



Technological Mindset for Young Generation in Transportation Industry

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A B S T R A C T

Technological innovation in transportation firms is currently supported by presence of directors with engineering / technology education background and younger generation as audience for this community service activity because they should give motivation and awareness that a technological mindset is needed to achieve success. They should equip themselves not only with formal education but also knowledge about technology to become top level carrier. This can be done through bootcamps, training and others. This service activity was carried out through a seminar at National Leader Forum event organized by KAPPIJA 21, various universities and the South Sumatra Provincial Government. As a result, students get enlightened to start looking for their character and passion when starting a career embedded with technology.

INTRODUCTION

People movement from one area to another is common. This activity is also known as mobility. By definition, mobility means people movement from one area to another for obtain something not available in their home area (Lee, 2000 as cited in Loe et al., 2022). One study in Sleman revealed four reasons for population mobility. First, education. Lack of educational facilities and infrastructure in origin area made students look for another areas. Second, employment. Lack of job opportunities made people look for alternative areas that provide better. Third, family. People which single status also encourages them to leave origin area then married status. Last, health. Lack of health facilities also encourages residents to seek better care in other areas (Fatmala et al., 2023).

People expectations regarding safe and comfortable mobility are responded by transportation firm. They release a lot of services and even equipped with technological innovations that are useful to provide convenience for them. In Indonesia, at least 4 transportation companies, namely Blue Bird Group, Lorena, Air Asia and Garuda Indonesia. From annual report, they revealed a number of innovations, for example, Blue Bird Group. From 2018-2022, company launched the Easy Ride app, which allows customers to stop taxis on the street and make non-cash payments. Another example is Garuda Indonesia. This airline, which is a member of the sky team, has many services from ticket booking through e-commerce and also Garuda Online Sales (GOS). On board aircraft, customers also given convenience to enjoy entertainment through their devices by utilize in-flight entertainment. To provide a sense of security for all data owned, company has prepared a cyber security management policy and IT Disaster Recovery Plan (IT DRP).

All innovations cannot be separated from director educational background whom most of them have knowledge in engineering/technology. Following table summarize their director number and education background as follow

Table 1. Director Number and they Education Background (Blue Bird Group)

Year	Direct or total	Director with technology / engineering background	Education background
2018	4	2	Bachelor of Engineering bidang Teknik Industri, University of Newcastle
2019	4	3	Bachelor of mechanical engineering, Trisakti university.
2020	4	4	Bachelor of industrial engineering, Institut Teknologi Bandung (ITB)
2021	3	3	Bachelor of civil engineering, Institut Teknologi Bandung
2022	3	2	Bachelor of civil engineering, Institut Teknologi Bandung

Sources : Annual Report from 2018 - 2022

Table 2. Director Number and they Education Background (Garuda Indonesia)

Year	Director total	Director with technology / engineering background	Education background
2018	8	3	Bachelor of Industrial Engineering,
2019	8	4	Institut Teknologi Bandung,
2020	8	4	Indonesia.
2021	8	3	Bachelor of Mechanical Engineering,
2022	7	3	Institut Teknologi Sepuluh Nopember Surabaya, Indonesia.
			Bachelor of Engineering, Universitas Diponegoro,
			Bachelor of Electrical Engineering, Institut Teknologi Bandung

Sources : Annual Report from 2018 - 2022

Table 3. Director Number and they Education Background (Lorena)

Year	Director total	Director with technology engineering background	Education background
2018	5	1	1. Bachelor of engineering, Sumatra Utara university
2019	5	1	
2020	4	1	
2021	4	1	
2022	4	1	

Sources : Annual Report from 2018 - 2022

Table 4. Director Number and they Education Background (Air Asia)

Year	Director total	Director with technology / engineering background	Education background
2018	6	3	1. Bachelor of Mechanical Engineering 17 Agustus 1945 University, Surabaya.
2019	5	4	
2020	5	4	
2021	8	4	2. Bachelor Engineering, Bandung, Institute of Technology (ITB)
2022	4	1	3. Bachelor of Industrial Engineering, Institut Teknologi Bandung (ITB)

Sources : Annual Report from 2018 - 2022

Four tables above shows technology education is companies strength for technology adaptation. This conclusion is quite reasonable three previous research supported. First, CEOs with engineering education background on firm performance and firm value. This study was conducted on 144 companies listed on the Istanbul Stock Exchange from 2009-2015 in manufacturing sector. Firm performance is measured using Return On Asset (ROA) while firm value is measured using Tobin's Q. The presence of CEO is measured using a dummy variable, 1 if the company has directors with engineering education background, and 0 otherwise. As a result, CEO has a significant positive impact on firm performance and firm value. This shows that education possessed by the CEO provides room for companies grow through their perspectives gained during education (Celikyurt & Donmez, 2017).

Second, CEOs with work or research experience in engineering, science and technology on innovation This study was conducted in manufacturing companies in China in period 2008 - 2017 through 16,847 observations for 10 types of manufacturing companies. Firm innovation is measured by the amount of research and development expenditure and number of patents generated while technology directors are measured by three proxies, namely number of directors with engineering, science and technology experience divided by the total number of directors, total number of directors with experience and research in engineering, science and technology, and a dummy variable, 1 if the company has at least one person with experience or research in engineering, science and technology. This study also includes independent directors who have experience and research in engineering, science and technology. As a result, both independent directors and directors increase the number of patents received by the company. This shows that the experience and research that directors have in technology, engineering and science gives companies an ability to innovate while established a competitive advantage in the future (Li et al., 2019).

Third, relation CEO founders with an engineering education background and entrepreneurial financing in the fintech industry era. This research was conducted on four global fintech hubs from Bangalore, Beijing, Berlin and Boston around 300 startups. From selected fintech hubs, find founder name based on data in LinkedIn and record their background and experience including education. To measure educational background, we use dummy variables for two proxies: 1, for founders who have technical education if the founder CEO has engineering that background and 1, for founders who have business education if the CEO has business background. The amount of financing is measured using the amount of funding received and calculated using the amount of money invested in the business either through equity or debt. As a result, CEO founders with engineering education background have a significant positive influence on the amount of financing compared to CEO founders with business education background. This shows that an engineering education background makes the CEO understand current technology trends, able to identify the company's technology needs, be able to identify and recruit talent, build alliances with other parties for technological development and innovation and even be able to

provide positive signals on the company's long-term viability related to financial capital. (Yavuz & Iacoviello, 2023).

Based on explanation above, Community Service (PKM) activity purposes is to provide new insights to students if formal education should be accompanied by technological mindset so they should start looking for alternative technology education to complement current education. Furthermore, this activity remain them to wise in using technology to realized their goals perfectly.

This seminar also complements six previous Community Service (PKM) activities that have been carried out for young people in various places and theme. First, relating benefits of artificial intelligence. This activity aims to provide an understanding of the presence of artificial intelligence on campus. This activity was carried out to young lecturers in 5 campuses and across disciplines. The background of this activity is the concern about the use of artificial intelligence that can replace human roles including data security factors. For this reason, young lecturers through the Forum discussion Group are expected to understand and understand what artificial intelligence is, how it is applied in their respective sciences (Pongtambing et al., 2023).

Second, relating Japanese language learning. This activity aims to provide understanding to young people to actively learn Japanese as a form of concern for the development of the tourism industry in the North Sulawesi area. This activity was carried out through Japanese language training for youth and teenagers of Paniki Dua Manado. In addition to providing training, the results of this activity can be a teaching module and developed into a textbook. (Sudrajat & Rakian, 2020).

Third, relating entrepreneurship and media. This activity aims to foster a sense of entrepreneurship as well as being part of social media aimed at high school students because they are the next generation of the nation who must be creative and innovative to welcome the global market industry. In a survey, there are at least 30 million Indonesian teenagers accessing the internet so education to them is very necessary. (Paramita & Erdiansyah, 2016).

Fourth, relating financial literacy. This activity aims to improve junior high school students' understanding of financial concepts. It is hoped that with this seminar, junior high school students will be introduced to the concept of sharing money so that it is not all spent. In addition, they are introduced to various banking products such as insurance and bank accounts. The method used was presentation as well as questions and answers. The next session was conducted through giving a quiz by downloading the BOARD application, answering all questions that arise and giving prizes. (Wutun et al., 2023).

Fifth, relating digital marketing. This activity was conducted for the younger generation because they generally do not have enough knowledge about digital marketing. This activity is carried out by giving presentations through the zoom application because it provides the ease of the younger generation to access it and avoids new clusters because at that time there was a Covid 19 outbreak. The materials provided were an introduction to digital marketing, knowledge and technology in online business design, training in the use of social media and e-commerce, utilization of online banking transactions, use of social media and

search engine optimization in online sales and marketing (Kartikasari et al., 2021).

Sixth, relating use of e-commerce to capture business opportunities. This activity aims to provide education to the younger generation in Sei Kamah I Village so that they understand and seize business opportunities by utilizing information technology. The young generation in the area is very active in producing a variety of products such as brick production, accessories, handicrafts, clothing and mobile phone credit providers. Unfortunately, marketing for their products is lacking. This activity is carried out with socialization and simulation methods in collaboration with Lazada as one of the online shopping applications (Putri et al., 2021).

IMPLEMENTATION AND METHODS

This activity is specifically focus on students as younger generation. The seminar was held on 14 September 2024 in National Leader Forum event held at the Kembang Dadar Hall, South Sumatra Province Human Resources Development Agency (BPSDMD) and attended by various universities in Indonesia and Malaysia. This seminar is a collaboration of various universities with the 21st Century Alumni of the Indonesia-Japan Friendship Programme (KAPPIJA 21), an institution that seriously committed to improving Indonesian human resources quality, promoting mutual understanding and tolerance between cultures and supporting Indonesia's development. This institution was established on 18 March 1985 and currently sponsored by the Japanese Government through the Japan International Cooperation Agency (JICA). In its implementation, the Institute collaborates with the Government of the Republic of Indonesia through the Ministry of Youth and Sports and the Ministry of State Secretariat.

RESULTS AND DISCUSSION

From this seminar, students received new insight. Firstly, they realize formal education is currently not enough, so additional education is needed. Students can participate in various bootcamps, trainings, seminars that are often aired on social media such as Instagram. It is important because in the future companies need personnel who are not only able to manage finance, human resources and production aspects but also good at combining them with technology so efficiency and effectiveness are maximized.

In practice, technology is closely related to work atmosphere, from the recruitment process to layoff including internal activity in companies. Recruitment starts from curriculum vitae selection and is carried out by relying on technology with the ATS (applicant tracking system) format. This system makes it easier for the human resources department to have samples to get candidates. When calling candidates, selection process through psychological tests and academic ability tests is also carried out using technology by website or certain forms and the results can be known immediately. The interview process is also carried out using technology, for example through zoom meetings, google meets and others.

Technology applications are also carried out in activities within the company starting from the attendance process using finger print. When working, employees are also not separated from technology, for example when working in accounting department. The process of data input, evaluation and decision making can be done through software, either developed by the company itself or purchased from a third party. The process of meeting with clients is also done through cyberspace and there is no need to meet physically to efficiency purposes. Some companies have also adopted artificial intelligence to assist in the decision-making process.

Second, they must be wise in using technology. Higher rate deviations through gadgets, for example pornography, is a challenge for them to start limiting themselves from outsiders invitation to access forbidden websites with violence norms and religious in Indonesia.

Today, crime rate is becoming increasingly alarming. This action starts from the ease users obtain information from various sources through their mobile phones. Lack of supervision from third parties including teachers and parents makes young generation easily influenced and plunged into criminality, such as pornography. Pornography makes young people mature before their time so they will start trying something forbidden. The strong influence of pornography makes young people both perpetrators and victims of crime. As perpetrators, young people can use any means possible even through violence against their victims. Another illegal act that can be done is to become a trafficker. In the hope of getting a large profit, the generation, especially women, are sold into prostitution.

For this reason, the younger generation must have a high level of vigilance through four ways. First, limiting the use of mobile phones, especially when obtaining information obtained from friends because this information is very potential to contain invitations to commit criminal acts. Secondly, have a strong desire to use mobile phones only for purposes related to normal activities, for example to find answers to exams at universities, find training information that supports academic achievement to look for potential jobs that can be done in between lectures, for example logo making, graphic design to become a part-time translator. Thirdly, using mobile phones as a means to find friends who try to have a positive impact, for example, friends to go to the library, book fairs, perform religious rituals together. Through mobile phones, generations can form small groups to strengthen communication so that all these activities can be optimized. Apart from within the country, these activities can also be carried out between countries so that information relations become wider. Fourth, joining organizations that aim to improve the value of the self, for example religious organizations, university alumni organizations and others. Through technology, all activities provided by these organizations can be followed while increasing the knowledge and skills of the younger generation. Generally, these organizations are very open to accepting members while spreading their vision and mission. These organizations also attract members to expand their network, reach more information and find potential members who can be used as administrators in the future. Not infrequently, the large number of members in

the community increases the selling point as a consideration when applying for financing. If the young generation with technology participates in these activities, their skills in communicating, managing administration and finance can be obtained while increasing their value during the recruitment process in the company.

Interestingly, in seminar students asked about condition of some younger generation around them who difficult to understand relating actions must be taken to succeed in the future. Student said that he often found his friends who had no desire to finish college because they considered the activity have no benefits. In addition, it is common for their friends no interest go to college because they feel that college does not provide monetary benefits in the future so that their activities only watch social media content, play with their peers and go home late at night. Usually, they come from a unharmonious family, does not have sufficient supervision in the family and even comes from a family with a middle-lower economy so it is difficult for them to be made aware of the importance of studying and obtaining the highest possible knowledge.

In this case, speaker gave two suggestions. Firstly, meet the friend and explain that there is a huge potential loss in the future if young generation do not have sufficient funds and knowledge at this period because both are very useful for prosperity and well-being. With sufficient, they desire to build a household can be realized in the future. In addition, when sickness comes, treatment will be easier to obtain. With sufficient knowledge, in the future their chances of obtaining employment opportunities will be much greater. With knowledge, they will be different from their friends who do not have knowledge so that the attention of employers will be more easily focused on them. With sufficient knowledge, their potential is greater to move to other countries. The opportunity to study or working in another country will increase and getting to know the culture, relationships, knowledge and even the opportunity to collaborate with scientists there. Their scholarships opportunity is greater to achieve highest level of education.

Secondly, ask them what their favourite thing is. Generally, if a hobby is pursued continuously, at a certain period in the future they will benefit both in the form of money and other benefits such as being easily recognized by others, easily obtaining certain information because they have good relationships. Hobbies that generate profits are usually divided into four, namely writing and reading, counting, drawing or art. Currently, there are many examples of people who have gone viral on social media because of their hobbies, such as Fiki Naki with her hobby of learning foreign languages. Another example is a synopsis writer or freelance writer who loves to read. Someone who has the pleasure of drawing can become a content creator drawing someone on public transport or public areas instantly. The results are given directly to the object and become viral in social media.

From the two suggestions above, it can be concluded that if hobby done coupled with technology, it will get three benefits. First, it is easier to get recognition. With technology, all hobbies can be easily recognized, assessed and even give incentive by people who like them. Technology make all hobbies presented immediately in other people's spaces even in the most private places such as bedrooms. Second, it is faster to provide maximum results. With technology, all hobbies can be modified so that the results obtained are maximized and satisfy viewers. Coloring of photos will be higher quality, video cutting will be faster, shooting will be more instant because it relies on mobile phones with high resolution, language translation is easier so that it is easier to understand books or videos, drawing will be facilitated by the many drawing templates that can be used for free even, communicate with foreigners facilitated by translator application even during conversations. Third, faster income. Each viewer will be compensated at a set price. With technology, the viewer calculation and profit calculation have been done by technology and even transferred instantly.

CONCLUSIONS AND RECOMMENDATIONS

This paper is result from seminar as series of Community Service (PKM) activities which aims student to provide new insight technology adaptation is mandatory. It show from large number of directors in companies with engineering / technology education backgrounds. It is advisable for students to complement their abilities in technology field beside current formal education. The results of this seminar also raised the phenomenon of audience questions if some of them do not understand how to be successful. Furthermore, it is recommended for students to understand their hobbies as well as juxtapose them with technology to gain monetary benefits.

There are two suggestions for further activities. First, this activity was carried out more broadly, meaning that it involved not only university students but also high school students. This suggestion is considered very relevant because technological thinking is very common among the younger generation. From an early age, they have been introduced to mobile phones so that the majority of their activities depend on the internet. In addition, high school students are also considered relevant because the negative aspects of the internet also affect them, for example pornography. Immoral acts are a classic problem that afflicts the younger generation so that from an early age they are introduced to how to avoid the negative effects while gaining benefits.

Second, material can be made more applicable, for example using mobile phones, laptops and so on. This suggestion is very relevant so that the knowledge and presentations given can be clearly understood by the younger generation. In addition, with more applicable methods, the younger generation can feel the benefits directly so that all the material provided will be difficult to forget.



Figure 1. Presentation Session



Figure 2. Charity Session

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