

Technology-Based Startups Fail to Face the Impact of Covid-19

Aldrich Ilyas¹, Suryo Hadiyono², Amir Hamzah³, Rizq Atika Maso⁴
{aldrich.ilyas@bppt.go.id¹, suryo.hadiyono@bppt.go.id², amir.hamzah@bppt.go.id³,
rizq.atika@bppt.go.id⁴}

Technology Based Business Incubator, Agency for the Assessment and Application of Technology
Puspiptek area, Building 720, Muncul, Serpong District, South Tangerang City, Banten 15314
(+62 21) 75791384 / 7560101, info-bit@bppt.go.id¹²³⁴

Abstract. Covid-19 pandemic give out impact on health, economy, social and politic field in all country around the world including Indonesia at this time. In economics field, many business sector faced deceleration due Covid-19 viruses. Startup based on technology (PPBT) is one entity of the businesses affected Covid-19 on economic fields. This study aims to determine Covid-19 pandemic to PPBT sustainability and cause of their failure. This type of research is descriptive, data collection methods using open questionnaire. The number of respondent was 151 startup based on technology result of incubation from incorporated business incubator in Indonesian Business Incubator Association (AIBI). The value rate of discontinue startup based on technology in the Energy field 57%, Manufacture 29%, Transportation 25%. The most problem faced PPBT during pandemic is declining sales, impeded production process, impeded product distribution, difficulty in obtaining raw materials. The conclusion of this study is that PPBT in faced Covid-19 pandemic to experience failure potentially if they are not resolve the main problems that is declining sales, impeded production process, and impeded product distribution. Furthermore, the data from this research used to policy analyzing and business management strategies for startup based on technology to give enhancement and business development sustainability well.

Keywords: Business incubator, Startup based on technology, PPBT, Covid-19 pandemic.

1 Introduction

Covid-19 virus is still an evident threat for countries around the world. According to WHO, increasing number of new cases of covid-19 continue to raise. By July 7 2020, 11,500,302 recorded cases spread out at 216 countries. The highest number of cases are found in United State, Brazil, India, Russia, and Peru [1]. Indonesia recorded 66,226 confirmed cases, 3,309 death, and 30,785 recovery [2].

Despite the raising of recovering number, the emergence of new cases due to Covid-19 spread is also escalating thus effecting the state of Indonesian economic. Based on Statistic Indonesia (BPS) report, Indonesia's economy 2020 Quarter only grew by 2.97% slowing down compare to 5.07% at the same quarter in 2019 [6]. Meanwhile on last quarter, Indonesia's economic growth 2020 quarter 1 (q-to-q) experiencing a contraction 2.41% Covid-19 pandemic not only causing Indonesia's economic slowdown, but also affecting the condition of the Start-ups from incubators. This paper will assess the impact of economic slowdown as a result of Covid-19 on Start-up's business condition

2 Method

This research used quantitative method with open question data collection tool. Open question is a questioner that does not offer answer to the question provided thus responded has the freedom to answer the question [10].

The research's stage began at formulating question attribute that related to start-up's business condition on Covid-19 pandemic, the question attribute in the questioner were:

1. What is your Start-up name?
2. What is the name of incubator that assisted your business?
3. What is your start-up legal status? Is it incorporated or unincorporated?
4. When does your Start-up graduate?
5. What is your startup business field?
6. How is your startup condition on Covid-19 pandemic, still running or stop?
7. When does your Start-up business stop running?
8. What is the reason of your Start-up stop running?
9. What is the obstacle that caused your business stop running?
10. What is your expectation of incubator's role as Start-up business facilitator?

The respondents were 151 Start-up from business incubators that are members of Indonesia Business Incubator Association (AIBI). Data analysis method used was descriptive qualitative that is research technic which describes and explains collected data by observing and recording as many as possible researched aspect so that overall picture of real condition can be obtained. The step by step of qualitative data analysis in this research are: data collection, data reduction, data presentation, and drawing conclusion.

3. Result

Data analysis in this descriptive qualitative research was done while the data was being collected and after the data was compiled

1 Data Collection

The data was collected by researcher through data form of questionnaire result's spreadsheet that was distributed to the 151 incubatee respondent from business incubators that are members of Indonesia Business Incubator Association (AIBI). Then the data form was grouped according to the questions in the researched that has been prepared.

a) Incubator

These are the incubators that have incubated the 151 Startups respondents and assisted their business:

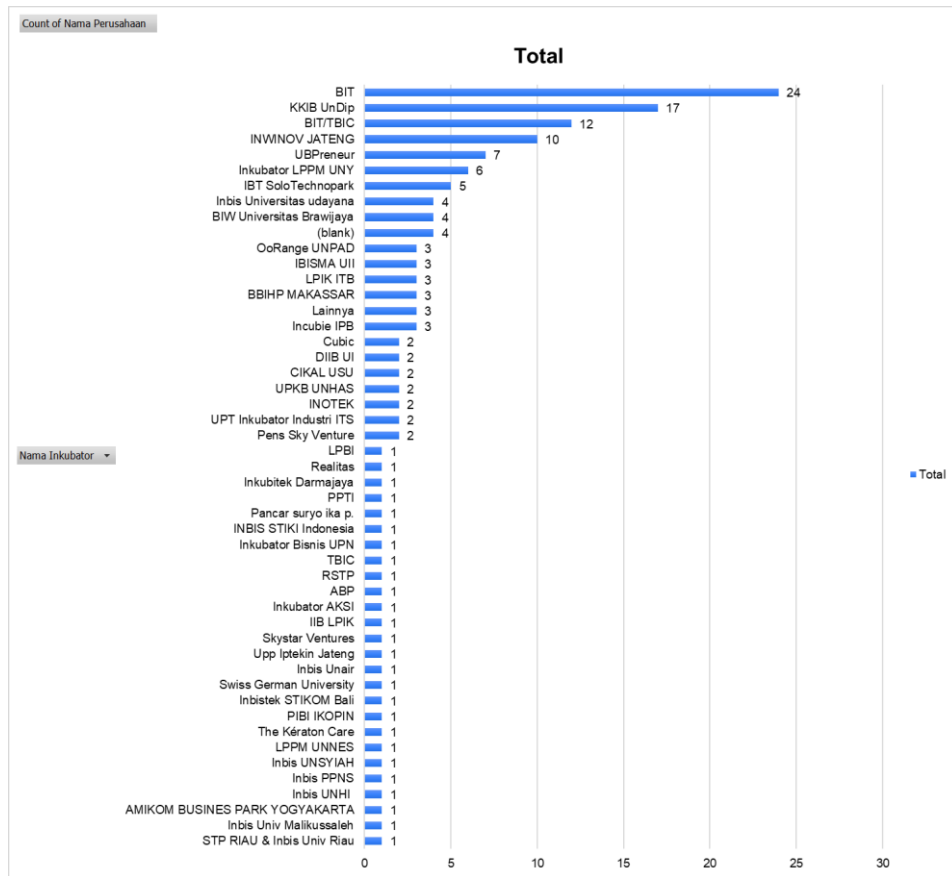


Figure 1. Business Incubators that Helps Startups to Develop

b) Legal Entity

From 151 Startup respondents, there are 120 incorporated Startups (79%) both are limited company and limited partnership, and 31 (21%) Startup are unincorporated.

c) Graduation year from incubation program

There are 78 graduate startup graduate in 2019 from incubation program, where it also the most year have incubators graduated the Start-up.

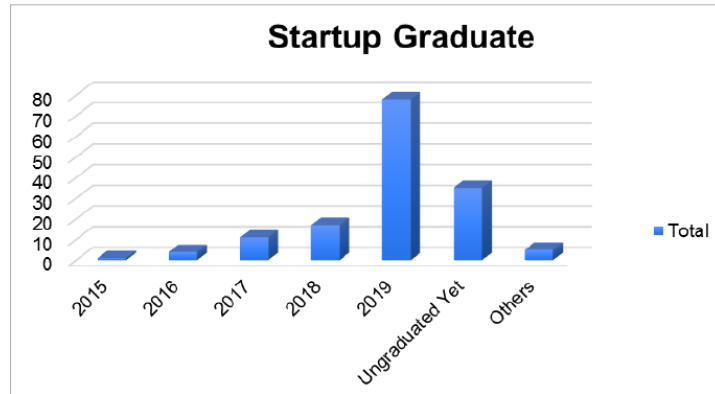


Figure 2. Total Graduated Startup from Incubation Process in Incubators

d) Startup Business field

In the questionnaire, the researcher divided the categories into 6 fields. They were:

1. Energy
2. Information Technology
3. Health and medicine
4. Manufacture
5. Agriculture and food security
6. Transportation

From 151 Respondents, most companies were from agriculture and food security field with 49 Startup (32%) followed by Information Technology with 46 Startup (30%).

Table 1. Startup's Business Fields

No	Business Fields	Amount
1	Agriculture and food security	49
2	Information Technology	46
3	Manufacture	24
4	Health and medicine	21
5	Energy	7

The complete percentage of the business field can be shown on graphic below:

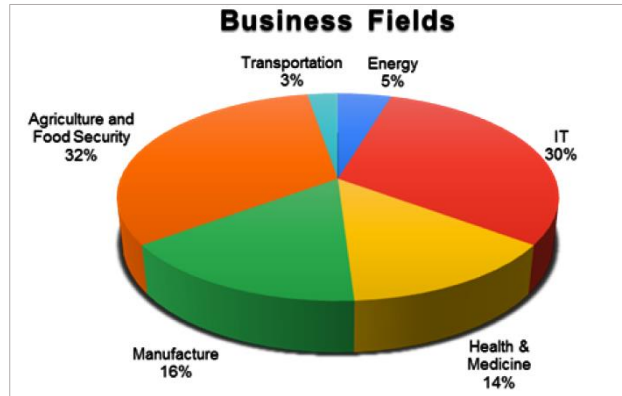


Figure 3. Startup Business Fields

2 Data Reduction

In this stage, the activity was compiling, choosing main points, focusing on the important regards from the questionnaire results. In the questionnaire that has been distributed to the startups contained several things that were important for the researchers, such as the impact of Covid-19 pandemic in Indonesia to startup business condition. Within this assessment, the main things would be addressed were the startup failure due to Covid-19 Pandemic in Indonesia, meaning this research's object specified to the Startup that could not survive dealing with the pandemic.

From 151 Startups that have filled the questionnaire, there were 120 (79%) startups that still running in this Covid-19 pandemic and there were 31 (21%) Startups that stopped running.

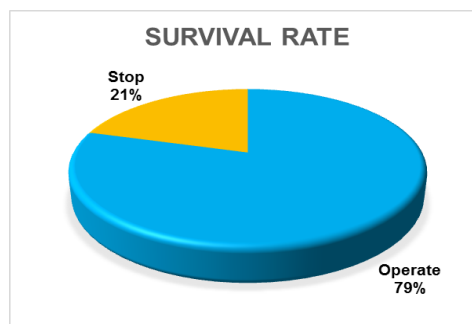


Figure 4. Startup's Survival Rate during the Covid-19 Pandemic

Hereafter, from 21% Startup that was not operating anymore, the cause of Startup from incubation program's failures to Covid-19 pandemic would be investigated further

3 Data Presentation

The stage of data presentation stage is an activity to pull the information from the data that has been reduced with the intention of simplify drawing the conclusion.

a) Startup affected by Covid-19 pandemic

The 151 respondents were Startups from business incubators that are members of Indonesia Business Incubator Association (AIBI).

The result shown that the startup which stopped running in this Covid-19 era were 31 Startups or 21%.

The most amount of Startup that collapse due to Covid-19 pandemic came from IT field with 11 Startups (35%) and then in chronological order: manufacture 7 Startups (23%), agriculture and food security 7 Startups (23%), Energy 4 startups (13%), health and medicine 1 startup (3%), and transportation 1 startup (3%)

Table 2. Startup that was not operating due to Covid-19

No	Startup field	Amount	Percentage
1	Information Technology	11	35 %
2	Manufacture	7	23 %
3	Agriculture and food security	7	23 %
4	Energy	4	13 %
5	Health and medicine	1	3 %
6	Transportation	1	3 %

Based on data from questionnaires that were obtained by researcher, The start of startup stopped running was happened in the time span of January 2020 to April 2020 wherein that time the Covid-19 began to affect the world and eventually spread in Indonesia. These are the startups that stopped running due to Covid-19 pandemic:

Table 3. Startup's stopped running

No	Startup Name	No	Startup Name
1	PT. Mobisa His Teknologi	17	CV Mandike Instruments
2	PT. Indocor Teknologi	18	PT. Erdelapan Steam Otomatika
3	International Network	19	PT. Sekatup Sari Indonesia
4	Hyperion Indonesia	20	Jemarietnik.id
5	Geofast	21	PT. Precision Agriculture Indonesia
6	Warkop Pak Tani 88	22	Jaya Lestari Teknik
7	Tourin Indonesia	23	PT. Karunia Kautsar Perdana
8	CV. Phico Teknologi	24	Gunungsari Wiarsadana
No	Startup Name	No	Startup Name
9	CV. Ganesha Ecoenergy	25	CV. Melzie Marine Mandiri
10	CV. Eustore	26	Phy.co
11	Dipo rental	27	PT. Yeda Presisi Engineering
12	Nothing.id	28	CV. Arkanfood
13	Indonesia Tour Guide	29	CV. Agro Herba
14	Tabler	30	CV. Sangko Usaha Baru
15	CV. Abpan Multi Kreasindo	31	CV. GUB
16	PT. Gotong Royong Bangun Bangsa		

b) The reason of Startup's Business Stop Running in Covid-19 pandemic era

Researcher provided choice of reasons why the startup stop operating in the covid-19 pandemic era. The reasons can be chosen by the startup as cause of failure. There are three reasons that was given by the researcher to the startup, the reasons were made by considering general condition that happened to the companies which stopped running. The reasons are:

- a) No market demands
- b) Unable to produce
- c) Mutual health

From 31 startups respondents that stop running and filled the questionnaire the cause of Startup's business failure due to Covid-19 pandemic most chose no market as the answer with 18 startups (58%) and then chose mutual health was chosen by 12 startup (39%) and least chosen answer was unable to produce by 1 startup (3%)

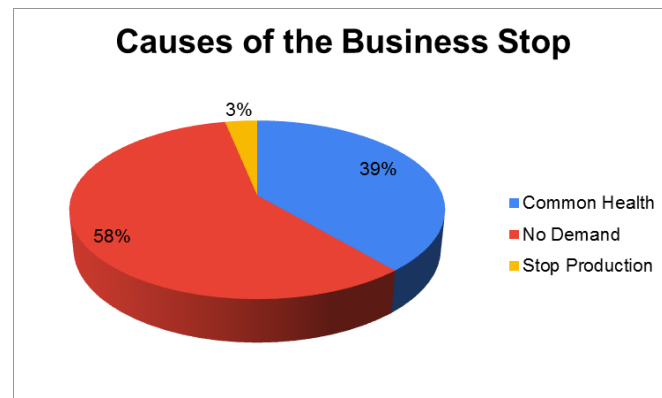


Figure 5. The Causes of Startup Business Stop During Covid-19 Pandemic

c) **The Obstacles Faced by Startups on Covid-19 Pandemic**

Alongside to the researcher provided the reasons that made startup's business stopped running on covid-19 pandemic, researcher also provided multiple choices on the obstacles faced by the startup on the questionnaire, the obstacle are:

1. Obstacle on Raw material
2. Obstacle on Production process
3. Obstacle on distribution process
4. Legal, product certification, and permit processing
5. Selling product or service

In spite of the obstacles provided by the researcher, respondents can also add more obstacle the faced exclusively by the startup on dealing with this pandemic. The result of the questionnaire was the obstacles faced by the startup so that their business stop running was selling 35%, obstacle on production process was 26% and distribution process was 21% whereas obstacle on raw material was 11% and permit process, legal and certification was 7%.

The results of the questionnaire also found that Startup who stopped operating have business barriers on sales were selected 25 times by Startup, obstacles in the production process were selected 19 times by Startup, barriers to distribution were chosen 15 times by Startup, barriers to raw materials were

chosen 8 times by Startup and barriers to obtaining a legality permit or certification is chosen 5 times by Startup.

Table 4. Obstacles Faced by Startups during the Covid-19 Pandemic

No	Obstacles	Total	Percentage
1	Barriers to selling products or services	25	35 %
2	Obstacles to the Production Process	19	26 %
3	Barriers to the distribution process	15	21 %
4	Obstacles that occur due to raw materials	8	11 %
5	Obstacles to obtaining permits, both product certification and company legality permits	5	7 %

d) Startup Expectations for the Incubator Institution as a Startup Business Partner

From startups that stopped operating, they had high expectation for the incubator. Because according to them the role of the incubator is very important in business assistance for startup companies to develop through the incubation process. Expectations conveyed by Startup include,

1. The incubator institutes carrying out online marketing training for Startups
2. Providing investment access to Startup
3. Help provide additional capital
4. The incubator institutes hold online mentorship every Saturday and Sunday
5. Provide an extension of the incubation process than the normal condition
6. Issue preventive measures periodically for Startups in the face of the Covid-19 pandemic
7. Providing services in the form of training / tips in order to anticipate financial management and business management amid the Covid-19 pandemic and the current economic crisis
8. Give the information on startup processes and business model solution solutions
9. Provide a post Covid-19 pandemic strategy to Startup
10. Provides access to investment to Startup
11. Services in the case of online applications for e-commerce sales and inter-island product distribution through online applications that are integrated with similar business fields.

4 Conclusion

From this study it can be concluded that of the 151 Startups who had filled out the questionnaire, there were 120 (79%) Startups that were still operating in the Covid-19 pandemic and there were 31 (21%) startups stop operating. Startups in the IT business sector experienced the largest business failures by 11 Startups (35%) failed to face the Covid-19 pandemic, then successively in the Manufacturing business sector as many as 7 Startups (23%), Agriculture and Food Security as many as 7 Startups (23%), Energy as much as 4 Startups (13%), Health and Medicine as much as 1 Startup (3%), and Transportation as much as 1 Startup (3%).

From 31 Startups that stopped operating that answered the questionnaire that caused the failure of the Startup business during the Covid-19 pandemic, it was found that the reason there was no market demand occupies the most choices of Startups with 18 (58%), then the Startup chose common health issues so that closing the business was chosen by 12 Startups (39%), and could not producing was selected by 1 Startup (3%).

The results of the questionnaire also found that Startup business stopped operating having obstacles in sales by 35%, obstacles in the production process by 26%, obstacles in distribution by 21%, obstacles in raw materials by 11% and obstacles in obtaining legality or certification permits by 7%.

From the questionnaire also found that Startup business stopped operating having barriers on sales were selected 25 times by Startup, obstacles in the production process were selected 19 times by Startup, barriers to distribution were chosen 15 times by Startup, barriers to raw materials were chosen 8 times by Startup and barriers to obtaining a legality permit or certification is chosen 5 times by Startup.

Recommendation

For Startup, this research contributes in the field of business management in particular business preparation strategies in the face of the Covid-19 pandemic in the future which will potentially fail if it cannot overcome the main problem of declining sales, constrained production processes and constrained product distribution. Furthermore, for future research the data from this research are used further in the formulation of policies and business management strategies for technology-based startups that can provide improvement and development of business sustainability well.

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Attachment

a) Startup Name

These are the Startups that have complete the questionnaire:

Table 5. Startup's Name

No	Startup Name	No	Startup Name
1	CV. GUB	79	Beyond Childhood
2	CV. Diana Hermawati Indonesia	80	PT. Mertani Inovasi Group
3	PT. Nanotech Herbal Indonesia	81	CV. Gentra Dewantara Persada
4	PT. Powertech Nano Industri	82	Kiddo.id
5	PT. Mobisa His Teknologi	83	Hyperion Teknologi Indonesia
6	Agrotek Pintar Nusantara, PT.	84	CV. Narendra Food
7	PT. Hebat Inovasi Indonesia	85	PT. KMTek
8	CV. Indigo Biru Baru	86	Sakti Builder Internasional
9	PT.Evia Maju Bersama	87	Green Well Indonesia
10	PT. Indocor Rekayasa Teknologi	88	Talkabot
11	PT. Biocon Natural Indonesia	89	Morifa
12	PT. Pustek	90	Geofast
13	International Global Network	91	CV. Catalyst Agro Inovasi
14	PT. Neoalgae Indonesia Makmur	92	PT.Sembalun Jaya Agro
15	Little Momo	93	Exofish
16	PT. Adhiguna Jaya Laboratorium	94	Telaga Filter Air Minum
17	PT. Duta Mandiri Harapan Industri	95	Warkop Pak Tani 88
18	PT. Cipta Mikro Material	96	Safewalk Petrok
19	PT. Master Solusi Indonesia	97	CV. Haryo Industri
20	PT. Natural Molekuler Universal	98	PT. Yooreka Media Kreasi
21	PT.Bangun Mesin Sejahtera	99	Ruang Bahasa
22	PT. Pico biru	100	Tourin Indonesia
23	Biomagg	101	PT Ecodoe Widya Candia Internasional
24	PT. Valensi Cahaya Persada	102	CV. Allisha Foods
25	PT. Wiforgo Surya Solusi	103	CV. Sangko Usaha Baru
26	PT. Indobits Digital Raya	104	CV. Ayo Nandur
27	CV. Mekar Djaya Harum	105	CV. Phico Teknologi
28	CV. Algorista Robotics	106	PT. Sang Juara Nusantara , Sojavu
29	SQF Sawangan	107	CV.RWIN Development
30	PT. Global Indotech Madani	108	Yuam Roasted Coffee
31	CV. Buntoro Karto Tani	109	CV. Seleksi Alam Muria
32	PT. Algaepark Indonesia Mandiri	110	CV Kelola Anugerah Bahari (Indofishery.id)
33	PT. Microtec Sukses Indonesia	111	CV. Ganesha Ecoenergy
34	PT. Dayamix Bumi Indonesia	112	Vantis (Guava Ron)
35	PT. Zara Propertifarm Indonesia	113	Hydrogarden
36	Halofina	114	CV. Agra Aksata
37	CV. Progresif	115	CV. Eustore

No	Startup Name	No	Startup Name
38	Criquet Food	116	Dipo Rental
39	Rizs florist	117	CV. Mandike Instruments
40	Agradaya	118	Rolic
41	Compac Motorcycle	119	Ruang Bahasa
42	Rumah Mocaf	120	PT. Arme Studio Indonesia
43	DigiTiket	121	AW Food Yogyakarta
44	Nothing.id	122	CV. Berkreasi Multitech
45	Equilibrium	123	Tech Prom Lab (PT. Teknologi Kanggo Nusantara Bagja)
46	Filantrop.id	124	CV. Cipta Utama Karya Mandiri
47	PT. Dhrei Danadhipa Ghanapati	125	Triarsa Plastika Indonesia
48	PT. Miun Sinergi Nusantara	126	SyarQ
49	CV.Mantu Sedana	127	CV. Digital Lontar Nusantara
50	Sukagrafis	128	ALGIST / PT. Putra Medikaltek Indonesia
51	PT. Generasi Karya Indonesia	129	PT. Erdelapan Steam Otomatika
52	CV. Sumi Inotech	130	PT Rayeuk Aceh Utama
53	Indonesia Tour Guide	131	CV. Hanum Shafira
54	CV.Mantu Sedana	132	Raya Internasional Kosmetik
55	CV. Sirobo Indonesia	133	PT. Sekatup Sari Indonesia
56	PT. Fugha Pratama Mandiri	134	Jemarietnik.id
57	Tabler	135	PT. Precision Agriculture Indonesia
58	CV. Abpan Multi Kreasindo	136	PT. Laporanku Usaha Indonesia
59	CV.Siwarak Sejahtera Sentosa Food	137	Jaya Lestari Tehnik
60	Teman Belajar	138	Jalan Cisaranten Kulon I No. 8 RT 06/05. Bandung, Jawa Barat
61	CV. Moving Serving Rising	139	PT. Karunia Kautsar Perdana
62	Rumah Mocaf	140	Gunungsari Wiarsadana
63	PT. Gotong Royong Bangun Bangsa	141	SUTIKE / CV. Surya Tirta Kencana Putra
64	CV. Vigory Indonesia	142	CV. Melzie Marine Mandiri
65	SPD Speedometer	143	Phy.co
66	CV. Dua Akar Food	144	PT. Yeda Presisi Engineering
67	Putrimas Collection	145	CV. Arkanfood
68	CV.Pak Ombak Djaya	146	CV. Agro Herbal
69	PT. Astro Teknologi Internasional	147	CV. PLCD Edukasi Nusantara
70	PT. Tesla Daya ElektriKa	148	CV. Sangko Usaha Baru
71	CV. Tekila Herbal Inovasi	149	PT. Wahana Gerak Indonesia
72	CV. Amorina Kirana Adiwarna	150	PT. Alfath Teknologi Kreatif
73	CV.Sari amertha	151	PT. Fastrobotic Insan Teknologi
74	Jetschool		
75	Restoku		
76	CV. Galang Samudra Jaya		
77	Pijar Career Center		
78	PT. Kedata Indonesia Digital		