Turkish Online Journal of Qualitative Inquiry (TOJQI)
Volume 12, Issue 7, July 2021: 6128 - 6137

Research Article

Differences In Technopreneurial Intention: An Analysis Based On Background Of Students

Wei-Loon Koe[1]*,

Mohd Halim Mahphoth[2], Noorain Mohd Nordin[3], Bee Li Yeo[4]

[1,2,3]Faculty of Business and Management, Universiti Teknologi MARA, Cawangan Melaka, Malaysia.
[4]Tunku Abdul Rahman University College, Johor Branch Campus, Malaysia.
*koeweiloon@yahoo.com

Abstract

The Fourth Industrial Revolution (IR 4.0), 5G technology and COVID-19 pandemic have emphasized on use of technologies in business and entrepreneurial activities. Thus, technopreneurship could be regarded as an important form of entrepreneurship in future. However, technopreneurship is a new breed of entrepreneurship which faces great challenges. This study scrutinized the differences in technopreneurial intention among university students. A total of 361 final-year undergraduate students registered in a Malaysian public university were surveyed through questionnaire. Data regarding student's background information and level of technopreneurial intention were collected and analyzed through one-way ANOVA. The results indicated that differences in technopreneurial intention were found among the students from three different clusters of studies (i.e.: business and management, science and technology, and social and humanities), four different living locations (i.e.: City Hall, City Council, Municipal Council and District Council) and three different types of working experience (i.e.: no experience, part-time and full-time). However, students who had family members/friends doing business (i.e.: no one, family members, friends, both family members and friends) and students from three different household income groups (i.e.: B40, M40, T20) did not show any differences in technopreneurial intention. It concluded that background of students could cause students to have different level of technopreneurial intention. This study was crucial for higher learning institutions and governmental agencies to carry out successful technopreneurship development programs.

Keywords : Differences, Intention, Students, Technopreneurship, University

1. INTRODUCTION

The Fourth Industrial Revolution (IR 4.0) and the latest 5G technology are reforming current business platform. Digitalization, automation of works, Internet of things (IoT), smart technology, big data analytics, greater bandwidth, higher speed Internet and wider connectivity are some of the transformations brought by IR 4.0 and 5G. Components of IR 4.0 would affect the entire business model. Thus, businesses are urged to adopt various technology applications to increase their revenue

gains, productivity and efficiency (Shkabura, 2019). Entrepreneurial activities are required to shift from traditional based to technology based. Extensive use of technology in entrepreneurship and business activities is a must in future.

The recent COVID-19 pandemic has brought drastic changes to the people's live. For examples, businesses closed down, economic experienced slow or negative growth and unemployment rate accelerated. As reported, due to the Movement Control Order (MCO) implemented by Malaysian government to minimize the impact of COVID-19 pandemic, the unemployment rate in April 2020 was 5% or 778 800 unemployed individuals, which also marked a 48.8% hike as compared to a year ago (Bernama, 2020). In addition, many new normals have also been created due to the outbreak. For instance, the way of doing business in post COVID-19 era would emphasize on use of technology. As an example, JD.com, a Chinese e-commerce company in Wuhan has established self-driving vehicles and robots to deliver medical supplies to hospitals and food to home-quarantined patients (Zanni, 2020).

It can be said that IR 4.0, 5G technology and COVID-19 outbreak emphasize on technology integration in business. Indeed, The World Economic Forum 2015 pointed out that many new technology-based jobs would be created in future and many current jobs would be replaced by technology. Specifically, technology adoption and innovation are crucial in supporting the future scenario in the post COVID-19 era (Sallomi, 2020). The COVID-19 outbreak has caused job seeking a difficult task due to slow growth in economy and discontinuation of many businesses. Currently, graduates face a greater challenge in getting employed as compared to the past. As such, technology-based entrepreneurship or technopreneurship could be regarded as a possible solution to unemployment, it is also an important form of entrepreneurship in the uncharted future.

Technopreneurship can be deemed as a new breed of entrepreneurship (Balachandran, 2018). The development of competitive technopreneurs still faces many challenges; for example, it is not easy to convert innovation into technopreneurship (Bulsara, Gandhi, Porey, 2009). In Malaysia, the government has exerted a great amount of effort in developing technopreneurs. However, the number of young competitive technopreneurs still remains low in the country. In addition, the literatures pertaining to technopreneurship are scarcely available especially in technopreneurial intention (Singhry, 2015). Questions such as "what is the level of technopreneurial intention?" and "are university students motivated to become technopreneurs?" are yet to be answered. As such, this study was carried out to examine the level of technopreneurial intention among university students and scrutinize the differences in technopreneurial intention among them.

1.1 The Development of Technopreneurship

Technopreneurship emerges when combination between entrepreneurship and science and technology takes place (Siregar, 2019). It can be described as a process of transforming theoretically feasible technological ideas and knowledge into prosperous ventures (Singhry, 2015). Technopreneurs are tech-savvy individuals who are intelligent, creative, passionate and have an interest to assume calculated risk (Balachandran, 2018). They are individuals who are creative, innovative, dynamic, dare to change and they understand technology. Simply put, both technopreneurs and entrepreneurs care for profit, but technopreneurs emphasize on development in science and technology (Siregar, 2019).

Nowadays, the development of technopreneurship is getting high attention from people because there are many technologies that change the business activities, such as artificial intelligence,

augmented reality, 3D printing and cryptocurrency (Balachandran, 2018). Specifically, IR 4.0 has driven various technology transformations in businesses, industries and economies that accelerated the emergence of technopreneurship (Siregar, 2019). It can be said that technopreneurship is entering a more advanced and complex stage due to the rapid development of technologies (Abbas, 2018). In addition to the changes brought by IR 4.0, the recent COVID-19 outbreak has also provided many prominent opportunities for growth of technopreneurship. For examples, remote-working technology, data security technology, cloud infrastructure services, teleconferencing technology are some of the disruptions in businesses (Sallomi, 2020).

As Abbas (2018) pointed out, technopreneurship has a bright future because technology is crucial in transforming the world, such as connecting people, solving problems, integrating the government, bridging distances between civilizations etc. Therefore, countries must shift into technopreneurship stage to prevent technology gaps in future. In addition, technopreneurship develops job creators, which is crucial for the growth of any economy (Bulsara et al., 2009). Indeed, technopreneurship encourages self-employment and it is also a good strategy to reduce the public sector employment (Singhry, 2015). The soaring unemployment rate due to COVID-19 pandemic could hamper the economic development of a country. Thus, development of technopreneurship is important in creating employment, sustaining economy and reducing the government's burden in hiring public servants.

ASEAN has outpaced many other countries in term of growth of GDP per capita and this has made ASEAN a competitive economic union stocked with great business opportunities for small and medium enterprises (SMEs). Many ASEAN countries have also reacted to IR 4.0 excellently by establishing various national initiatives, such as Thailand 4.0, Singapore's Smart Nation initiative, Making Indonesia 4.0 and The Philippines' inclusive Innovation Industrial Strategy (I3S) (Siregar, 2019). Undoubtedly, such initiatives have boosted the development of technopreneurship in those countries. In Malaysia, the development of technology-based entrepreneurship has so far been strongly supported by the government. In 1996, the Malaysia Digital Economy Corporation (MDEC) was established to drive digital transformation and adoption across public and private sectors. Various programs and initiatives have been implemented by MDEC such as Digital Maker, Cybercities and Cybercentres, Digital Hubs, Malaysia Tech Entrepreneur Program etc. However, Malaysia is still facing challenges in developing and growing competitive technopreneurs (Jusoh & Halim, 2006). Therefore, further studies should be carried out to examine the technopreneurship environment in Malaysia.

1.2 Technopreneurial Intention

Many researchers agreed that a person would show certain level of entrepreneuerial intention before he or she become an entrepreneur (e.g.: Shapero & Sokol, 1982; Bird, 1988; Autio et al., 2001 etc.). As such, entrepreneurial intention could be deemed as a determinant for entrepreneurial behavior. Ajzen (1991) explained intention as "predictor of actual behavior, the degree of how hard people are willing to try, of how much of an effort people are willing to exert in a behavior (p.181)." It is believed that the higher the level of entrepreneurial intention, the higher the possibility that a person would become an entrepreneur.

It is known that technopreneurship is not a commodity which could be easily made and traded. It requires a composition of individual's skills, expertise and intelligent (Abbas, 2018). Technopreneurship is closely related to human attitude and behavior. Similar to entrepreneurship, an individual would not embark on technopreneurship without any stimulant such as intention. To date,

studies pertaining entrepreneurial intention have been conducted by many researchers. However, most of the studies are related to conventional entrepreneurial intention, the availability of literatures on graduate technopreneurship in developing countries are limited (Singhry, 2015). Thus, issue pertaining to technopreneurial intention requires further scrutiny.

Youths are considered an extremely important sector in a country's population because they are the future leaders and catalysts for economic, social and cultural development. Technopreneurship development is inseparable from the youths because they are between the ages of leaving formal education and searching for employment (Siregar, 2019). Most university students are categorized in the youth sector, and they will be leaving their universities to seek for jobs after graduation. As mentioned by Singhry (2015), graduates should opt for being self-employed rather than employed due to the difficulties in getting a job offer in both public and private sectors. Unfortunately, studies related to university student's motivation in becoming technopreneurs are scarcely available in the literature collection. Therefore, research pertaining to technopreneurial intention among university students are required.

2. RESEARCH METHODS

This study adopted quantitative research method because all variables were quantifiable. Data were collected through survey questionnaire from individual students. Population of this study was final-year undergraduate students registered in a Malaysian public university. Population frame was obtained from the academic affairs department. Proportionate stratified sampling method was adopted in selecting the sample. Particularly, the population was stratified according to locations of campuses. According to the sample determination table (Krejcie & Morgan, 1970), the sample size needed was 357. Thus, the researchers distributed 450 sets of questionnaires. After two reminders were given to the respondents, a total of 361 sets were returned and deemed usable. Therefore, the response rate was 80.22%.

Data regarding student's background information and level of technopreneurial intention were collected and analyzed through self-administered questionnaire. Self-administrative questionnaire was deemed appropriate because the variables could be measured and operationalized. Items related to technopreneurial intention in the questionnaire were adapted from Liñán and Chen (2009) to ensure its reliability and validity. Respondents were required to provide their background information based on a series of multiple-choice questions. They were also required to indicate their level of technopreneurial intention based on 7-point Likert-like rating scale, ranging from 1=strongly disagree to 7=strongly agree. The questionnaire was pre-tested through a pilot test with 30 respondents prior to the mass distribution.

In the process of collecting the desired data, respondents were asked to respond through electronic questionnaires. Questionnaire link was provided to respondents with the help of lecturers and student representative council. A reminder was sent to respondents after one week and the second reminder was sent to respondents again one week later. As for data analysis, this study performed one-way ANOVA to identify the differences in technopreneurial intention among the students. One-way ANOVA was appropriate because this study was interested to compare the mean scores of technopreneurial intention of more than two groups of university students with different background (Pallant, 2016).

3. RESULT AND DISCUSSION

3.1 Respondents' Background

Table 1 depicts the respondent's background information. In terms of clusters of studies, most students were from business and management cluster (F=156; 43.21%), followed by science and technology (F=115; 31.86%) and social and humanities (F=90; 24.93%). Business and management cluster consisted faculties such as accountancy, business and management, hotel and tourism management etc. Science and technology cluster was made up of faculties such as engineering, medicine, pharmacy, health sciences, computer and mathematical science etc. Meanwhile social and humanities cluster was formed by faculties such as law, education, art and design, music etc. Living location was categorized according to the local governmental system in Malaysia. The local government represented the level of development of a particular area or location. Most students did not live in the city, in which they were from municipal council (F=131; 36.29%) and district council (F=109; 30.19%). There were 91 (25.21%) students and 30 (8.31%) students from city council and city hall respectively. As for types of working experience, most of them had part-time (F=140; 38.78%) and full-time (F=95; 26.32%) working experience. There were 126 (34.90%) students answered that they did not have any working experience. More than half of the students (F=209; 57.89%) stated that none of their family member or friend was entrepreneur. The result also indicated that 60 (16.62%) students had family members who were entrepreneurs, 62 (17.17%) students had friends who were entrepreneurs and 30 (8.31%) students had both family members and friends who were entrepreneurs. In terms of family household income, vast majority of the students were from middle-level income family (M40) (F=165; 45.71%) and low-level income family (B40) (F=138; 38.23%). Merely 58 (16.07%) students were from high-level income family (T20).

Table 1: Respondents' Background

Variable	Frequency (%)
Cluster of study	
Science and technology	115 (31.86)
Business and management	156 (43.21)
Social and humanities	90 (24.93)
Living location	
City Hall	30 (8.31)
City Council	91 (25.21)
Municipal Council	131 (36.29)
District Council	109 (30.19)
Type of working experience	
No experience	126 (34.90)
Part-time	140 (38.78)
Full-time	95 (26.32)
Family/Friend as entrepreneur	
No one	209 (57.89)
Family member	60 (16.62)
Friend	62 (17.17)
Both	30 (8.31)
Family household income	
B40	138 (38.23)
M40	165 (45.71)
T20	58 (16.07)

3.2 Mean and One-way ANOVA Analysis

Table 2 illustrates the mean values, Levene tests, F-statistics and significance values of one-way ANOVA. In terms of technopreneurial intention, students from science and technology cluster recorded the highest mean value (m=5.957; sd=0.774), followed by students who lived in the city (City Hall) (m=5.822; sd=0.681) and students with part-time working experience (m=5.781; sd=0.607). Students from social and humanities cluster obtained the lowest mean value for technopreneurial intention (m=5.155; sd=0.586). The mean values of technopreneurial intention showed in Table 2 exhibited some degree of differences according to students' background. To statistically determine the existence of such differences in technopreneurial intention, one-way ANOVA was performed.

The outcomes from one-way ANOVA analysis (Table 2) indicated that the significance values of Levene's test for homogeneity of variance were insignificant (sig.>0.05); therefore, homogeneity of variance assumption was not violated and one-way ANOVA test was appropriate (Pallant, 2016). As to determine whether or not significant differences in technopreneurial intention existed among students with different background, the F-statistics and significance values were observed. The outcomes showed that differences in technopreneurial intention existed among the students from three different clusters of studies (F=3.392; sig.=0.018), four different living locations (F=3.080; sig.=0.028) and three different types of working experience (F=3.007; sig.=0.030). However, it was regretted that students who had family members/friends working as entrepreneurs (F=1.112; sig.=0.344) and students from three different family household income groups (F=0.815; sig.=0.486) did not demonstrate any significant differences in technopreneurial intention.

Table 2: Mean and One-way ANOVA

Group	Mean (Std. Dev.)	Levene (Sig.)	F	Sig.
Cluster of study				
Science and technology	5.957 (0.774)	0.285 (0.836)	3.392	0.018*
Business and management	5.665 (0.617)			
Social and humanities	5.155 (0.586)			
Living location				
City Hall	5.822 (0.681)	0.430 (0.732)	3.080	0.028*
City Council	5.764 (0.652)			
Municipal Council	5.695 (0.662)			
District Council	5.241 (0.934)			
Type of working experience				
No experience	5.291 (0.582)	0.447 (0.720)	3.007	0.030*
Part-time	5.781 (0.607)			
Full-time	5.719 (0.782)			
Family/Friend as entrepreneur				
No one	5.518 (0.618)	1.876 (0.133)	1.112	0.344
Family member	5.685 (0.432)			
Friend	5.622 (0.674)			
Both	5.595 (0.751)			
Family household income				
B40	5.6785 (0.748)	0.159 (0.924)	0.815	0.486
M40	5.6029 (0.679)			
T20	5.5168 (0.719)			

Since students from different background (i.e.: clusters of studies, living locations and types of working experience) demonstrated significance differences in technopreneurial intention, it was necessary to determine the effect size or strength of association of the results (Pallant, 2016). This study employed eta squared (η^2) in determining the effect size. The η^2 obtained for differences of mean scores in technopreneurial intention for students from different clusters of studies, living locations and types of working experience was 0.026, 0.029 and 0.017 respectively. The results showed that the actual differences in technopreneurial intention among the students with different background were rather small (Cohen, 1988).

3.3 Discussion

The results revealed that students were rather prone to embark on technopreneurship regardless of their background, i.e.: mean values for technopreneurial intention were above 5.00. The results were similar to Rosly, Junid, Lajin and Rahim (2015) and Machmud, Suwatno, Nurhayati, Aprilianti and Fathonah (2020) whereby students were inclined towards becoming technopreneurs. The final-year students who took part in this research would leave the university very soon to enter the job market. Knowing that the job market is competitive and getting employed is challenging, it was not surprised that students showed interest in becoming self-employed as technopreneurs. Furthermore, the students possessed proper entrepreneurial knowledge because they were required to study entrepreneurship course in the university.

This study found significant difference in technopreneurial intention among students from different clusters of studies. Technopreneurship is the combination of entrepreneurship and science and technology (Siregar, 2019) which requires both knowledge of business and science and technology. Since students from different clusters of studies might be exposed to different level of knowledge in business and science and technology, it might cause students to show different level of technopreneurial intention. For instance, students who were from science and technology cluster might have sound technical knowledge which caused them to have confidence in applying technology in business. Whereas students from business and management cluster might have awesome business knowledge but lack of technical knowledge, which caused them to show lower technopreneurial intention. Meanwhile, students from social and humanities cluster might not have extensively learned about business and science and technology. This might be a reason which hindered them from becoming technopreneurs. Ability to use technology is inseparable from entrepreneurship, especially in facing IR 4.0 (Hidayat & Yunus, 2019). Thus, it is suggested that students should be exposed to both business and science and technology knowledge regardless of their clusters of studies. Higher learning institutions (HLIs) should consider offering technopreneurship as a course to satisfy the needs of all clusters of studies.

The results indicated that students who lived in different locations showed different level of technopreneurial intention significantly. Location is a crucial success factor in business. Students who lived in cities that governed by City Hall and City Council might have better opportunities in becoming technopreneurs than those who lived in other places because cities or urban areas have better technology infrastructure that support technopreneurship. Since technopreneurship is closely related to information and communication technology (ICT) and multimedia (Jusoh and Halim, 2006), perhaps urban areas which have better access to ICT and multimedia infrastructure encouraged the students to embark on technopreneurship. The advanced technology infrastructure available in cities is also important in creating acceptance of technopreneurship among the people. In addition, cities are normally having higher number of residents, higher demand for products and more business opportunities than sub-urban areas. As such, it is recommended that technology infrastructure in sub-

urban areas should be developed and upgraded to encourage the people to engage in technopreneurship. However, creation of supportive technology infrastructure requires intervention from the government (Lakitan, 2013).

This study further found that significant differences existed in technopreneurship intention among students with different types of working experience. Students who had working experience, either part-time or full-time, had been exposed to actual business environment. The working experience that they had, though maybe little, but was enough to provide some ideas in starting, managing, and growing a business. Furthermore, the working experience also helped to established valuable networks for the students in starting a business. As supported by Hisrich, Peters and Shepherd (2017), work history could influence the decision to start up a new venture; it also played an important role in ensuring the success of the venture. For examples, experience in areas of financing, manufacturing, customer servicing, managing was particularly important in launching and growing a venture. Technopreneurship requires transformation of ideas into viable business ventures (Singhry, 2015); therefore, working experience could help students to be alert to customer's needs, be sensitive to market trends and recognize entrepreneurial opportunities. Students gained insights about business operations, venture management and customer relationship from their working experience. The knowledge and exposure were important in motivating students to transform their innovative ideas into entrepreneurship. As such, this study suggested that students should be encouraged to participate in entrepreneurship programs. In addition, entrepreneurship incubator should also be developed in HLIs to impart practical entrepreneurship knowledge to students.

4. CONCLUSION

This study aimed at identifying the level of technopreneurial intention among university students and examine the differences in technopreneurial intention among students of different background. It found that students were rather prone in becoming technopreneurs in future. Moreover, students with different background also showed differences in technopreneurial intention. Therefore, it concluded that technopreneurial intention were considered high among university students. Furthermore, students' background such as their clusters of studies, locations of living and types of working experience could cause students to have different level of technopreneurial intention. However, having family or friends who were entrepreneurs and household income did not cause any differences in technopreneurial intention among the students.

This study contributed to both literature and practice. Literally, it enriched the literature collection of technopreneurial intention. Specifically, it shed lights on differences in technopreneurial intention by students' background. Practically, it provided important information to higher learning institutions (HLIs) and governmental agencies to support the effort in developing competitive technopreneurs to face the new era of IR 4.0 and post-COVID-19. As university students are regarded as potential technopreneurs, HLIs should carefully design their curriculums to prepare the students in becoming technopreneurs in future. Students should not only be exposed to technopreneurship knowledge; but should also be provided with sufficient hand-on or actual experience in entrepreneurial activities. As for governmental agencies, they should support the development of technopreneurship through giving various assistance, such as providing state-of-the-art technology infrastructures, start-up financial support, friendly business environment etc. Particularly, governmental supports are crucial for the success of various technopreneurship development programs such as Malaysia Tech Entrepreneur Program (MTEP) and MEDAC-MTDC Technopreneurship Program for Young Graduates (TpYG).

5. ACKNOWLEDGEMENT

The authors would like to express their deepest appreciation to Malaysian Ministry of Higher Education (MOHE) for funding this research project under the Fundamental Research Grant Scheme (FRGS) [600-IRMI/FRGS5/3(043/2019)] [FRGS/1/2018/SS03/UITM/02/12] and Universiti Teknologi MARA (UiTM), Cawangan Melaka for the support and motivation.

6. REFERENCES

1. Abbas, A.A. (2018). The bright future of technopreneurship. International Journal of Scientific & Engineering Research, 9(12), 563-566.

2. Ajzen, I. (1991). The theory of planned behavior. Organizational Behavior and Human Decision Processes, 50, 179-211.

3. Autio, E., Keeley, R.H., Klofsten, M., Parker, G.G.C., and Hay, M. (2001). Entrepreneurial intent among students in Scandinavia and in the USA. Enterprise and innovation Management Studies, 2(2), 145-160.

4. Balachandran, B.V. (2018, May 3). The next big thing in the start-up ecosystem – technopreneurship. Entrepreneur India. Retrieved from https://www.entrepreneur.com/article/312888

5. Bernama. (2020, June 15). Malaysia's unemployment rate rises to 5% in April as Covid-19 takes toll. Retrieved from https://www.freemalaysiatoday.com/category/nation/2020/06/15/malaysias-unemployment-rate-rises-to-5-in-april-as-covid-19-takes-toll/

6. Bird, B. (1988). Implementing entrepreneurial ideas: The case for intentions. Academy of Management Review, 13, 442-453.

7. Bulsara, H.P., Gandhi, S., and Porey, P.D. (2009). Techno-innovation to techno-entrepreneurship through technology business incubation in India: An exploratory study. Asia Pacific Journal of Innovation and Entrepreneurship, 3(1), 56-67.

8. Cohen, J.W. (1988). Statistical Power Analysis for the Behavioral Sciences (2nd ed.). NY: Erlbaum.

9. Hidayat, M., and Yunus, U. (2019). The entrepreneurship learning in industrial 4.0 era (case study in Indonesian college). Journal of Entrepreneurship Education, 22(5).

10. Hisrich, R.D., Peters, M.P., and Shepherd, D.A. (2017). Entrepreneurship (10th ed.). NY: McGraw Hill, 2017

11. Jusoh, M.A., and Halim, H. (2006). Role of technopreneurs in Malaysian economic. Journal of Global Business Management, 2(2).

12. Krejcie, R. V., and Morgan, D. W. (1970). Determining sample size for research activities. Educational and Psychological Measurement, 30, 607–610.

13. Lakitan, B. (2013, May 1). Technopreneurship as a strategic mechanism for commercializing universitycreated technology. Technopreneurship Seminar, Lampung University, Indonesia.

14. Liñán, F., and Chen, Y.W. (2009). Development and cross-cultural application of a specific instrument to measure entrepreneurial intentions. Entrepreneurship Theory and Practice, 33(3), 593-617.

15. Machmud, A., Suwatno, Nurhayati, D., Aprilianti, I., Fathonah, W.N. (2020). Effect of self efficacy ICT on Technopreneurship intention of technopreneurial learning mediation: The case young generation in Indonesia. Journal of Entrepreneurship Education, 23(1).

16. Pallant, J. (2016). SPSS Survival Manual: A Step-by-step Guide to Data Analysis using IBM SPSS (6th Edition). England: McGraw Hill.

17. Rosly, H.E., Junid, J., Lajin, N.F.M., and Rahim, H.L. (2015). The relationship of creativity and technopreneurship intention. International Academic Research Journal of Social Science, 1(1), 8-15.

18. Sallomi, P. (2020). Understanding the sector impact of COVID-19: Technology sector. Retrieved from https://www2.deloitte.com/content/dam/Deloitte/pl/Documents/Reports/pl_COVID_19_Impact_Technology_Sector.pdf

19. Shapero, A., and Sokol, L. (1982). The social dimensions of entrepreneurship. In C.A. Kent, D.L. Sexton, and K.H. Vesper (Eds.). The Encyclopedia of Entrepreneurship (pp 72-90). Englewood Cliffs, NJ: Prentice-Hall.

20. Shkabura, O. (2019, February 12). The main benefits and challenges of industry 4.0 adoption in manufacturing. Retrieved from https://www.infopulse.com/blog/the-main-benefits-and-challenges-of-industry-4-0-adoption-in-manufacturing/#:~:text=The%20Business%20Benefits%20of%20Industry,benefits%20of%20digitalization%20are%20significant.

21. Singhry, H.B. (2015). The effect of technology entrepreneurial capabilities on technopreneurial intention of nascent graduates. European Journal of Business and Management, 7(34), 8-20.

22. Siregar, C.D.T. (2019, October 9). Technopreneurship among the youth as supporting factors for economic sustainability of ASEAN towards the fourth industrial revolution. Retrieved from https://asc.fisipol.ugm.ac.id/2019/10/09/technopreneurship-among-the-youth-as-supporting-factors-for-economic-sustainability-of-asean-towards-the-fourth-industrial-revolution/

23. Zanni, T. (2020, March 18). Technology takes on greater prominence. Retrieved from https://home.kpmg/xx/en/blogs/home/posts/2020/03/technology-takes-on-greater-prominence-in-times-of-crisis.html