship Education on Entrepreneurial Intentions Mediated by Motivation and Attitude among Management Students, State University of Malang, Indonesia	This research employed descriptive correlational design, and path analysis was used to examine the relationship among variables hypothesized.	Entrepreneurship Education, Entrepreneurial Intentions, Motivation, and Attitude among Management Students as mediating variable	Research finding revealed that entrepreneurial intention is indirectly affected by entrepreneurship education, meaning that students' entrepreneurial motivation and attitude are two important mediating variables
(Saptono et	Does entrepreneurial education	The methodological approach taken	Entrepreneurship education,	Entrepreneurial education plays an essential role

al., 2020)	matter for Indonesian students' entrepreneurial preparation: The mediating role of entrepreneurial mindset and knowledge	in this study is a quantitative method undergoing a survey model.	entrepreneurial knowledge, entrepreneurial mindset, the entrepreneurial preparation of students	in determining knowledge and entrepreneurial mindset that leads to the entrepreneurial preparation of students. Entrepreneurial knowledge positively influences the entrepreneurial mindset, entrepreneurial preparation, and successfully mediates the impact of entrepreneurial education and entrepreneurial preparation. Entrepreneurial mindset

				positively influences students' entrepreneurial preparation.
(Wardana et al., 2020)	The impact of entrepreneurship education and students' entrepreneurial mindset: the mediating role of attitude and self-efficacy	The convenience random sampling method.	entrepreneurship education, entrepreneurial mindset, the mediating role of attitude and self-efficacy	Entrepreneurship education successfully influences entrepreneurial self-efficacy, entrepreneurial attitude, and the entrepreneurial mindset. Entrepreneurial self-efficacy pro-motes entrepreneurial attitude instead of the entrepreneurial mindset. Entrepreneurial attitude plays an

				essential role in mediating both entrepreneurship education and self-efficacy toward students' entrepreneurial mindset
(Cui et al., 2021)	The impact of entrepreneurship education on the entrepreneurial mindset of college students in China: The mediating role of inspiration and the role of	This study adopted a convenience sampling method.	entrepreneurship education, entrepreneurial mindset, The mediating role of inspiration, and the role of educational attributes	EE significantly enhanced students' entrepreneurial inspiration. Entrepreneurial inspiration also mediated the impact of EE on EM at a significant level. The role of educational attributes, including the type of learning experience, type

	educational attributes			of course, and type of activity, were highlighted

III. RESEARCH DESIGN

3.1 Research Model and Method

The study was based on young entrepreneurs (both male and female) in Indonesia. The methodological approach taken in this study is a quantitative method undergoing a survey model, where 255 respondents participated. The participants were sampled based on the following selection criteria: entrepreneurs aged 18-34 years, owning businesses that use social media and information and communication technology, and domiciled in Indonesia's seven most prominent cities. A judgmental sampling, also known as purposive sampling, refers to the sampling method that chooses the units to be judged as the most representative population (Saunders et al., 2016). The researcher imposes a subjective experience and condition (criteria) to select samples from the intended population (Saunders et al., 2016). We employed this technique to achieve theory generalization, as the complete sampling frame is not available in the given context (Memon et al., 2017; Hulland et al., 2018).

We present a conceptual model that Entrepreneurship Education (EE) will be an Independent variable, Youth Entrepreneurs (YE) will be

a dependent variable, Social Media Usage (SCU), and Information Communication Technology Usage (ICTU) be moderating variable. The links are shown diagrammatically in Figure 1 and table the Operational Definition variable in table 1.

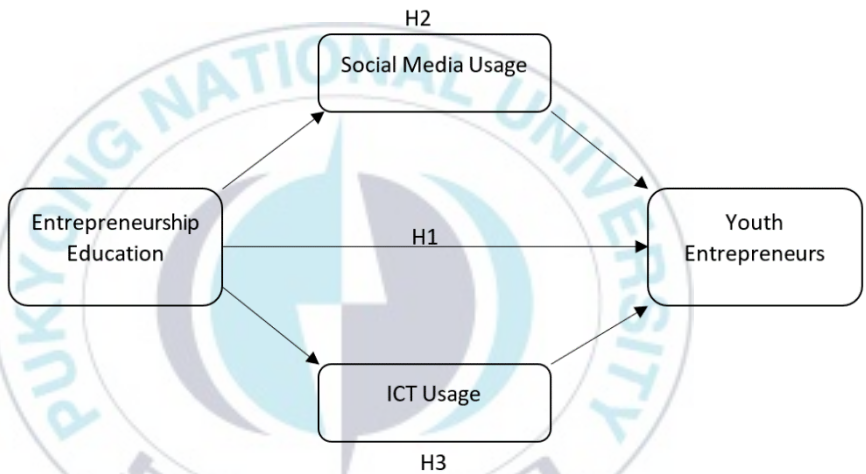

Figure 3.1 The conceptual model

Table 3.1 The Operational Definition variable

Variable	**Dimensions**	**Indicator**	**Source**
Entrepreneurship Education: a two-way communication process that educates, informs, and trains students to be interested and more effective in starting and managing new businesses.	Curriculum	Designing learning activities Developing learning materials	Buchori (2011: 6)
	Quality of teaching staff	Teaching ability Teacher delivery skills	
	Teaching Facilities	Physical Facilities Facilities of Non	
Social Media Usage: the most effective tool for combining, comparing, and evaluating information for entrepreneurial opportunities. And the beginners and young entrepreneurs who started their business with limited knowledge and resources are heavily influenced by social media.	Daily time spent	Daily time spent on social media to get information	
		Daily time spent on social media to communication	
Communication Information Technology (ICT)	Daily time spent	Daily time spent on ICT to get information	

Usage: a technology related to the retrieval, collection, processing, deviation, dissemination, and presentation of information. Citing *the UNESCO Institute for Statistics*, ICT is a diverse technology and resource device used to transmit, store, create, share, or exchange information.		Daily time spent on ICT to communication	
Youth Entrepreneurs: Young entrepreneurs take all risks to pursue and reach opportunities and situations that differ from possible failures and threats and obstacles	Entrepreneurial success	Increased business growth	

Methods of Data Analysis This research uses multiple linear regression analysis, with the regression equation as follows:

The first equation

$$Y1 = a + \beta 3.X + \varepsilon$$

The second equation

$$Z1 = a + \beta 1.X + \varepsilon$$

The third equation

$$Z2 = a + \beta 2.X + \varepsilon$$

The fourth equation

$$Y = a + \beta 3.Y1 + \beta 4.Z1 + \beta 5.Z2 + \varepsilon$$

Information:

Y = Young Entrepreneurs;

X = Learning entrepreneurship;

Z1 = Use of Social Media;

Z2 = Use of ICT

b1, b2, b3, b4, b5 = regression coefficient;

e = error.

Furthermore, to test the Hypothesis using a p-value, if the significance of the calculated p-value is less than 0.05 (5%), the proposed Hypothesis is accepted.

3.2 Data Research

Data on measures was collect from several respondents via questionnaires. The questionnaire was made in google form, and I shared it through one of the Young Indonesian Entrepreneurs Associations members (HIPMI) (Executive Director of HIPMI) and Young Entrepreneur Academy (YEA) Indonesia member (Chairman of School YEA). The reason for using electronic surveys (i) to minimize effort and cost (ii) to approach the most significant respondents compared to the self-

administered study because, in the technological era, all individuals are attached to mobile phones or computer devices. Thus, that supported the researchers to approach the targeted respondents of the current study. Before that, a standardized and structured questionnaire was developed from the literature. The data collection period was December 2020 until January 2021. The questionnaire with cover letter stated the purpose of the survey assuring confidentiality, and sought respondents' consent.

3.2.1 Data Demographic information

Table 3.2 Demographic information

Characteristic		No	%	Characteristic		No	%
Gender	Male	152	59.61%	**Business**			
	Female	103	40.39%	Category	Agriculture	33	12.94%
Age					Construction	12	4.71%
Category	19	5	1.96%		Manufacturing	20	7.84%
	20	10	3.92%		Mining	16	6.27%
	21	15	5.88%		Trade	64	25.10%
	22	13	5.10%		Food and Beverage	76	29.80%
	23	20	7.84%		Technology	10	3.92%
	24	21	8.24%		Personal Service	13	5.10%
	25	23	9.02%		Public Service	11	4.31%
	26	27	10.59%	**Company Age**			
	27	24	9.41%	Category	0-1 year	27	10.59%
	28	20	7.84%		2-3 years	95	37.25%
	29	20	7.84%		4-6 years	87	34.12%
	30	16	6.27%		7-10 years	36	14.12%
	31	9	3.53%		More than ten years	10	3.92%
	32	16	6.27%	**Turnover per Month**			
	33	9	3.53%	Category	0-50 Million	25	9.80%
	34	7	2.75%		50-100 Million	91	35.69%
Domicile					100-500 Million	83	32.55%
City	Medan	35	13.73%		500 Million-1 Billion	33	12.94%
	Jakarta	40	15.69%		1-5 Billion	13	5.10%
	Bandung	37	14.51%		5-10 Billion	7	2.75%
	Semarang	35	13.73%		More than 10 Billion	3	1.18%
	Surabaya	43	16.86%				
	Samarinda	33	12.94%				
	Makassar	32	12.55%				

3.2.2 Data Social Media Usage and Information Communication Technology (ICT) Usage

Table 3.3Social Media Usage and Information Communication Technology

Social Media Usage				Information Communication Technology (ICT) Usage			
Characteristic		**No**	**%**	**Characteristic**		**No**	**%**
Time spent on Social Media				**Time spent on ICT (electronic devices)**			
Time	0-1 hours	2	0.78%	Time	0-1 hours	0	0%
	1-2 hours	5	1.96%		1-2 hours	0	0%
	2-3 hours	4	1.57%		2-3 hours	0	0%
	3-4 hours	19	7.45%		3-4 hours	5	1.96%
	4-5 hours	40	15.69%		4-5 hours	13	5.10%
	5-6 hours	80	31.37%		5-6 hours	31	12.16%
	6-7 hours	78	30.59%		6-7 hours	119	46.67%
	More than 7 hours	27	10.59%		More than 7 hours	87	34.12%
Type of Social Media Used				**Type of ICT (electronic devices)**			
Category	Facebook	64	25.10%	Category	Smartphone	207	81.18%
	Instagram	97	38.04%		Notebook	40	15.69%
	Titok	15	5.88%		Computer	8	3.14%
	WhatsApp	33	12.94%	**Time spent on the Internet**			
	Twitter	10	3.92%	Time	0-1 hours	0	0%
	YouTube	23	9.02%		1-2 hours	0	0%
	Telegram	13	5.10%		2-3 hours	0	0%
					3-4 hours	5	1.96%
					4-5 hours	25	9.80%
					5-6 hours	35	13.73%
					6-7 hours	81	31.76%
					More than 7 hours	109	42.75%

IV. RESULT

4.1 Data Analyst Method

This research data analysis method is *structural equation modeling-partial least squares* (SEM-PLS) using Smart PLS *software.* Mahmud and Ratmono (2013:6) stated that in its development, SEM is divided into two types, *namely covariance-based* SEM (CB-SEM) and *variance-based* SEM or *partial least squares* (SEM-PLS). CB-SEM flourished in the 1970s, spearheaded by Karl Joreskog as a Lisrel *software* developer. While SEM-PLS developed after CB-SEM and was pioneered by Herman Wold (academic supervisor Karl Joreskog). Here are some examples *of software* from CB-SEM and SEM-PLS) (Mahmud and Ratmono, 2013:6-7).

Table 4.1 Software Examples from CB-SEM and SEM-PLS

Software CB-SEM	Software SEM-PLS
LISREL function	**SmartPLS**
Amos	WarpPLS
EQS	PLS-Graph
M-plus	Visual-PLS
STATICAL	*STATICAL*

Mahmud and Ratmono (2013:7) stated that SEM-PLS could work efficiently with small sample sizes and complex models. Besides, data distribution assumptions in SEM-PLS are relatively looser than CB-SEM. Estimation with CB-SEM requires a series of assumptions that must be met, such as multivariate data normality, minimum sample size, homoscedasticity, and so on.

Mahfud and Ratmono (2013:8) stated that the two's estimated results are not much different so that SEM-PLS can be a good proxy for CB-SEM. SEM-PLS can still generate estimates even for small sample

sizes and deviations from multivariate normality assumptions. SEM-PLS can therefore be viewed as a nonparametric approach to CB-SEM. Besides, when CB-SEM assumptions are not met, SEM-PLS can be an appropriate method for theoretical testing. Mahfud and Ratmono (2013:9-13) stated that if the data meets CB-SEM assumptions appropriately, such as minimum sample size and normal distribution, select CB-SEM. If it does not complete, choose SEM-PLS. SEM-PLS is a nonparametric approach; it can work well even for extreme abnormal data.

4.2 Evaluation of Outer Model (Measurement *Model)*: Testing Validity and Reliability

The validity of convergents is part of the SEM-PLS measurement model, usually referred to as the outer *model, while covariance-based* SEM is *called confirmatory factor analysis* (CFA) (Mahfud and Ratmono, 2013:64). There are two criteria for assessing whether *the outer model* qualifies the validity of the convergent for reflective constructs, namely (1) *loading* should be above 0.7 and (2) *a significant p*-value (<0.05) (Hair et al. in Mahfud and Ratmono, 2013:65). But in some cases, often loading requirements *above* 0.7 are not met,

especially for newly developed questionnaires. Therefore, *loading between* 0.40-0.70 should still be considered to be maintained (Mahfud and Ratmono, 2013:66). Here are the suggestions were given by Hair et al. in the decision to retain or remove reflective indicators (Hair et al. in Mahfud and Ratmono, 2013:66).

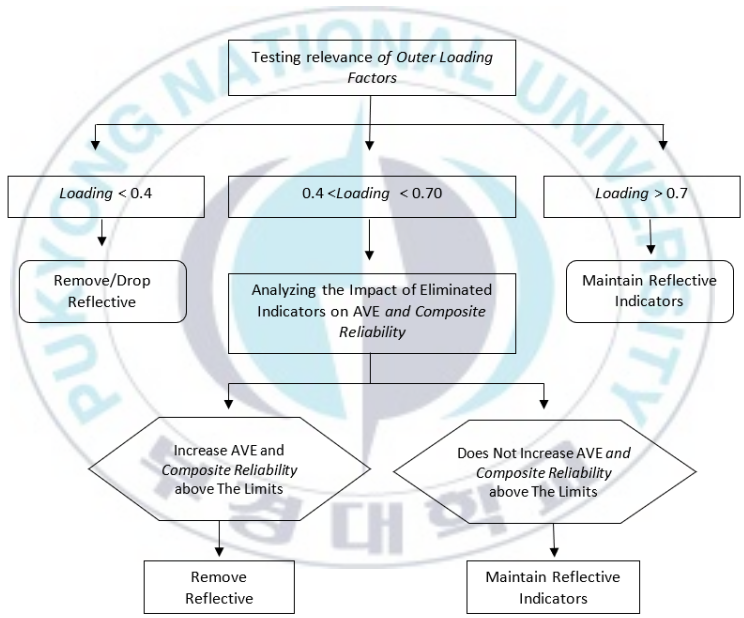

Figure 4.1 Reflective Indicator Analysis Process (Hair et al., 2013:104)

Indicators *with loading* below 0.40 should be removed from the model. However, for *indicators with loading* between 0.40 and 0.70, we should analyze the impact of eliminating the hand on average *variance extracted* (AVE) and composite *reliability.* We can remove the *indicator*

by loading between 0.40 and 0.70 if it can increase the average *variance extracted* (AVE) *and composite reliability* above its limit*(Mahfud*and Ratmono, 2013:67). The AVE limit value is 0.50, and *the composite reliability* is 0.7. Another consideration in removing indicators is the impact on the validity of *the content validity* of the construct. Indicators *with small loading* are sometimes maintained because they contribute to the construction contents' validity (Mahfud and Ratmono, 2013:67). Table 4. 2 presented loading *values* for each indicator.

Table 4.2 Validity Testing based on Loading Factors

	Entrepreneurship Education	**ICT Usage**	**Social Media Usage**	**Youth Entrepreneurs**
X1	**0.952**			
X2	**0.941**			
X3	**0.962**			
X4	**0.966**			
X5	**0.957**			
X6	**0.953**			
Y1				**0.936**
Y2				**0.957**
Y3				**0.964**
Y4				**0.956**
Z1.1			**0.963**	
Z1.2			**0.982**	
Z1.3			**0.979**	
Z1.4			**0.978**	
Z2.1		**0.977**		
Z2.2		**0.978**		
Z2.3		**0.980**		
Z2.4		**0.976**		
Z2.5		**0.973**		

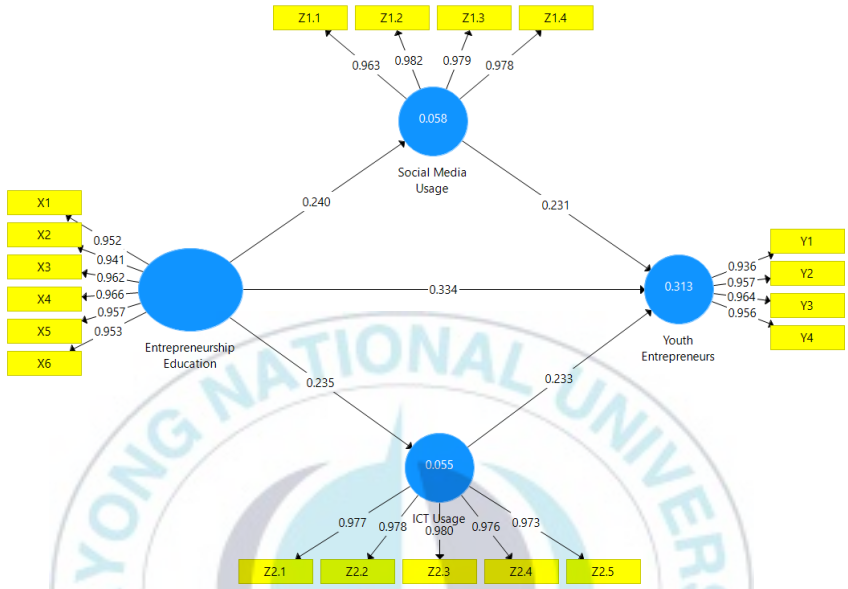

Figure 4.2 Testing Validity based on Loading Factors

Based on validity testing as loading factor in Table 4. 2 and Figure 4.1, the entire loading value> 0.7, which means it has qualified validity based on loading value. Furthermore, validity testing is carried out based on the average *variance extracted* (AVE) value.

Table 4.3 Validity Testing based on Average Variance Extracted (AVE)

	Average Variance Extracted (AVE)
Entrepreneurship Education	**0.912**
ICT Usage	**0.954**
Social Media Usage	**0.951**
Youth Entrepreneurs	**0.909**

The recommended AVE value is above 0.5(Mahfud and Ratmono, 2013:67). The entire AVE value is known > 0.5, which means it has qualified validity based on AVE. Furthermore, reliability testing is carried out based on *composite reliability* value (CR).

Table 4.4 Reliability Testing based on Composite Reliability (CR)

	Composite Reliability
Entrepreneurship Education	**0.984**
ICT Usage	**0.991**
Social Media Usage	**0.987**
Youth Entrepreneurs	**0.976**

Recommended CR values are above 0.7 (Mahfudand Ratmono, 2013:67). All CR > 0,7 values are known, which means that they meet

the CR's reliability requirements. Furthermore, reliability testing based on *Cronbach's alpha* (CA)value is carried out.

Table 4.5 Reliability Testing based on Cronbach's Alpha (CA)

	Cronbach's Alpha
Entrepreneurship Education	**0.981**
ICT Usage	**0.988**
Social Media Usage	**0.983**
Youth Entrepreneurs	**0.967**

The recommended CA values are above 0.7 (Mahfudand Ratmono, 2013:67). The entire value is CA > 0.7, which means it has qualified reliability based on Cronbach's alpha. Furthermore, a discriminant validity test was carried out with the Fornell-Larcker approach. Table 4. 5 presented the results of the examination of the validity of the discriminant.

Table 4.6 Discriminant Validity Testing

	Entrepreneurship Education	ICT Usage	Social Media Usage	Youth Entrepreneurs
Entrepreneurship Education	0.955			
ICT Usage	0.235	0.977		
Social Media Usage	0.240	0.195	0.975	
Youth Entrepreneurs	0.444	0.356	0.356	0.953

A discriminant validity test, the AVE square root value of a latent variable, compared to the correlation value between that latent variable and other latent variables and known ave square root value for each latent variable, is more significant than the correlation value between latent and latent variables. So it is concluded that it has fulfilled the validity of the discriminant.

4.3 Test of Significance of Influence (Bootstrapping) / Hypothesis Test

Table 4.7 Effect Significance Test

	Original Sample (O)	**Sample Mean (M)**	**Standard Deviation (STDEV)**	**T Statistics (|O/STDEV|)**	**P Values**
Entrepreneurship Education -> ICT Usage	0.235	0.242	0.074	3.170	**0.002**
Entrepreneurship Education -> Social Media Usage	0.240	0.240	0.078	3.086	**0.002**
Entrepreneurship Education -> Youth Entrepreneurs	0.334	0.332	0.070	4.762	**0.000**
ICT Usage -> Youth Entrepreneurs	0.233	0.230	0.074	3.126	**0.002**
Social Media Usage -> Youth Entrepreneurs	0.231	0.221	0.070	3.287	**0.001**

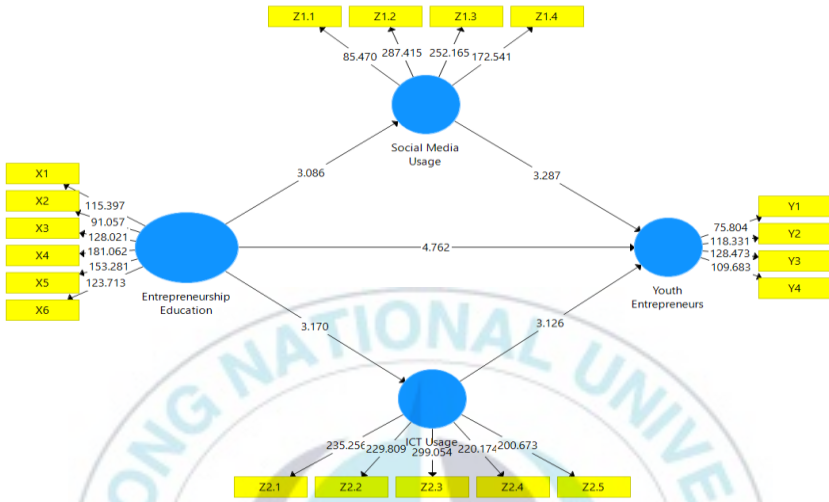

Figure 4.3 Results of the structural equation research model

Based on the results in Table 4.7 obtained results:

1. EE (Entrepreneurship Education) has a positive effect on ICTU (ICT Usage) with the coefficient values of paths 0.235 (*original sample column*) and signed with *P-Values* 0.001 < 0.05.
2. EE (Entrepreneurship Education) has a positive effect on SMU (Social Media Usage) with a coefficient of path 0,240 (original *sample column*) and significant with *p-values* of 0.002 < 0.05.
3. EE (Entrepreneurship Education) has a positive effect on YE (Youth Entrepreneurs) with the coefficient values of paths 0.334 (*original sample column*) and signed with ***P-Values 0.001 < 0.05.***

4. ICTU (ICT Usage) positively affects YE (Youth Entrepreneurs) with a coefficient value of paths 0.233 (original *sample column*) and significant with a P-Values 0.000 < 0.05.
5. SMU (Social Media Usage) positively affects YE (Youth Entrepreneurs) with a coefficient value of paths 0.231 (original *sample column*) and significant with a P-Values 0.001 < 0.05.

Table 4.8 is presented the result of the value of the coefficient of determination *(r-square)*

Table 4.8 Result indirect effect

Entrepreneurship Education -> Social Media Usage -> Youth Entrepreneurs	0.055	0.055	0.028	1.974	**0.039**
Entrepreneurship Education -> ICT Usage -> Youth Entrepreneurs	0.055	0.055	0.029	1.879	**0.041**

Based on the test results in Table 4.8:

1. SMU (Social Media Usage) is significant as a mediating relationship between EE (Entrepreneurship Education) and YE (Youth Entrepreneurs), with ***P-Values = 0.039 < 0.05.***
2. ICTU (ICT Usage) is significant in mediating the relationship between EE (Entrepreneurship Education) and YE (Youth Entrepreneurs), with ***P-Values = 0.041 < 0.05.***

Table 4.9 and figure 4.4 is presented the result of the Hypothesis of this study.

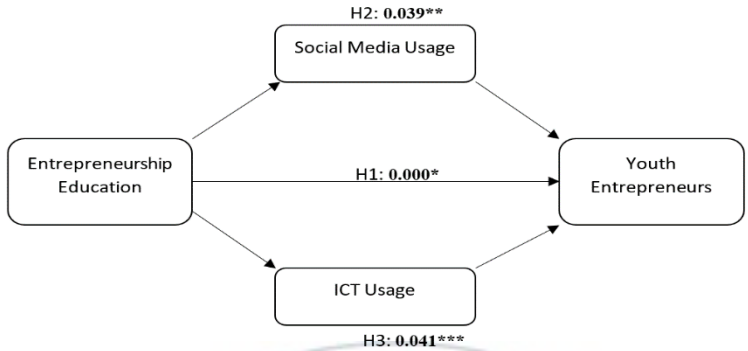

Figure 4.4 Results of Hypothesis Test

Table 4.9Results of Hypothesis Test

Hypothesis	**Relationship**	**T-value**	**P-value**	**Decision**
H1	EE→YE	4.762	**0.000***	Confirmed
H2	EE→SMU→ YE	1.974	**0.039****	Confirmed
H3	EE→ICTU→ YE	1.879	**0.041*****	Confirmed

Note:

1. **EE** = entrepreneurship education; **SMU** = social media usage; **ICTU**= information communication technology usage; **YE** = youth entrepreneurs
2. P-Value > 0.05 = Confirmed

Table 4.10 is presented the result of the value of the coefficient of determination *(r-square).*

Table 4.10 Coefficient of Determination

	R Square
ICT Usage	0.055
Social Media Usage	0.058
Youth Entrepreneurs	0.313

Based on Table 4. 10 known:

1. Entrepreneurs Education influence on ICT Usage by 5.5%.
2. Entrepreneurs Education influence on Social Media Usage by 5.8%.
3. The influence Entrepreneurship Education, Social Media Usage, ICT Usage on Youth Entrepreneurs by 31.3%.

Based on Table 4.10, it is known that adjust R Square value is 0.389. This figure shows the three free variables: entrepreneurship education, social media usage, and information communication technology (ICT) usage. only contribute or have an influence of 39% on youth entrepreneurs. Simultaneously, the remaining 61% showed that youth entrepreneurs' variables were influenced by other variables not covered in this research model. From the low R score results, it can be

found that for youth entrepreneurs in Indonesia, many other factors affect youth entrepreneurs besides entrepreneurship education, social media usage, and information communication technology (ICT) usage.

V. CONCLUSION

This study is purposed to investigate the impact of entrepreneurial education on youth entrepreneurs and understand the mediating effect of Social Media Usage and Information Communication Technology (ICT) Usage. In more detail, the first Hypothesis of this study indicates that entrepreneurship education positively affects youth entrepreneurs. The finding of this research is similar to antecedent studies by (Mahendra et al., 2017; Ratten, 2020; Bacq et al., 2020; Donthu & Gustafsson, 2020). Youth entrepreneurs feel entrepreneurship education is essential for entrepreneurial success. In addition, by understanding entrepreneurship education, young entrepreneurs can increase their business growth.

Second, this study found that social media usage is significant as a mediating relationship between entrepreneurship education and Youth Entrepreneurs. This finding broadly supports the work of other studies by (Ratten 2020; Bacq et al., 2020; Donthu & Gustafsson, 2020). This outcome implies that currently, By using social media, youth entrepreneurs can increase their business growth because youth entrepreneurs could easily access business information and do business activities.

Lastly, this study also showed that ICT usage is significant as a mediating relationship between entrepreneurship education and youth entrepreneurs. This finding is in accord with recent studies (Bacq et al., 2020; Donthu & Gustafsson, 2020). This outcome implies that currently, using Information and Communication Technology (ICT), young entrepreneurs can increase their

business growth. Youth entrepreneurs could easily access business information and do business activities.

From this research, it could be concluded that entrepreneurship education positively affects youth entrepreneurs. Indeed, the study states that social media and Information Communication Technology (ICT) usage significantly mediating the relationship between entrepreneurship education the youth entrepreneur's variable. On the other hand, it can be known that Social Media Usage positively affects youth entrepreneur's variables. And also, Information Communication Technology (ICT) Usage positively affects youth entrepreneur's variable.

On the other hand, this study has correspondent characteristics; based on gender, age, domicile, type of business, company age, and turnover per month. Also characteristic of social media usage and ICT usage. The study was based on young entrepreneurs (both male and female) in Indonesia. The Data was collected from a member of the Young Indonesian Entrepreneurs Associations member (HIPMI) and Young Entrepreneur Academy (YEA) Indonesia member, where 255 respondents participated. And the participants from the seven most prominent cities in Indonesia. (Jakarta, Medan, Bandung, Yogyakarta, Semarang, Surabaya, Makassar). Young Indonesian Entrepreneurs Associations is One of the largest and most influential entrepreneurs' associations in Indonesia. And currently, four members are ministers in Indonesia.

These findings suggest that the Indonesian government, especially the Ministry of Cooperatives, or entrepreneur organizations such as HIPMI (the Indonesian Young Entrepreneurs Association) are continually expected to

provide the latest and actual entrepreneurship education guidance to young entrepreneurs in their business success. Besides, current technological developments continue to develop rapidly, making the business run even sustainable. Also, providing technical advice such as social media usage and information communication technology (ICT) usage presents experienced business and technology practitioners to offer assistance or mentoring for youth entrepreneurs. The government also facilitates several supporting activities, including easy to access business capital. Be able to maintain business consistency and stability to develop young entrepreneurs' business activities in Indonesia.

This study's limitations and future research are that the current studies adopted only three independent variables: Entrepreneurship Education, Social Media Usage, and Information Communication Technology (ICT) Usage. Other researchers can focus on other constructs such as social media marketing, social media access, ICT access, ICT utilization, etc.

A limitation is that the samples were generated in only seven-city (Jakarta, Medan, Bandung, Yogyakarta, Semarang, Surabaya, Makassar) in Indonesia, and future research can extend the sample area and apply random sampling wider across the country.

Second, only entrepreneurship education, social media usage, and Information Communication Technology (ICT) Usage are insufficient to explain business performance impact on youth entrepreneurs. Some other variables include business intention, entrepreneur education, social media marketing, social media access, ICT access, and ICT utilization.

Indeed, the research design in this study is relatively simple, but referring to the Data on the number of entrepreneurs and the role of entrepreneurs in economic growth in Indonesia. This study will be helpful and essential because understanding entrepreneurship education can improve the quality of entrepreneurship for youth entrepreneurs in Indonesia. Future research can expand the research design in more detail by combining several research methods and variables.

REFERENCES

Bacq, S., Geoghegan, W., Josefy, M., Stevenson, R., & Williams, T. A. (2020). The COVID-19 Virtual Idea Blitz: Marshaling social entrepreneurship to rapidly respond to urgent grand challenges. *Business Horizons*, *63*(6), 705–723. https://doi.org/10.1016/j.bushor.2020.05.002

Cui, J., Sun, J., & Bell, R. (2021). The impact of entrepreneurship education on the entrepreneurial mindset of college students in China: The mediating role of inspiration and the role of educational attributes. *International Journal of Management Education*, *19*(1), 100296. https://doi.org/10.1016/j.ijme.2019.04.001

Donthu, N., & Gustafsson, A. (2020). Effects of COVID-19 on business and research. *Journal of Business Research*, *117*(June), 284–289. https://doi.org/10.1016/j.jbusres.2020.06.008

Handayati, P., Wulandari, D., Soetjipto, B. E., Wibowo, A., & Narmaditya, B. S. (2020). Does entrepreneurship education promote vocational students' entrepreneurial mindset? *Heliyon*, *6*(11). https://doi.org/10.1016/j.heliyon.2020.e05426

Mahendra, A. M., Djatmika, E. T., & Hermawan, A. (2017). The Effect of Entrepreneurship Education on Entrepreneurial Intention Mediated by Motivation and Attitude among Management Students, State University of Malang, Indonesia. *International Education Studies*, *10*(9), 61. https://doi.org/10.5539/ies.v10n9p61

Matlay, H. (2008). The impact of entrepreneurship education on entrepreneurial outcomes. *Journal of Small Business and Enterprise Development*, *15*(2), 382–396. https://doi.org/10.1108/14626000810871745

Ratten, V. (2020). Coronavirus disease (COVID-19) and sport entrepreneurship. *International Journal of Entrepreneurial Behaviour and Research*, *26*(6), 1379–1388. https://doi.org/10.1108/IJEBR-06-2020-0387

Saptono, A., Wibowo, A., Narmaditya, B. S., Karyaningsih, R. P. D., & Yanto,

H. (2020). Does entrepreneurial education matter for Indonesian students' entrepreneurial preparation: The mediating role of entrepreneurial mindset and knowledge. *Cogent Education*, *7*(1). https://doi.org/10.1080/2331186X.2020.1836728

Wardana, L. W., Narmaditya, B. S., Wibowo, A., Mahendra, A. M., Wibowo, N. A., Harwida, G., & Rohman, A. N. (2020). The impact of entrepreneurship education and students' entrepreneurial mindset: the mediating role of attitude and self-efficacy. *Heliyon*, *6*(9). https://doi.org/10.1016/j.heliyon.2020.e04922

Weeramanthri, W. A. D. K. E., Gunawardana, K., & Kulathunga, K. M. S. D. (2015). Impact of ICT Usage on Entrepreneurss Innovations & Business Performance: A Review of Literature. *SSRN Electronic Journal*, *December*, 1–27. https://doi.org/10.2139/ssrn.2699805

Abaho, E., Aarakit, S., Ntayi, J., & Kisubi, M. (2016). Firm Capabilities, Entrepreneurial Competency and Performance of Ugandan Smes. *Business Management Review*, *19*(2), 105–125. http://journals.udsm.ac.tz/index.php/bmr/article/view/625

Bacq, S., Geoghegan, W., Josefy, M., Stevenson, R., & Williams, T. A. (2020). The COVID-19 Virtual Idea Blitz: Marshaling social entrepreneurship to rapidly respond to urgent grand challenges. *Business Horizons*, *63*(6), 705–723. https://doi.org/10.1016/j.bushor.2020.05.002

Budi, R., Dan, L., Wijaya, T., & Mdp, S. (2012). Pengaruh Pendidikan Kewirausahaan Terhadap Minat Berwirausaha Mahasiswa di STIE MDP, STMIK MDP, dan STIE MUSI. *Forum Bisnis Dan Kewirausahaan Jurnal Ilmiah STIE MDP Hal -112*, *1*(2), 112–119.

Chigunta, F., Schnurr, J., James-Wilson, D., & Torres, V. (2005). Wp72-2005. In *Seed Working Paper* (Issue 72). http://www.ilo.org/youthmakingithappen/Resources/01.html%5Cnpapers2://publication/uuid/20AEBBDF-84C4-4B30-9049-4117B2DCB954

Dahl-Halvarsson, M., Olive, M., Pokrzywa, M., Ejeskär, K., Palmer, R. H., Uv, A. E., & Tajsharghi, H. (2018). Drosophila model of myosin myopathy rescued by overexpression of a TRIM-protein family member.

Proceedings of the National Academy of Sciences of the United States of America, *115*(28), E6566–E6575. https://doi.org/10.1073/pnas.1800727115

Donthu, N., & Gustafsson, A. (2020). Effects of COVID-19 on business and research. *Journal of Business Research*, *117*(June), 284–289. https://doi.org/10.1016/j.jbusres.2020.06.008

Handayati, P., Wulandari, D., Soetjipto, B. E., Wibowo, A., & Narmaditya, B. S. (2020). Does entrepreneurship education promote vocational students' entrepreneurial mindset? *Heliyon*, *6*(11). https://doi.org/10.1016/j.heliyon.2020.e05426

Hassi, A. (2016). Effectiveness of early entrepreneurship education at the primary school level: Evidence from a field research in Morocco. *Citizenship, Social and Economics Education*, *15*(2), 83–103. https://doi.org/10.1177/2047173416650448

Hulland, J., Baumgartner, H., & Smith, K. M. (2018). Marketing survey research best practices: evidence and recommendations from a review of JAMS articles. *Journal of the Academy of Marketing Science*, *46*(1), 92–108. https://doi.org/10.1007/s11747-017-0532-y

Lindberg, E., Bohman, H., Hulten, P., & Wilson, T. (2017). Enhancing students' entrepreneurial mindset: a Swedish experience. *Education and Training*, *59*(7–8), 768–779. https://doi.org/10.1108/ET-09-2016-0140

Mahendra, A. M., Djatmika, E. T., & Hermawan, A. (2017). The Effect of Entrepreneurship Education on Entrepreneurial Intention Mediated by Motivation and Attitude among Management Students, State University of Malang, Indonesia. *International Education Studies*, *10*(9), 61. https://doi.org/10.5539/ies.v10n9p61

Memon, M. A., Ting, H., Cheah, J.-H., Thurasamy, R., Chuah, F., & Cham, T. H. (2020). Sample Size for Survey Research: Review and Recommendations. *Journal of Applied Structural Equation Modeling*, *4*(2), i–xx. https://doi.org/10.47263/jasem.4(2)01

Park, J. Y., Sung, C. S., & Im, I. (2017). Does social media use influence entrepreneurial opportunity? A review of its moderating role. *Sustainability (Switzerland)*, *9*(9), 1–16.

https://doi.org/10.3390/su9091593

Ratten, V. (2020). Coronavirus disease (COVID-19) and sport entrepreneurship. *International Journal of Entrepreneurial Behaviour and Research*, *26*(6), 1379–1388. https://doi.org/10.1108/IJEBR-06-2020-0387

Saunders, M. N. (1997). "Research Methods for Business Students" Chapter 4: Understanding research philosophy and approaches to theory development. In *Researchgate.Net* (Issue March). www.pearson.com/uk

Sutter, C., Bruton, G. D., & Chen, J. (2019). Entrepreneurship as a solution to extreme poverty: A review and future research directions. *Journal of Business Venturing*, *34*(1), 197–214. https://doi.org/10.1016/j.jbusvent.2018.06.003

Wardana, L. W., Narmaditya, B. S., Wibowo, A., Mahendra, A. M., Wibowo, N. A., Harwida, G., & Rohman, A. N. (2020). The impact of entrepreneurship education and students' entrepreneurial mindset: the mediating role of attitude and self-efficacy. *Heliyon*, *6*(9). https://doi.org/10.1016/j.heliyon.2020.e04922

Wiklund, J., Nikolaev, B., Shir, N., Foo, M. Der, & Bradley, S. (2019). Entrepreneurship and well-being: Past, present, and future. *Journal of Business Venturing*, *34*(4), 579–588. https://doi.org/10.1016/j.jbusvent.2019.01.002

Zeng, Z. E., & Honig, B. (2016). How should entrepreneurship be taught to students with diverse experience? a set of conceptual models of entrepreneurship education. *Advances in Entrepreneurship, Firm Emergence and Growth*, *18*, 237–282. https://doi.org/10.1108/S1074-754020160000018007

APPENDIX

1. Research Questionnaire

No	Item
Entrepreneurship Education	
1	I get an entrepreneurial education at university, in seminars, or training
2	I understand entrepreneurial knowledge through entrepreneurial education
3	My lecturer/mentor has a good understanding of entrepreneurship
4	My lecturer/mentor motivates improving my entrepreneurial skills
5	My lecturer/mentor can convey knowledge about entrepreneurship well
6	My lecturer/mentor provides facilities or study rooms / sharing through the formation of groups or communities online
Social Media usage	
1	I often use social media to gain information and knowledge related to entrepreneurship
2	I regularly use social media to maintain and strengthen communication with colleagues in my work
3	I can get a lot of business opportunity knowledge/information from my business colleagues/customers on social networking system
4	I use social media to connect with colleagues and business customers on social networking systems
Information Communication Technology (ICT) usage	
1	I often use communication devices (Mobile/ Laptop / the like) to get information and knowledge related to entrepreneurship

2	I usually access the Internet (Websites, blogs, emails, or the like) to get information and knowledge related to entrepreneurship
3	I regularly use communication devices (Mobile/Laptop/the like), maintaining and strengthening communication with business associates in my work
4	I can get a lot of knowledge/business opportunity information from business associates/customers on communication devices (Mobile/Laptop/similar)
5	I use communication devices (Mobile/Laptop/similar) to connect with colleagues and customers by accessing the Internet
Youth Entrepreneurs	
1	I feel entrepreneurial education is essential for entrepreneurial success
2	By understanding entrepreneurship education, I can increase the growth of my business
3	By using social media, I was able to increase the growth of my business
4	By using Information and Communication Technology (ICT), I was able to increase the growth of my business

2. HIPMI (Indonesia Young Entrepreneurs Association)

HIPMI is the "Indonesia Young Entrepreneurs Association." It has over 30,000 members and a presence in 33 provinces across Indonesia with 274 regency level chapters. Members must be between 18-40 and must run a business. They represent a range of business types, mainly within the SME sector, including agriculture, financial services, procurement, industry, and mining. HIPMI conducts advocacy work and also hosts hipmi.net, a social network for members across the economy.

Indonesia Young Entrepreneurs Association (HIPMI) was founded on June 10, 1972. The establishment of this organization was based on the spirit to grow entrepreneurship among youth because, at that time, not many young people aspired to be entrepreneurs.

At that time, the assumption developed in the community put the group of entrepreneurs in low strata so that most young people, especially intellectuals, prefer other professions such as bureaucrats, military/ Police, etc.

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In the Reform Era, especially after the economic crisis. There was a change in the vision and mission of the organization. HIPMI is always adaptive to the new paradigm, making Small and Medium Enterprises the central pillar and locomotive of national economic development.

3. YEA (Young Entrepreneur Academy) in Indonesia

Young Entrepreneur Academy (YEA) Indonesia presents as a pioneer of entrepreneur schools in Indonesia that shift the 'job seekers' paradigm into 'job creators.'

YEA is an educational institution for young people who want to learn to be an entrepreneur established on October 31, 2007, under the auspices of PT Momentum Entrepreneur Mindset. As a non-formal educational institution,

YEA is committed to creating entrepreneurs who are reliable and have integrity.

A learning system packed with gamification tailored based on the character of the learners. Unlike most educational institutions, YEA prioritizes 70% practice and 30% theory that makes the materials in YEA easier to understand in-depth by students. Students will be educated during the lecture period through various simulations and projects, either individually or in groups that resemble actual business conditions. So, it is expected that after yea students are used to the real business world. In fact, before graduation, they had already had a business.

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