

**2020 RRI International Symposium, Germany-Japan Experts Meeting
“Manufacturing policy in the world of post COVID-19”**

Transformation to new digital business model

**October 13 , 2020
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RIETI/JPC**

Examples of markets with rapid increase in demand in a short period of time, after Covid-19

- Service to help daily life for indoors
 - Watch streaming video
 - Online purchases and delivery services (ex. Uber eats)
 - Buying daily food online
 - Supplies for indoor exercise
- Services to help working from home
 - Video conference software Zoom, etc.
 - Remote work equipment and network
 - Security enhance
- Countermeasures for Covid-19
 - Ventilator
 - Ekmo
 - Protective clothing
 - Face shield
 - Face mask

Article quoted from Nihon Keizai Shimbun 2020

Sep. 7th

Title "Robot collaboration with people demand through corona measures, FANUC triple production"

Overview: As the risk of infection at factories increases, the demand for robots that can work near humans on the production line increases, and FANUC's production will triple in 2021 from 2020. Mitsubishi Electric and Toshiba Machine will also enter the market.

Sep. 8th

Title "Dramatic change in global earnings, under corona, IT company breakthrough"

Overview: The net profit of about 44,000 listed companies in the world was ranked. The target is the settlement of accounts for the March-May period, April-June period, and May-July period of 2020. IT and semiconductor-related company breakthroughs led to a drop in rankings for finance, energy and automobiles. Digitization and decarbonization are accelerating due to the influence of the new corona.

Sep. 9th

Title "Production return for corona measures, flooded with applications for 160 billion yen , subsidy competition rate 11 times"

Overview: Overwhelming application for government subsidies to support the return of production to Japan. The competition rate of 160 billion yen, which is scheduled to be adopted in October, has increased 11 times. The application deadline was July, but there were 1670 applications (1.764 trillion yen).

Article quoted from Nikkei Sangyo Shimbun 2020

Sep.18th

Title "Urban redevelopment, Corona correspondence of Yaesu building, thorough" without touching ""

Overview; Mitsui Fudosan and Tokyo Tatemono are working on what the office should be in the with Corona era. The building to be built in Yaesu will be equipped with abundant measures to prevent infection and to work flexibly. In Marunouchi and Yurakucho, the town will be converted to DX. Corona and DX are the keys to urban redevelopment.

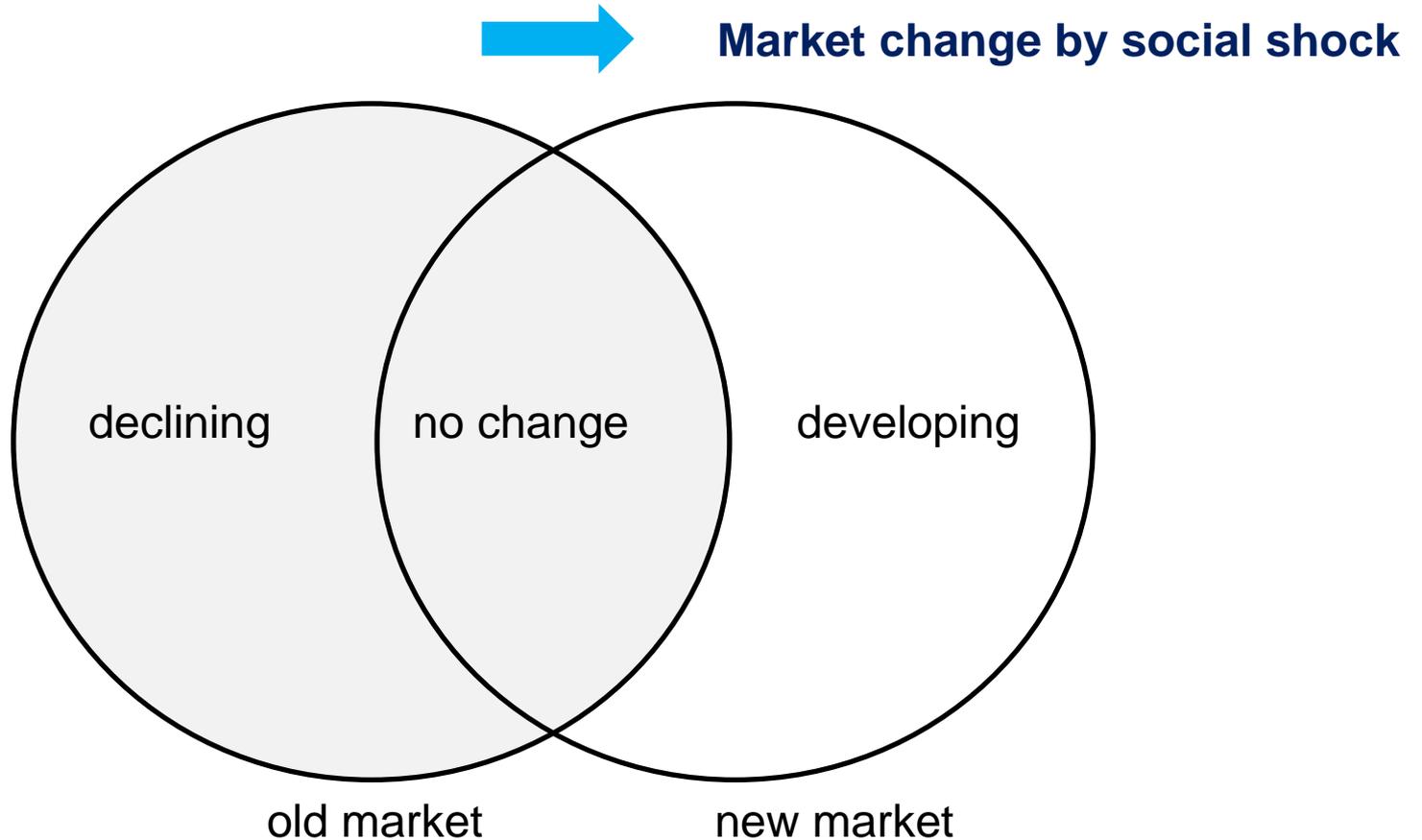
Normally, markets change slowly, leaving manufacturers enough time to respond to change the products to those that sell better.

However, major social shocks can cause sudden and massive market changes.

But even in such cases, the basic flow of responding to market demand is essentially the same.

Specifically, stopping production of products for which there is no longer demand, and developing and increasing production of products for which new demand has been created is essentially the same.

The image of changing market

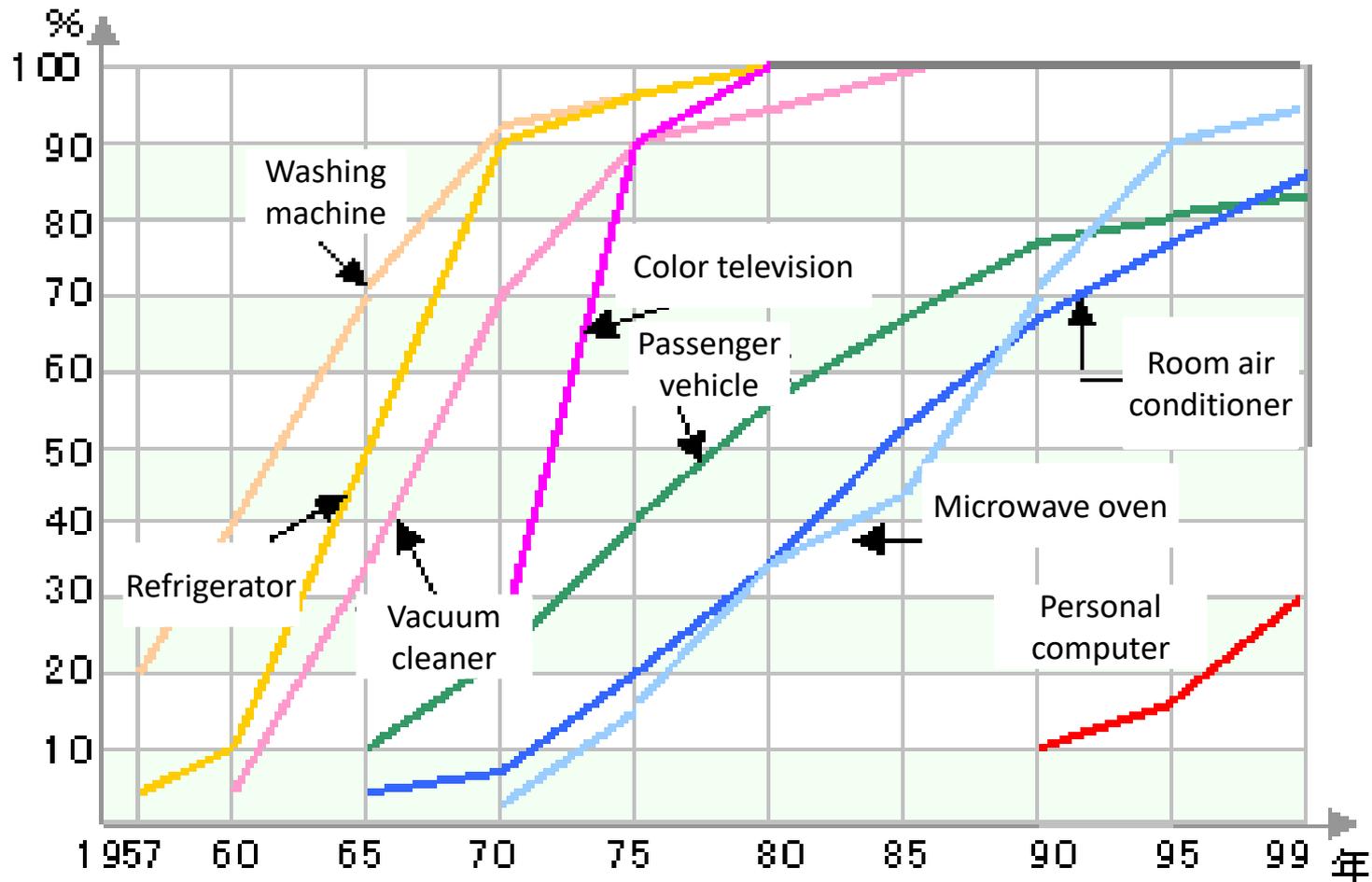


The structure of market change by social shock, ie Covid-19

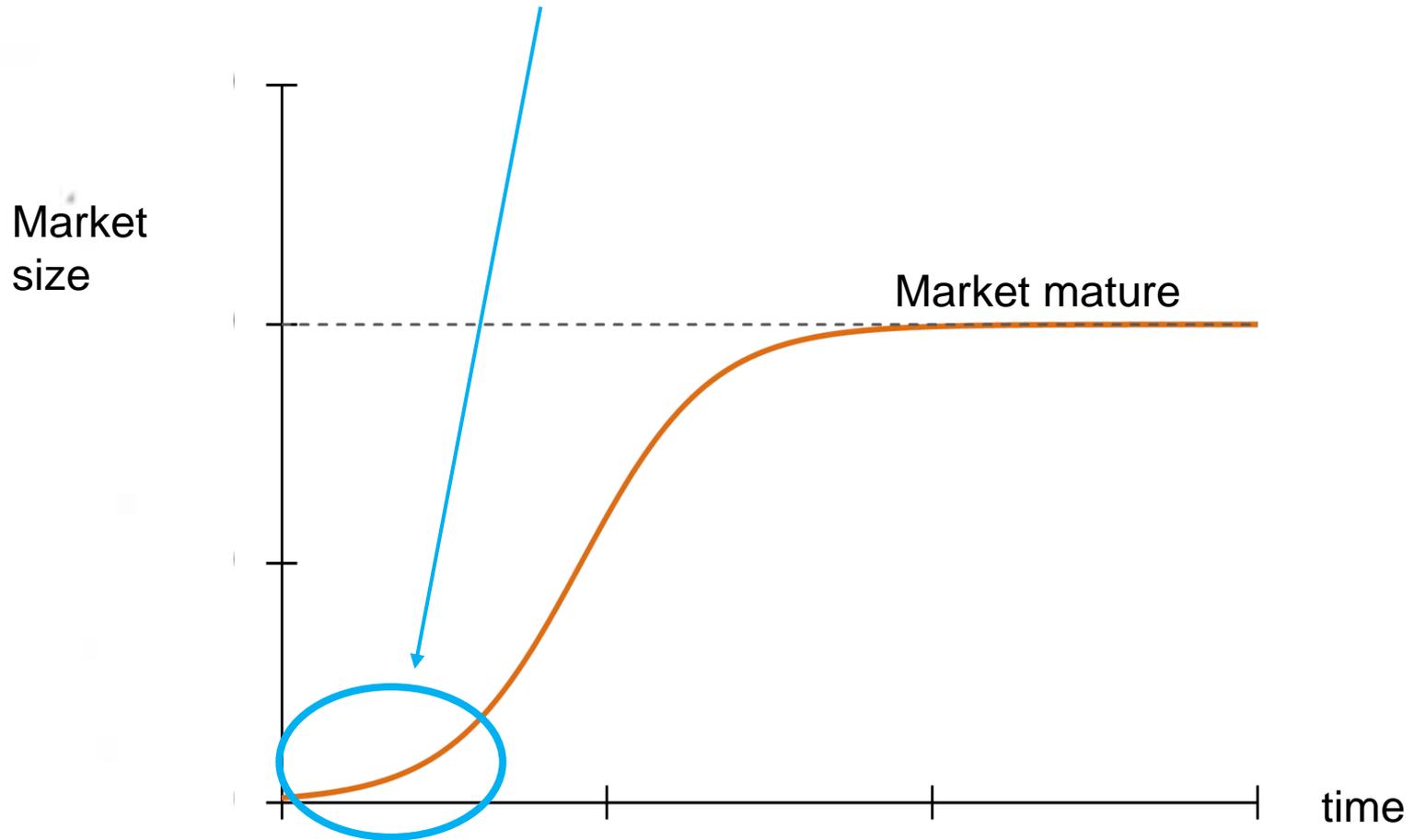
The development of products show “hysteresis curve”

Supply side; New technology and products emerge
Demand side; Developing market

interaction



According to the textbook in Economics, he, who gets the big share at the beginning of the developing market , will get big money in the future. The winner of the game is decided at the beginning.



The new digital business models of the manufacturing company, I expect will expand to a large market as well as maintain for a long time, are the following three markets.

- 1 Maintenance market**
- 2 Customization market**
- 3 Remote work market**

Maintenance market

In recent years, the importance of maintenance service has risen greatly. There are two main backgrounds.

First, environment surrounding the manufacturing industry is changing rapidly. Until now, the business style of the manufacturing industry has basically been “sold out,” getting main profit by selling things.

However, as this market became saturated, this business style could no longer be expected.

The maintenance service has come to be seen as a new second source of huge profit .

Second, the technical environment has been set up so that maintenance service can be seen as a big source of profit.

AI, IoT, 5G... By utilizing these technologies, a method has been established that provides new value to customers.

As maintenance service, some people still have the old image of rushing over to a machine when it machine is broken, and replacing parts. However this model is hard to profit from.

For example, "e-F@ctory" from Mitsubishi Electric is the most profitable service. Hitachi also makes "Lumada" that makes use of IoT and big data as a pillar for the future.

These systems are in some ways maintenance service. It can be installed in an existing production line or machine to improve the operation rate or keep the machine non-stop.

From the sales, we can see strong demand for services that realize "non-stop machine."

Deliver machines, get real-time big data on their operating status, analyze the data by AI, and provide services to customers.

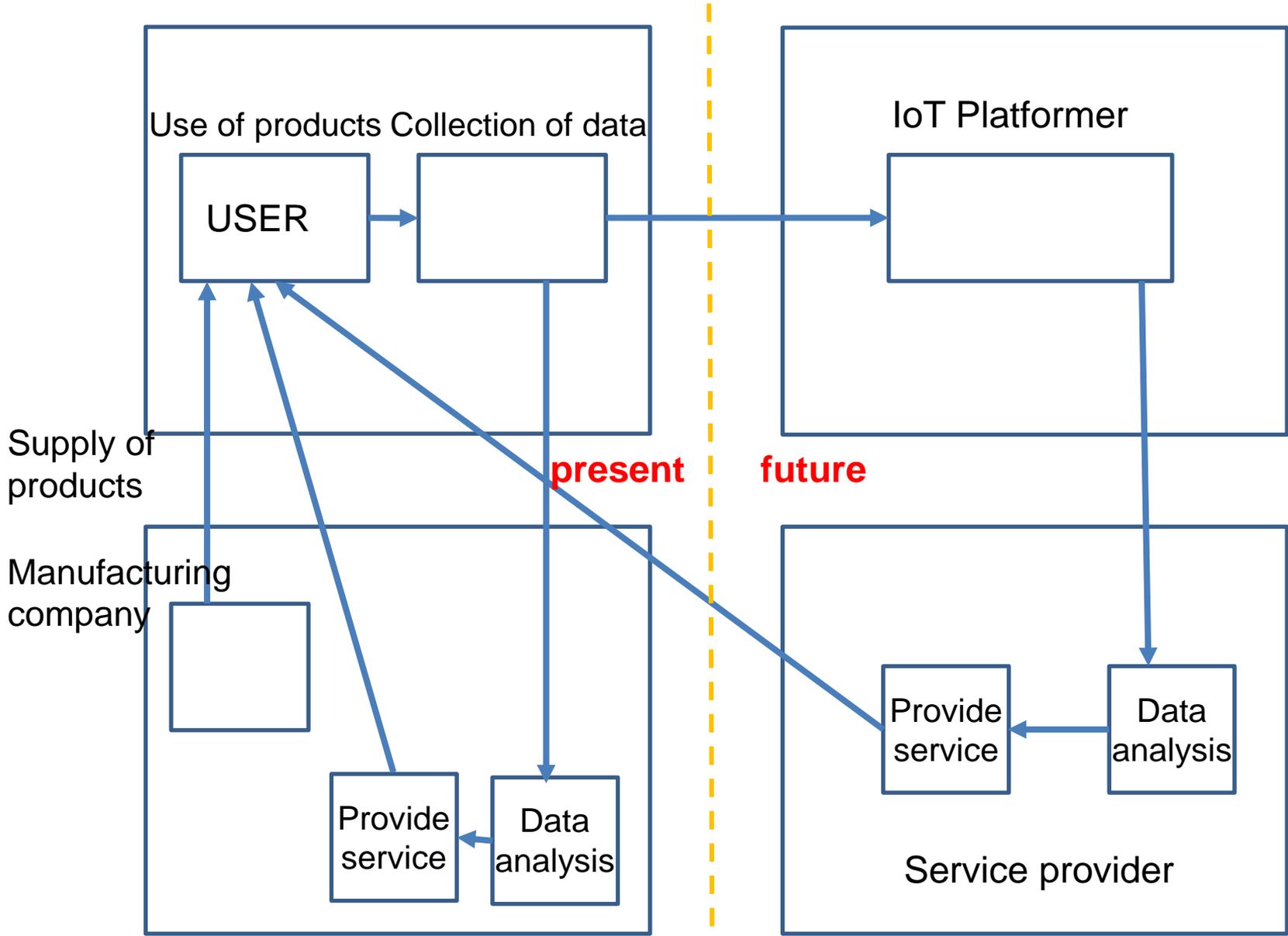
Many manufacturing companies have already deployed such services, but this style does not expand business.

The important thing in data collection is the total quantity and quality variance of the data. The more big and various data you collect, the more sophisticated and multi services you can create.

By collecting big data from all products of the corporate group, as well as products outside the group and foreign products, and analyzing them with AI, we can create extremely high quality services.

Such kind of companies have already been established in the US, Germany, and other countries.

It will be a subcontract for Japanese manufacturing company only to provide data to foreign companies. By this the most delicious merit may be brought to foreign companies.



Customization market

Sensors, semiconductors, memories, communication capacities, etc. are rapidly increasing in speed, size, and mass. It will be possible to understand the needs of each individual, and "customization" will be promoted to provide products and services that meet the needs of each individual.

Remote Work market

The remote work business operations in companies will accelerate.

The remote business that meets the needs is expected to grow rapidly as a large market.

After Covid-19, companies will recover their performance, so the above flow will accelerate.

The Third Survey of Emergency Survey on the Impact of Covid-19 on Teleworkers

National workers, male and female, 20-59 years old, 10 or more employees at work

Regular employment n=20,000 Non-regular employment n=1000

In order to make a comparison with the first and second survey, we analyzed mainly the figures for regular employees.

The survey results are weighted back from the 2015 Census data according to the composition ratio of regular employees and employees of different sexes (in five-year increments.)

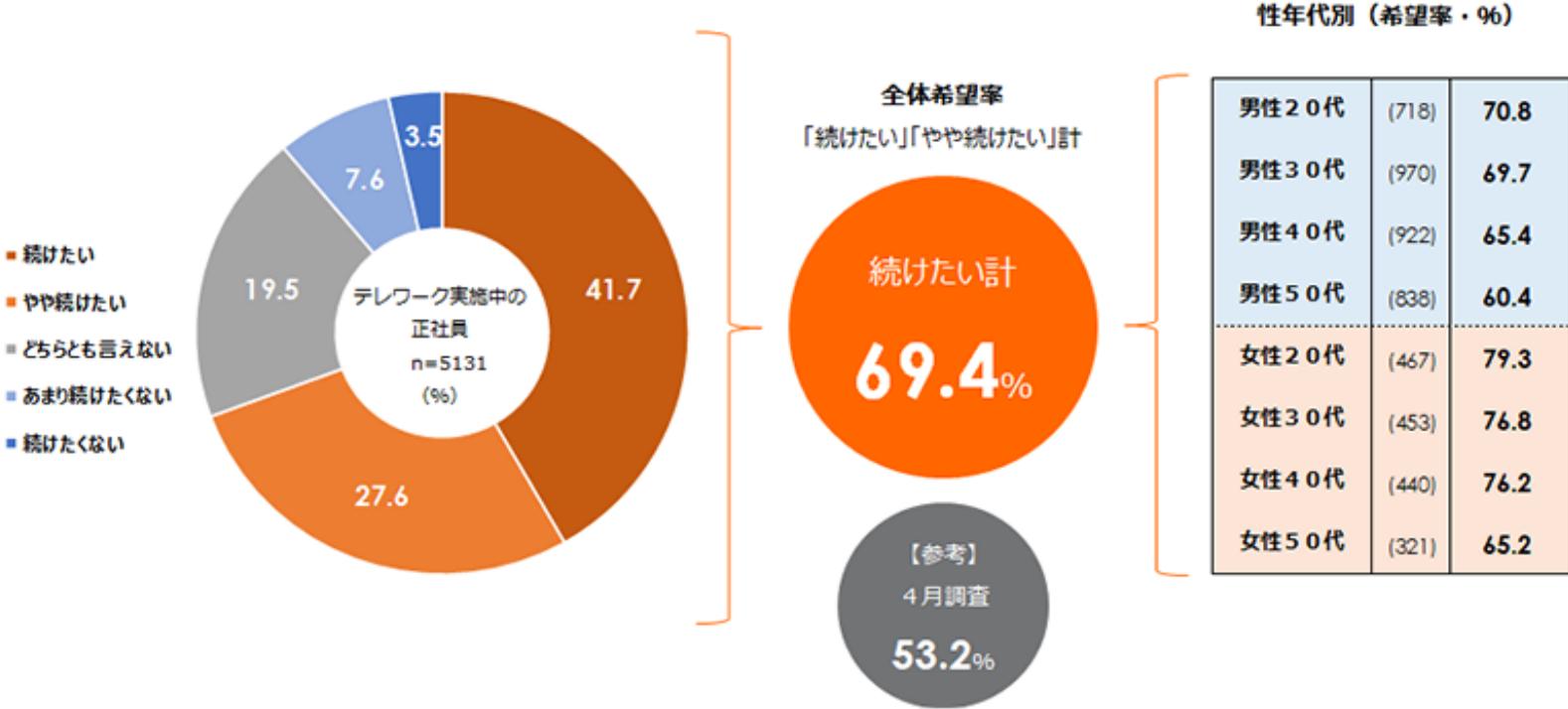
The number of samples in the graph is the number of samples after weighted back.

May 29, 2020 - June 2, 2020

Internet quantitative research using survey monitors

Source ; PERSOL RESEARCH AND CONSULTING CO., LTD.

After the convergence of Covid-19, the percentage of people wanting to continue working from home was 69.4%, up significantly from 53.2% in April. The rate of those in the "younger age group" and "women" was high, with **79.3% of women in their 20s wanting to continue working from home.**



Desire to continue working from home

Source: PERSOL RESEARCH AND CONSULTING CO., LTD.
 "Third Survey: Emergency Survey on the Impact of Covid-19 on Teleworkers"

The percentage of respondents wishing to continue working from home was high in Corporate Planning (85.3%) and General Affairs and Human Resources (77.5%). The rate is low for jobs with on-site workplaces, such as customer service, drivers and medical professionals. The desire to continue working from home is also high in occupations that currently have high rates of telecommuting, and this trend of differentiation by occupation is also evident here.

調査実施期間 5月29日～6月2日		続けたい・ やや続けたい計
・正社員のテレワーク実施者のみ ・サンプル数30以上の職種のみ掲載		
全体	(5131)	69.4
経営企画	(92)	85.3
クリエイティブ職 (デザイン・ディレクターなど)	(69)	84.9
Webクリエイティブ職	(41)	79.5
総務・人事	(353)	77.5
資材・購買	(86)	75.7
企画・マーケティング	(115)	75.4
営業推進・営業企画	(166)	74.4
IT系技術職	(874)	74.3
営業事務・営業アシスタント	(243)	73.7
事務・アシスタント	(594)	73.3

財務・会計・経理・法務	(273)	72.8
営業職 (法人向け営業)	(472)	71.2
広報・宣伝・編集	(33)	69.8
その他	(214)	68.1
その他専門職	(71)	66.0
営業職 (個人向け営業)	(166)	63.6
製造 (組立・加工)	(67)	60.3
生産技術・生産管理・品質管理	(261)	60.2
商品開発・研究	(428)	59.7
顧客サービス・サポート	(123)	56.2
建築・土木系技術職 (施工管理・設計系)	(99)	53.8
配送・倉庫管理・物流	(31)	51.9
医療系専門職	(35)	50.2
ドライバー	(33)	42.5
【飲食以外】接客・サービス系職種	(33)	36.1

Desire to continue working from home by occupation

Source: PERSOL RESEARCH AND CONSULTING CO., LTD.

"Third Survey: Emergency Survey on the Impact of Covid-19 on Teleworkers"

2020 Capital Investment Survey (conducted by Nikkei Inc.)

Target

948 companies (listed companies with capital of 100 million yen or more)

Planned capital investment for all industries

19,239.5 billion yen, down 1.2% from the previous year

IT Investment

47.8 billion yen, up +15.8% from the previous year

Manufacturing: +20.3% (record high)

Conclusion

When the behavior of humans and companies change drastically, some markets will be lost, while others will be newly born and developing.

The new market is arguably a huge market, and digital technology determines the superiority.

Thank you for your attention.

Thank you for Research Assistants; Miss Aratame

Quotation allowed, Specify the source