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Entrepreneurship in Information Technology as a Method for Improving Student Creativity in the Digital Economy

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Abstract

In light of the digitalization era, the purpose of this study is to provide an overview of the significance of increasing self-innovation and creativity. The population of the research location at Universities is 115 sixth-semester IT entrepreneurship students. Using the sampling technique, 78 students make up the sample. This study employs descriptive analysis. The researcher used a structured interview technique in which several questions served as a guide for the interview. Structured and non-participant observation is the method of observation used. Observed aspects and structured observations are: The capacity of students to produce something novel and distinct (the capacity to produce the novel and distinct), their capacity for creative problem-solving, and their comprehension of IT business. While this was going on, non-participant observation was done by looking at blogs, Instagram, and other social media platforms that students used to complete assignments. According to the findings of the interviews and the observations that were made, respondents were aware of the current digital economy era, in which traditional methods are being replaced by modern ones made possible by technology. In addition, respondents are able to evaluate the competencies that are required to compete in the digital economy era as well as future opportunities and challenges.

Keywords: Digital Economy, Creativity, Economic Student

1. Introduction

Higher education is a formal institution that is ready to produce graduates who are competent in their fields and able to answer today's challenges. Producing graduates who have the work ability and mindset that is able to keep up with the times is the biggest challenge, especially in the current era of the Industrial 4.0 which has penetrated almost all activities human. The storm of the fourth era of revolution (Industry 4.0) will create unemployment; potential to widen economic inequality, therefore this era invites all Indonesians to conduct self-evaluation, including universities[1][2]. Without us realizing it, we have felt a lot as a result of the industrial revolution, such as changes in people's shopping patterns from conventional ways to online shopping. This changing pattern of consumer spending is then used as a new business opportunity for entrepreneurs[3], [4]. The business world is moving from conventional to IT-



based trading. However, the negative of this change is a reduction in job opportunities, increased unemployment and ultimately has an impact on the welfare of people's lives.

As a stakeholder, the government must immediately devise a plan to comprehend the current state of society at all levels to incorporate formal universities[5] as the ones that will educate the millennial generation to become the dominant players in the revolutionary 4.0 industry. What Universities to do then? Adjusting the curriculum in response to industrial 4.0 is one of them. Other things to do include preparing learning facilities and infrastructure, designing technology-based lectures that maximize students' abilities and values (character), and so on digital nature. In order to meet the challenges of the industrial 4.0 era, higher education must continue to improve lecturers' human resources[6]. Lecturers in the fourth industrial era must possess the four competencies listed below. **First** and foremost, they should be able to use digital tools and devices. **Second**, they ought to be able to motivate their pupils to become proficient users of technology. **Thirdly**, they ought to be able to foresee changes in the future and how to deal with them. In the fourth industrial era, lecturers must possess the following four competencies. Fourth, they need to be able to keep themselves safe from the negative effects of change and deal with it by coming up with new ideas, coming up with new ideas, and being creative[7].

Optimizing the abilities of students who will later become main players in the current digitalization era. This is by increasing the creativity and innovation of students not only being able to compete in the world of work but also being able to contribute to creating IT-based business opportunities. This is in line with what the Minister of Research, Technology and Higher Education said that students are the main actors in facing the challenges of the Industrial Revolution 4.0. Therefore, students must develop their potential as much as possible while studying on campus, not only in the academic field but also in creativity and innovation. The need for IT-based entrepreneurship learning is one of the strategies that can increase creativity, innovation and change the mindset of students from job seekers to creators of job opportunities for others. The purpose of this study is to provide an overview of the importance of increasing creativity and self-innovation in the face of the digitalization era.

2. Research Method

This research is qualitative research with a descriptive, a method that serves to describe or provide an overview of the object under study through data or samples that have been collected as they are without analyzing and making conclusions that apply to the general population and samples. This research was conducted in the Universities. The population of this study were 5th semester students in the information systems department with a total population of 115 students (4 classes). The number of samples is 78 people (2 classes).selection Sample using the Cluster Sampling method. Cluster Sampling is a sampling technique where the selection refers to groups not individuals.

The following data collection methods are utilized:1) Observational Approach: Direct observation of the subject of the study is used to gather data.Non-participant and structured observation were used by researchers.structured observation involves organizing the aspects to be observed on the subject of the study over a predetermined time period[8], [9]. These aspects were observed: The students' ability to come up with something novel and different (the ability to come up with something novel and different), their ability to come up with creative solutions to problems, and their comprehension of IT business[10]. Observation by nonparticipants through blogs, Instagram, and other social media platforms.2).Method of interviewing. This method involves conducting a direct interview with the subject of the study using guidelines that have been arranged in a methodical manner according to category depth. The interview is conducted more freely and openly by soliciting informants' opinions and concepts[11][12]. Number of Study Aspects:

1. Benefits of learning IT Entrepreneurship in the digital economy era
2. Student understanding in the field of Technology-based Enterprises
3. The role of this course in fostering creativity and innovation
4. Why are technology-based businesses now in great demand ?
5. What are the needs of students to be able to compete in the current era of digitalization?

Documentation Method. This method is a search for data from various existing documentation, both online and offline.

3. Result and Discussion

3.1 Respondent's Profile Description

Respondents are 6th semester students of the Information Systems Study Program who take Information Technology Entrepreneurship courses. Respondent's profile is as follows:

Table 1. Respondent's Profile

Gender	Total	Percentage (%)
Male	40	36.67
Female	38	63.33

3.2 Interview Results and Observations

The results of interviews conducted with randomly selected respondents in each class were used as respondents in This research is supported by the results of observations made within a period of 3 months obtained from various data.

3.3 The benefits of learning IT Entrepreneurship in the era of the digital economy.

Interviews were conducted with respondents in different classes and the answers were: Respondent 1 answered: "IT entrepreneurship courses open students' insight and knowledge about technology-based business fields while digital economy is economic activities/activities carried out via the internet" The second respondent Dwi Apriliasari answered: "With IT entrepreneurship, students have new insights about technology-based business fields that are currently in demand by many people, according to Khairani the digital economy is a business activity that is carried out already computerized.". The third respondent answered: "IT entrepreneurship is very useful in understanding various business fields , but it slightly arouses the interest of entrepreneurship because the tasks given are still theoretical in nature, it is necessary to have real activities such as making mini projects, starting from initiating a business to planning the facilities that will be used, so that they are more real and evocative. The digital economy means trade that is carried out through the internet"

And finally the respondent answered: "Through IT Entrepreneurship students can get to know the field of business in the IT field which can be used as an alternative for students who are interested in doing business. The digital economy such as gojek, traveloka, olshop and so on"[13][14].

Based on the respondents' answers and evidenced by the results of observations made during the learning process, it can be concluded that the benefits of IT entrepreneurship for students are to provide new knowledge and insights about IT businesses that are currently popular with the public.revolution industrial 4.0, students only understand that currently many economic activities are carried out through the internet such as sales and purchases, banking transactions and so on. In essence, the digital economy is an economic activity carried out by involving technology in it[15][16][17].

Students' understanding of Technology-based Business Fields.

This question was also asked to 2 randomly selected respondents. Respondent 1 answered: "Currently, there are many businesses in the IT sector and they have reached almost in all areas of life such as Gojek, Go Food, Traveloka (online ticket sales) Online stores such as Bukalapak, Lazada, Shopee, Bilibli, Tokopedia, Olshop and others; there are also loans made online. These are some of the business fields that use the internet to carry out their activities."

Respondent 2 answered: "Currently, not only based in telecommunications but also almost in all areas of human life such as culinary which is also sold online, services that are also offered online, for example, such as reflexology which has also been included in online sales, then Go Food, Food Delivery which, if we see currently in conventional stalls, is empty of visitors. , but there are quite a lot of buyers because they use delivery."

Based on the respondents' answers through interviews, information was obtained that they knew well and could distinguish conventional businesses from those that have used technology or used the internet to carry out their activities. It can be concluded that students are able to understand the change from conventional businesses to the digital economy, can differentiate their business fields and feel the impact of these changes. Can identify the impact of technology that has been felt almost all areas of life[18].

Role of this course in fostering Creativity and innovation

This question was also asked to 3 randomly selected respondents.

Respondent 1's answer was: "Through various tasks given such as students being asked to identify problems, determine alternative solutions to the problems found, decide the best solution and make a design for solving the problems found, this really tests students' creativity and innovation"

Respondent 2 answered : "Students are required to innovate by analyzing the problems that exist around us"

Respondent 3 answered: "Finding something and designing solutions/solutions to the problems found require sharp analytical skills, so this can hone students to think creative and innovate in their solutions".

Some of the respondents' answers were positive that IT Entrepreneurship was able to become the basis for fostering creativity and innovation, as well as sharpening analytical so that they were able to recognize, identify, find solutions and design solutions to existing problems question was asked to the respondent and answer was: "People now don't want to bother having to leave the house to shop so they prefer to buy online rather than going to the store in person".

Another respondent answered: "It's cheaper even though shipping costs are calculated, it's still cheaper than going to the shop directly, we can also choose to buy from outside the city, imagine if we have to go to Jakarta or Surabaya, it's more expensive".

While other respondents answered: "We also have to keep up with the times, so that we understand better how to shop online so that we are not considered old-fashioned or outdated. college equipment to daily necessities such as ordering food via go food, easy, cheap and trendy.

It can be concluded that the change in consumer shopping patterns from conventional to online purchases is due to many factors including more efficient, more choices, cheaper and following current technological developments.

What are the needs of students to be able to compete in the current digitalization era.

Respondents' answers include: "I feel lucky and choose the right major to study at STMIK Royal, an IT-based educational institution, because in the future everyone must be able to keep up with the pace of technological development if they want to compete"[19].

Another respondent answered: "Information technology is the main need of the present and the future, therefore individuals who master technology are said to control half of the world, to be able to compete I have to improve individual abilities outside campus such as improving understanding of English, technology skills such as programming, networking, multimedia that can support the diploma I have".

Meanwhile, another answer is: "If you think about it, it is really scary that we live in the current digitalization era if we don't have the ability, but it can be a big opportunity for our generation if we are able to take advantage of the opportunities that exist. Nowadays many companies are recruiting employees to be employed as freelancers in their companies doing work from home and everything is delivered via email, so it is easier and more flexible."

And the last respondent answered: "The era of digitalization can be an opportunity and a threat for us millennials."

The majority of respondents' answers refer to the experience of facing the present and the shadow of the future. It can be concluded that there is hesitation among students when talking about the industrial 4.0 where there is a lot of automation that can have an impact on unemployment. Respondents are aware that capacity building outside campus is something that must be done if they want to have abilities that are in accordance with the needs of the labor market[20][21][22].

4. Conclusion

The purpose of this study is to provide an overview of the importance of increasing student creativity and innovation in facing the current digital economy era, especially Indonesia's economic recovery after the Covid-19 pandemic. From the results of interviews conducted, it can be concluded that: business fields that are currently in great demand by the general public are IT students. where this requires sharpness of analysis, creativity and innovation so that the digital economy era that inevitably changes the pattern of human activity from conventional to the use of technology needs to be taken seriously and in depth by identifying personal strengths and weaknesses so that they understand. Things that must be improved to be able to compete in the digital economy era have been discussed in this study. Further research can contain the development of the application of the digital economy at universities to support Indonesia's economic recovery.

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