Understanding the factors behind Tsunami of change.

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1. The gate of social change

In the spring of 2019, with the abdication of Emperor Akihito, Japan transitioned from the Heisei era to the Reiwa era. The Reiwa era began with the anticipation of a new dawn and was quickly embraced as a "new" era with the upcoming "Olympic year" of 2021. Unfortunately, this new era coincided with the advent of the new Corona virus, commonly referred to as Covid19 which spread rapidly around the world and forced many countries to "lock down", restructuring travel and as a consequence most major economies slipped into recession. Thus, the optimism with which the Reiwa era began, was soon replaced by the realities of Covid19 with the WHO (World Health Organization) declaring a "global pandemic of infectious diseases" on March the 11th 2021.

Through the winter of 2020/2021 economies and societies around the world went further into "lock down" mode and even with the advent of vaccines, new variants such as Delta and Lambda are threatening to thwart any chance of respite and recovery (both for people and economies).

The situation which at one time seemed resolved with the incredibly swift production of targeted vaccines, at one stage threatened to even derail the Tokyo Olympics in 2021 with a majority of the Japanese public coming out against the

Olympics being held in Tokyo, necessitating extreme measures being put in place both for athletes and their coaches at the Olympic village. The Olympics finally went ahead, but for the first time in its history the Olympics was conducted with empty stadiums, devoid of all but a few spectators, made up of competing athletes, their trainers and coaches with a lucky few Olympic village workers. Humanity's life transitioned in this "new normal (new daily life)" of masks, social distancing, working from home, no social contacts (not even family), "contact tracing" and mandatory quarantines becoming standard practice. In addition to the toll on health care systems around the world, the level of deaths from Covid19 grew exponentially. Even world leaders were not immune to this onslaught with the leaders of Brazil (Jair Bolsonaro), the USA (Donald Trump), France (Emmanuel Macron) and the UK (Boris Johnson) succumbing to the scourge of Covid19.

Just as Japan experienced a "new daily life" when it moved from the Showa era, which had enjoyed increased economic growth, to the Heisei era, characterized by a major economic downturn. So, Japan also experienced just as a dramatic change from the Heisei era to the Reiwa era. Indeed, the Reiwa era heralded in an unprecedented new reality and not just for Japan, these changes were global bringing changes in corporate behavior with extensive working from home, changed social structure and social distancing, changes to the political system and most of all to the global economies and the every-day lives of humanity, 8 billion people's lives changing immediately and dramatically. Arguably Covid19 has had moderate to significant impact on every human on the planet, in one way or another. Whilst many in Japan considered that the Heisei era with its long-term 30 recession years to be the benchmark of disruption, Covid-19 brought an even swifter and more fundamental disruption, both to the global economy and in every field of human endeavor, even extending to social distancing in the classroom for schoolchildren. And the change is not yet over, we

are not yet able to assess what will be the long-term impact of this Covid19 era indeed, we cannot even assess and are confused as to just where we are in the pandemic. One hopes as Churchill eloquently put it, that we are at the end of the beginning, or maybe not? “This is not the end. It is not even the beginning of the end. But it is perhaps, the end of the beginning” (Winston Churchill quote, November 1942, London, Houses of Parliament). Many consider that the impact of Covid19 will not just affect today but its impact will affect people and the global economy for years to come. Indeed, it has been suggested that we are at a fulcrum point in human development.

One of the factors that is adding energy to this Covid19 induced earthquake is the “Progress of Globalization” and “Evolution of ICT and Networks” which have synchronized to create a huge energy for change leading to diastrophism. The progress towards globalization, which entered its mature phase as the Cold War between East and West concluded. Since then, ideological-based conflicts have become less and less of a global issue, although the new rise of China may reengage a new era of conflict between the West v particularly, interesting given the previous animosity which had previously existed between Russia and China, this now being replaced with Entente Cordial. During this era, whole new businesses and business models have emerged as a direct consequence of the transformation enabled by the internet with new emerging disruptive businesses, and technologies. Moreover, this new era has been characterized by new global alliances and tensions 1) UAE, Morocco, Sudan, Bahrain and Israel, 2) Russia, Venezuela and Iran, 3) Belarus and Russia v the EU, 4) the distancing of Turkey from the EU and 5) tensions within the EU itself, Brexit and the political landscape in Hungary and 6) China v Japan and Taiwan. When the emergence of China as competitive superpower to the USA is considered in this context, this ushers in a different world landscape than had gone before.

Another factor that caused significant change is the “evolution of information and communication technology (ICT) and networks”, which began in earnest in the 1990s. In 1990, the commercial service of the internet was facilitated in the USA by the dissipation of ARPA net[1]. Three years later, in 1993, the commercial use of the Internet was permitted, and the connection between personal computer networks and the internet began[2]. In the aftermath of the great Hanshin-Awaji earthquake in 1995, the added value that the internet brought in times of crisis was recognized and the number of users increased rapidly in Japan as a result. From 1995 onwards the year referred to as the “Internet first year”, the user base increased year on year, and the penetration rate in Japan exceeded 50% in short order. The uptake and increased provision of services and applications accelerated the penetration of the internet and Japan rapidly advanced to the next internet stage, the emergence of the so called “net society” with the appearance of the smartphone and iPhone which was introduced by Apple Co. in 2007.

The transformative events as a result of the Covid19 pandemic continues to shape global events and as yet there is no end to this earthquake of change in sight. Now into the pandemics second year, effective vaccines for the pandemic are still being studied[3]. And there is no sign that the infectious spread has ended or is diminishing, with new variants emerging swiftly and the number of infected persons topping the 100 million marks with a death toll of 2 million in early 2021, and the number of victims increasing every day.

Although the responses and measures taken by national governments vary, few

1) It is a computer network which became the prototype of the Internet introduced by the Department of Defense’s Office of High Research Programs.
2) The former Ministry of Posts and Telecommunications was the competent authority at that time.
3) On November 9, 2020, Pfizer’s vaccine was reported to be completed. And the Vaccine was supplied in May. However, the vaccine is a preventive drug to the last, not a therapeutic agent.

countries or regions have returned to the so-called “before corona” state[4]. It is also questioned by many whether in fact it will be possible to return to a pre Covid19 lifestyle at all, in the near or medium future. In Japan, both the media and government are not optimistic. On a quarterly basis from April to June in 2020, a significant boost to the economy was introduced to restore the economic situation because of the 30% decrease in GDP[5], but this “booster shot” proved to be unsuccessful. On the other hand, words such as “after Corona” “with Corona” and “new normal” permeate social media, print media and news channels with many assessing that there is now a different base to start from as “life starts different from before”. This is not just in Japan; this is a global phenomenon, and so it seems the “new normal” has arrived.

The threat of natural disasters and pandemics on a global scale and the evolution of ICT and networks, seems to have been a catalyst in accelerating and enabling changes in social structure. We are at the beginning of exponential social change in 2020 and are entering an unprecedented era of exponential social change as we move through 2021.

Thus, the dawn of the Reiwa era in Japan can be summarized by the convergence of three factors with behavioral changes, innovations and reforms of Japanese companies as keywords: “progress of globalization”, “evolution of ICT and networks” and the “threat of natural disasters and pandemics”.

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4) In developed countries and regions, New Zealand and Taiwan, etc. have comparatively suppressed the number of infected persons. In addition, in the island nations of the South Pacific, the number of infected people. There is a country called 0, but it is economically exhausted because it is locked down, and it is not without the influence of the pandemic. It has expanded again in January in China, which was said that the number of infected persons has decreased at one time.

5) The direct relation with the economic activity plan said campaign is not clear. However, though there is no concrete material which denies it, it seems that it is dingy that it should stop and think intuitively once. And, it was stopped on December 15. And, on January 7, the government issued a regional state of emergency.

2. Progress of globalization

One of the factors that is likely to lead to further exponential social change is the “progress of globalization,” and the new relationships energy and opportunities that it creates. The first phase of “progress of globalization” is the “age of internationalization”, which began in the mid-1970s in Japan.

(1) The age of internationalization

After the first oil shock in 1973 (referred to as the Yom Kippur War), large Japanese companies adopted a strategy that expanded their business internationally, establishing offshore ventures in the USA and Europe. This helped fuel the world economy through the 1980s and enter a period of rapid growth for these Japanese innovators. Indeed, 10 Japanese companies occupied more than half of the companies at the top of the semiconductor manufacturer’s rankings, and Japanese manufacturers collectively achieved in excess of 50% market share of the USA automobile market, overtaking the domestic US car makers’ collective market share for the first time. Even in the computer industry (which was a state-of-

Figure 1　“World Ranking of Semiconductor Business

1985				2019	
1	NEC	JAPAN	1	Intel	USA
2	Hitachi	JAPAN	2	SUMSON	KOREA
3	Toshiba	JAPAN	3	TSMC	TAIWAN
4	Motorola	USA	4	SK Hynix	KOREA
5	TI	USA	5	Micron	USA
6	Philips	HOLLAND	6	Broadcom	USA
7	Fujitsu	JAPAN	7	Qualcomm	USA
8	Panasonic	JAPAN	8	Nvidia	USA
9	Mitsubishi	JAPAN	9	TI	USA
10	Intel	USA	10	HiSillicon	CHINA

the-art technology industry at the time), Japanese companies were building competitive advantages in terms of hardware technology and quality.

As many Japanese companies took advantage of higher postwar economic growth, Japanese management symbolized by the three mutually supportive people focused strategies “life-time employment”, “seniority system” and “in-company labor unions”, was studied by a number of leading non-Japanese world-class companies. As a result, many economists, business scholars and business commentators analyzed Japanese management and developed theories as to the potential superiority of Japanese management practices throughout the 1980s, as it was thought that within these Japanese leadership qualities lay a secret to success[6].

Indeed, in the field of home appliances and automobiles, the “made in Japan” label became actively sought after by consumers in the global marketplace. At that time, most of the production bases of Japanese manufacturers were in Japan, and since only a few companies had integrated production plants overseas, the products were genuinely made in Japan[7]. It was not until the Plaza Agreement in November 1986 that Japanese manufacturers began to fully work on establishing of overseas production facilities. The exchange rate which had been 1 USD = 235 yen appreciated rapidly (For Japanese exporters to the USA) to an unsustainable rate for exports to 1 USD = 150 yen within a 12-month period. This resulted in the USA falling into a chronic trade deficit as a result of the appreciation of the yen and the comparative weaknesses of the US dollar tendency[8]. Thus, many Japanese

6) The following researches are typical. Thomas J. Peters & Robert H. Waterman, “In search of Excellence”, 1982, Hammar Michel & Champy James, “Reengineering Corporation”, 1993, Hamel Gery & Praharad C. K., “Meeting for the Future”, 1995.

7) Therefore, there was also a Japan bashing.

8) On September 23, 1986, the dollar-yen rate fell by about 20 yen from 235 yen per dollar for 24 hours a day alone. After one year, the value of the dollar almost halved, and it came to trade in the 150 yen range.

Figure 2　Process of exchange rate (1972-1990)

Source: Bank of Japan (Tokyo Market U.S. Dollar and Yen Spot as of 5:00 p.m./ Average monthly)

companies which had not advanced an overseas manufacturing strategy were forced to do so and had to rapidly relocate production bases and R&D bases overseas.

(2) The dawn of globalization

As a result of the surge in Japan's postwar economy, many in Japan expected that the 21st century would herald Japan's emergence and continued growth to ultimately achieve world economic superpower status as a result of significant economic growth through rapidly expanding domestic and global demand. However, the bursting of what has been called "the bubble economy" in the early 1990s, dashed that dream and it failed to materialize. The confidence which had characterized Japanese businesses in the early 1990s was lost, and the superiority of Japanese companies in the world market was significantly damaged. Europe and

USA which had been economically challenged by the strength of Japan were for a time on their back foot, but they soon regained their strength both politically and economically. From the 1990s to the early 2000s, Europe strengthened its power and grew to form the world's second largest market by realizing EU inauguration, monetary union, etc., even after experiencing various challenges conflicts such as integrating former Eastern European societies.

Whilst in the Asian region, ASEAN countries such as Thailand and Malaysia, and NIES (Newly Industrializing Economies) countries such as Korea, Taiwan, Hong Kong, and Singapore, which are known as the "Four Small Dragons of Asia[9)]" achieved rapid economic growth and demonstrated their increased power as "middle-advanced countries" helping drive the global economy. This advancement was however temporarily derailed by the Asian financial crisis which began in Thailand in 1997. Part of the cause which led to this financial crisis was also the rapidly expanding borderless economy. As a result of worldwide credit relaxation, speculative funds could be swiftly moved on a global scale, and this led to a significant rise in transnational speculation, which national host governments were unable to control.

At the same time, the emergence of the BRICs countries such as Brazil (with a population in excess of 200 million); Russia (with a population in excess of 125 million), India (with a population in excess of 1.2 billion) and China (with a population of 1.4 billion) emerged to have a very significant active presence in the global economy with huge home markets and an abundance of home resources (people and materials) on which to draw. Since 2000, trilateralism which has been centered in the developed countries in Japan, USA and Europe, has waned and a multi-centered global economic structure (MCGE) emerged in which the center of the economy is

9) It is an abbreviation of New Giving Economists.

scattered on a global scale.

China which had emerged as one of the cores of MCGE and has been referred to as “the factory for the world” since the latter half of 1990s has continued high economic growth exceeding 10% per year. When China gained access to the WTO in 2001, it began to play a key role as the driving force of the world economy. China’s place in the global economy was cemented by events such as Beijing Olympics in 2008 and Shanghai World Exposition in 2010. This was in contrast to the severe economic shock experienced by many Western countries during the Lehman shock of 2008 and the subsequent massive recession which occurred. From 2010 onwards, China under Xi Jinping’s administration, reinforced its economic power by adding significant political strength by developing hand in hand with developing countries pioneering an alternative political growth model via the so called “Belt and Road” initiative.

Meanwhile India which has been steadily advancing toward “ICT large country” has managed to secure its place as the world’s fourth largest economy after USA, China and Japan in terms of purchasing power parity. Moreover, this emergence of India as an economic power is likely to continue for some time as India has a higher proportion of its population under 25 as compared to developed countries (characterized by rapidly declining birthrates and aging populations), particularly when compared to China, its regional political and economic competitor which had developed a one-child policy to restrict its burgeoning population. Indeed, the economic growth of Indian market is expected to increase significantly in the coming decades as a result of the potential for vigorous consumption and innovation leading to real opportunities for expanding trade and direct investment. This does however need to be balanced with the widely recognized challenges which exist in India, the large number of people living under the poverty line, underdeveloped infrastructure (particularly so in rural areas),

underdeveloped labor laws, and to add further health care and environmental issues.

(3) Deepening globalization

The advanced economies that had been driving the global economy had been derailed by the debt crisis and the failure of Lehman Brothers Co., Ltd. which caused the subprime loan problem in the middle of 2007. Whilst in addition, the Japanese people and economy suffered greatly from the Great East Japan Earthquake (2011) and the resultant Fukushima nuclear power plant disaster. At this time when Japan led the world in birthrate decline and increasingly aging population, China's GDP overtook Japan's although with a population tenfold higher. Today, this gap in GDP has more than doubled.

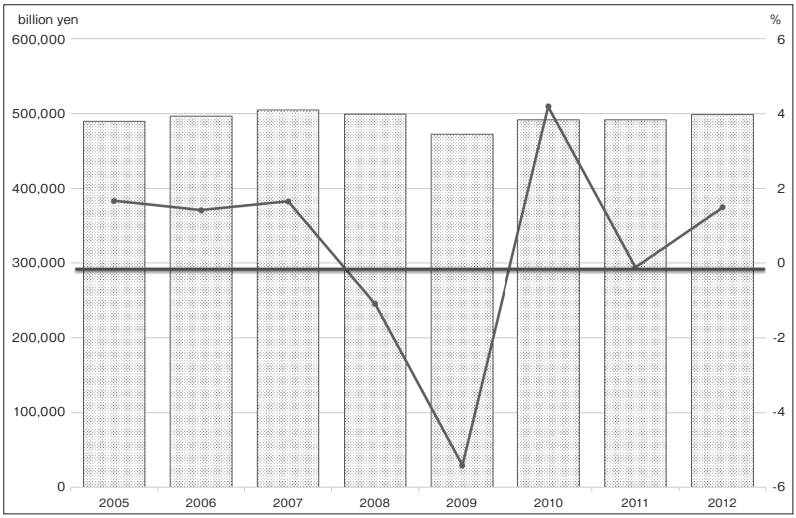
Moreover, Japan's per capita income ranking has also declined significantly. In 1989 Japan's boasted the world's second largest GDP and the third largest GDP per capita. Japan fell from Asia's number one position in 2000 and has since become lower than the average of the entire OECD. Stock prices which had been improving to reach 20,000 yen until just before the Lehman shock plummeted to 7, 000 yen in one fail swoop, and most companies were forced to downgrade their business performance. The economic situation since 2012 has gradually returned to that of a recovery, and today the stock price has risen to over 25,000 yen. However, economic disparities in Japan are widening and the ratio of poor children is worryingly on the increase[10]. Meanwhile in Europe the Greek financial crisis exposed how fragile the EU-wide system was, and this situation was fully exposed by the World Economic Review which announced that in 2011 the

10) In November 2020, 25,000 yen was recorded in the first section market of the Tokyo Stock Exchange for the first time after the bursting of the bubble economy. As of the end of January 2021, it has exceeded 27,000 yen.

Eurozone grew by only 0.2%.

Thus, western advanced countries, which had led the world economy for such a long time, found their position had significantly deteriorated in just 10 short years into the new millennium. On the other hand, countries that had been referred to as “developing countries”, developed and have realized their economic growth potential and have correspondingly been able to raise their voice on the international stage. For example, in discussions such as the Free Trade Agreement (FTA) and the Economic Partnership Agreement (EPA), emerging Asian countries such as ASEAN countries and Korea, as well as countries in the southern hemisphere such as Chile, Brazil, Australia and South Africa, are playing an increasingly significant and important role. In this sense, as the globalization of the economic society progressed, the leadership of the western advanced nations was being challenged by the newly emerging economies and thus the balance of

Figure 3　Global Economic Growth Rate



Source: World Economic Outlook Database, October 2020

economic and world power is beginning to shift.

(4) Globalization in transition

2016 marked a year of transition, prior to 2016, the USA led the world as a vocal advocate of globalization. This changed significantly with the election of President Trump. Previously the world with America at the helm of this drive had been pursing free trade and globalization. President Trump abruptly changed this with the introduction of strict immigration restrictions and protectionist economic policies. President Trump, set out a policy based on "America first" and in addition to protectionist policies, President Trump deliberately chose to move away from a global leadership role to a more introverted internal perspective in order to achieve MAGA ("make America great again"). This strategy was pursued with such single-minded focus that it even succeeded in driving a wedge between the USA and its European allies. President Trump stirring great acrimony and conflict with its European partners and the NATO alliance, much to the delight of Russia and China. This withdrawal from the world stage (though short lived as President Trump was replaced in 2021 by President Biden) represented a great opportunity for China to replace America on the world stage and even once defeated until January 20, 2021, Trump resisted until the very end[11].

Another transitional factor concern is the events in Europe. As a result of the so called UK Brexit, led by Prime Minister Boris Johnson, the UK pushed for and succeeded in exiting Europe. Europe, which was one of the first regions to fully to realize the free movement of "people, things and money", has seen some resistance starting to build against globalization. The natural flow of European integration

11) As of December 20, 2020, Mr. Trump has yet to declare his presidential bid a defeat. Trump's last gasp. It exposed that U. S. democracy is not mature at all. An unbelievable incident has occurred the day before the resignation.

has been halted quite abruptly in many European nations. For the first time the issue of tariffs in a European context has been raised, particularly with the now Brexited UK, this threat of tariffs with the UK represents a big risk factor for foreign companies with production bases in the UK. In addition, UK companies that have overseas production facilities are also concerned and are swiftly reassessing their supply chains. Indeed, this has contributed to Honda's decision to exit the UK after 35 years as a manufacturing base.

Whilst globally we can consider these factors be a realignment of a number of key strategic relationships, particularly significant is the cooperation between Russia and China which, together with its dramatic economic rise has helped propel the emergence of China as a true global competitor (both politically and economically) to the USA.

These recent events add uncertainty to the previous tide of globalization. Moreover, it is certain that these events have brought about a greater "division" between a number of countries, some of which are ongoing (e.g., the position of Eire in Europe and Northern Ireland within the UK) and the international community and are likely to have a considerable impact on the future "progress of globalization".

In that sense, it can be said that the positive march towards the "progress of globalization" is likely, at the very least to pause or possibly force a great change in the global economy.

3. The evolutionof ICT and networks

An additional factor that has caused the social structural change in the world over the past 30 years, is the "evolution of information and communication technology (ICT) and networks", that is to say, the progress of ICT, various equipment and information infrastructure that has become more sophisticated, and the emerging significance of AI（Artificial Intelligence）to multiple fields of

human endeavor.

(1) IT evolution and the collapse of the net bubble

Since the mid-1980s, digitalization has progressed rapidly, and processing capacity has increased exponentially by the high integration of semiconductors and the increased processing speeds of CPUs. The foundation of the information age was integrated into the industrial base during the 1990s. At that time, the buzzword "SIS (Strategic Information System)" rose to prominence. Against this background the three major management resources "people, things, and cash" were added to by a fourth resource, so it became "people, things, cash, and information".

Also in the early 1990s, significant price reductions for personal computers (PC) occurred, the likes of Dell Computers, which developed a new business model of the direct sales system, resulted in PCs becoming commodities. In parallel with this, the price of all information-related equipment continued to decline at an annual rate of about 30-40% in inverse proportion to its performance as result of what has been called "Moore's law", thus the so called "cheap revolution[12)]".

The cheap revolution coincided with the development and exploitation of the internet, which started in the USA. In Japan this internet revolution commenced in in 1995 with the release of Windows 95. It's market penetration was phenomenal and it achieved a 300% market penetration very swiftly. At the same time as the development of high-performance low price PCs, the communication infrastructure such as ISDN and optical cables improved significantly in Japan as a result of the application of a national policy, resulting to an internet penetration rate by of 70%[13)].

12) Umeda has given "Internet", "Cheap Revolution", and "Open Source" as "three major trends for the next 10 years". Mochio Umeda, "Web Evolution: Real Change Will Begin", 2006, Chikuma Shobo.

13) The Ministry of internal affairs and communications, 2017 version of the White

Thus, there was a rush into this market space in the early days of the internet to take advantage of the opportunities with a wide variety of company startups (mainly in the US and markets when internet take up was high). The number of entrants rose from a trickle to a boom by the late 1990s and it became a separate investment section in its own right, some companies effectively laying “golden eggs” for investors. These companies were very attractive to investors as they had high growth profiles with apparent almost unlimited potential (if successful). However, not all startups laid golden eggs and in 2000, many companies went bust as a result the IT bubble bursting, and the global economy entered into a recession, this stage of the internet has been referred to as the “Collapse of the Net Bubble”. Fortunately, a number of key players survived and prospered, and these enterprises represented the founding four of major internet players and this elite groups became known as “GAFA[14)]”.

In contrast in Japan where the influence of the IT bubble collapse was not as significant, the penetration rate of the mobile phone (feature phone) exceeded that of the US and reached 90%, thus becoming a substantial market. It was the mobile phone revolution which led the way in Japan for the internet and it became know in Japan as the “Galapagos phenomenon”, (a very unique phenomena evidenced only in Japan). Information and communications platforms were rapidly developed by NTT Docomo in 1999 and “i Mode” particularly gained popularity with its high degree of usability and thus was adopted swiftly be the young early adopters and quickly established itself as a daily necessity. In Japan, the new IT communications medium was developing separately through land-based Internet and mobile phones communications. In this regard, it can be said that the internet

14) Paper on Information and Communications, The Spread of the Internet soumu.go.jp It is an abbreviation mainly said in our country and Europe. Microsoft co. is added to these 4 companies, and it is sometimes called “GAFAM”.

society in Japan has evolved somewhat differently to other global markets, where Internet and communication devices have co-evolved like PDA（Personal Digital Assistant）[15].

(2) Evolving Internet Society

"GAFA" which weathered the storm and in fact grew stronger from the collapse of the IT bubble (reducing potential competition) became the key players in the new internet revolution. "GAFA" comprises the four key internet era companies, Google started as an information search service company, Apple is the long-established IT company founded in the mid-1970s (but was able to leverage the internet revolution to its advantage), Facebook started SNS as its own business and Amazon started as an online bookstore. All of these key players have huge market capitalization and were real winners from benefited from the internet startup period. Their ability to leverage their entrepreneurial drive with savvy delivery of value to the customer led to their significant growth. These companies have in many instances been able to add to their initial core businesses that they initially developed, but their core technology is ICT. They were able to develop their customer value propositions models to create huge profits and secure growth, while expanding their business domains by making full use of M&A. Today, the total market capitalization of these companies is approximately 560 trillion yen, comparable to the to the 5th largest economy in the world, the UK.[16]

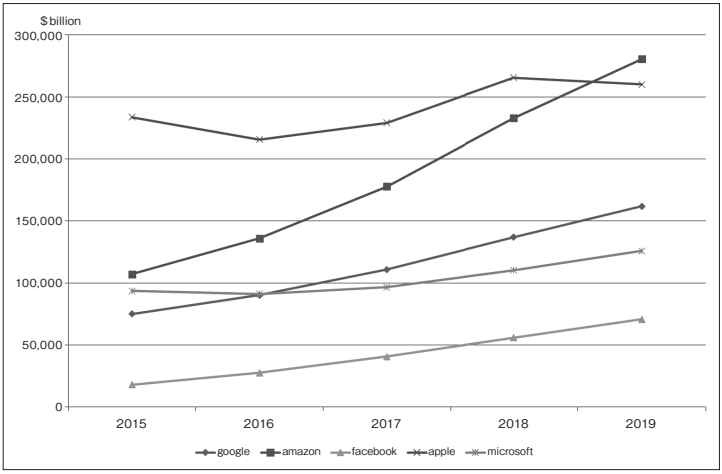
The business model called "platform business[17]" has now become a huge

15） PDA is a portable information terminal, and it is a small equipment for carrying and handling information such as schedule, to-do, address book, memo, etc. In some cases, it was equipped with a communication function.

16） See Nikkei Inc. for more information on the May 9, 2020 morning edition.

17） A platform company is a company with a business model that facilitates the exchange of value between multiple user groups, consumers, and producers.be.

Figure 4　Performance of GAFA



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market centering on GAFA, and the speed of the revolution and the evolution of the internet society is likely to accelerate this trend further, particularly with the advent of higher global internet penetration and the advent of AI.

Apple, a long-established IT company, launched the iPhone, a smartphone in the US market in 2007. The appearance of the smartphone (SUMAHO called in Japan) embodies the so-called “ubiquitous computing” by integrating the functions of two information devices[18], the mobile phone and PC. Apple has created a new market by frequently remodeling hardware annually and continuously updating and improving its operating software, the version of iOS, which is a dedicated OS, while at the same time providing new applications (apps) that run exclusively on apple only.

The iPhone, which became an unprecedented hit worldwide in 2008, brought

18) The meaning of ubiquitous means “it is everywhere”, and the function of the computer is called “ubiquitous computing”.

with it a significant increase in Apple's fortunes and additionally provided real value added to consumers. The iPhone spawned a large number of apps and opportunities for many other IT companies who developed products and apps for the iPhone platform. This despite the requirement by Apple that suppliers abide by strict contracts tying them to Apple, thus extending Apple's power over the new internet economy. These suppliers are bound by and have to follow the de facto standards of Apple Inc.

The success of Apple with its iPhone led Google, the top company of in the information search engine field, to deliver its own answer the apple iPhone in 2007, with "Android", an open-source smartphone OS and in 2008 the first Android smartphone equipped was released[19]. Whilst Google has had much success with Android as the market for Android phones developed with US companies, Google has lost market share, primarily to companies that commenced as subcontractors to Google. Companies such as Xiao Mi Technology Co. and Huawei Co. from China, Samson Co. and LG Co. from Korea, and Sony Co. from Japan. This market has now developed into two powerful rival duopolies today with the "iOS vs Android" battle.

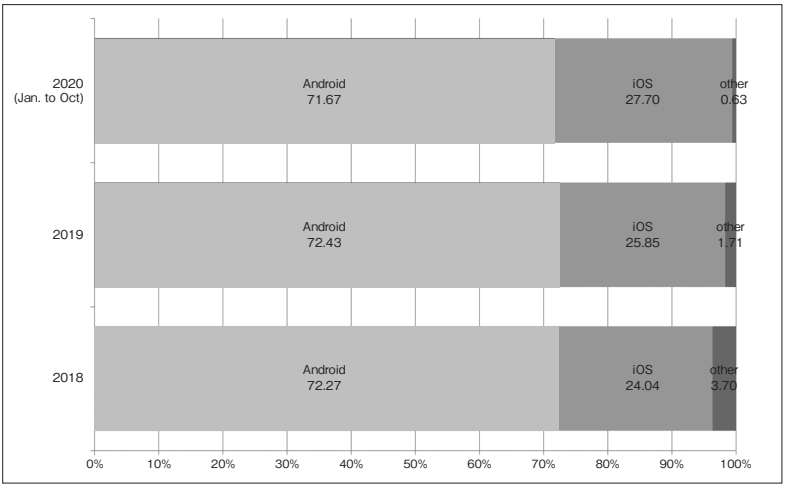
Smartphones spread very rapidly becoming indispensable communication tools due to high customer perceived need and developing very usable customer interfaces with very high levels of convenience. In addition to the access to information, such as weather forecasts, share prices, travel issues etc. the world market between B2C, B2B and C2C, and the relationship between producers and

19) On 5th November, 2007, the standards organization "Open Handset Alliance" (Open Handset Alliance, OHA) established Android, which is a platform for mobile phone software, mainly by Google, Qualcomm, and T-Mobile International, a German telecommunications carrier, announced. It is an open source software provided to everyone for free, and it is distributed based on ApacheLicense 2.0 for the purpose of making it easier for third-party vendors to customize independently. From October 2008, we will respondSmartphoneAre sold in large numbers.

consumers, experienced exponential growth adding to the value and desirability for consumers. The subsequent SNS revolution facilitated and enabled real change in the depth and breadth of social communication and interactions among people. The communication revolution has in fact succeeded by breaking down and adding value to the time and spatial constraints that have restricted our daily life and social activities.

Friedman T. L. coined the phrase “the platform of the flat world”, and the changes it caused are as follows[20]. Platforms in the flat world were born by up spreading the development of personal computers, optical fibers, workflow and software. No one predicted such a convergence. One day, people all over the world suddenly realized that they had great power to globalize as individuals. We have to be more aware of the competition of individuals from all over the world than ever

Figure 5　Global market share of Smartphone (2019)



Made from Data of these Companies

20）However, when ‘Flat world’ was published, the smartphone had not been launched yet. The point here shows the early stage of the net society.

before, and instead of competing, the opportunities to cooperate have increased dramatically[21].

Devices like smartphones have changed the market structure and indeed created new markets by creating and enabling the provision of completely new services. It is also clear that this trend is likely to continue for some time to come. For example, new apps with widely differing monetization strategies have evolved all vying to attract and keep as many users as long as possible. Some service providers have been able to develop completely new models to engage with customers by collecting and analyzing the information such as big data, without conflicting with personal information protection, as many people owned smartphones and came to access the internet. In addition, the evolution of information infrastructure is changing the way we interact in cities by introducing the smart city concept, changing the delivery times via new logistics channels such as delivery by drone and SCM. Even to the extent of changing the market for capital via the introduction of electronic money and changing the labor market by opportunities presented by the gig economy[22] and remote office working.

If any enterprise is unable to adapt to such innovations and trends it will not last long in the marketplace, such is the competition that another provider will be there to provide an appropriate added value service almost immediately. There is a danger both for individuals and companies if they do not keep up to date of being caught out, adding less value than their competitors, in which case their marketability will suffer very swiftly with serious consequences. This raises the issue of the challenge, both companies and individuals of not falling behind, because once individuals or corporations slip behind, they may not be able to catch

21) See Friedman T “The World Is Flat: A Brief History of the Twenty-first Century Further Updated and Expanded Edition”, Farrar Straus and Giroux, 2005

22) The gig economy is an ecosystem that undertakes one-time work through the Internet. For example, Uber Co. in the U.S.A. is mentioned.

up and may be unemployable in an individual's case or lose market share or go bankrupt in a company's case.

(3) Advent of exponential change

The evolution of ICT has now made AI as a reality. AI with automatic learning ability can automatically improve recognition and judgment ability. It becomes possible to dramatically improve the ability in the field that hitherto the computer was weakest, such as pattern recognition. And the machine learning techniques referred to as "deep learning" can be used for automatic learning. However, with the evolution and popularization of IT devices, big data usage becomes readily available, so the ability and effectiveness of AI has been greatly enhanced[23]. This is because machines do not have the power to make analogies from experience like humans and other animals, so it is necessary to learn the diversity of objects to be addressed from massive of data to recognize and build patterns that appear[24].

In March　2016, "Alpha Go" which is Go software, became widely known for its victory over Lee Sedol from Korea, who was the world champion of Go. Alpha Go defeated the champion, who is quoted as saying, "I want to show that AI has not reached the point where it beat humans[25]." On the other hand, AI is also stepping into the world of art such as music and fine art, which have been thought that the power of computers would be unable to reach. In short, we are in a changing era, creativity has until now been the sole preserve of humans, this is however no longer the case, and we are on the cusp of a revolution in AI such that

23) Yukio Noguchi, "To the future of "pre-industrial"—A major change in business model begins", nhk publishing new book (Kindle position No.1597-1605), see NHK publishing Kindle edition.

24) House and people, "Revitalization and Human Resource Development × in the Era of Data in Shin Nihon AI (News Picks Publishing)", (Kindle Position No. 380-382), Newspix Co., Ltd., See the Kindle version for more information.

25) See position No. 248 of kindle in the above book.

computers and AI intelligence will enable computers to create for the first time with unfathomable and unimaginable repercussions.

Ray Kuzweil who is an inventor and a futurologist said, “The rate of change in human-invented technology is accelerating, and its power is expanding at an exponential rate. If you do not closely monitor the trajectory of change, you will have completely undreamt-of results[26].” With this warning the advent of “singularity (technical singularity)” in 2040 is predicted. Indeed, there remains questions as to whether the capabilities of machines will out performance humans and perhaps science fiction predictions that machines will control humans will become a reality. This does however have to be balanced by some who suggest these thoughts are alarmist and researchers have expressed doubt as to whether singularity will be achievable[27].

However, we are confident that the great energy created by “the evolution of ICT and networks” has the potential to change our society exponentially, as with “progress of globalization”.

4. Threat of natural disasters and pandemics

It is clear that the “progress of globalization” and the “evolution of ICT and networks” has advanced and evolved faster than any other time in history. On balance, commentators, practitioners and academics would consider that this progress was generally positive.

In addition, these two factors described above “the threat of natural disasters and pandemics” are an additional factor which has created significant energy for

26) See “Singularity Is Near”, NHK Publishing, 2016.

27) The technology pointed out by Carl Weitz includes things other than machines. Carl Weitz gives “G.N.R” as a revolution that affects the evolution of humanity and dramatically changes our lives. “G” is a genetics revolution, “N” is a nano revolution, and “R” is a robotics revolution.

corporate, social and economic change. Because by their very nature, natural disasters occur without warning and because it is difficult or impossible to anticipate them, it is in the “luck of the draw” or random events which dictate how much and which group of individuals or societies are affected by such disasters. In particular, natural disasters such as those caused by global warming clearly relate to environmental issues such as “sustainability”, which has come to the fore in geo-environmental conversations in recent years. The energy created by the threat of pandemics is an added factor which has the power to change societies on a global scale and needs to be considered.

(1) Threat of natural disasters

By way of example, when recalling the events of 11th March 2011, the Great East Japan Earthquake that occurred 10 years ago, about 20,000 people, young and old fell victim to the catastrophe and the huge 40.1-meter tsunami and its aftermath. Despite a massive search, rescue and recovery mission, to this day there many people still missing whose remains have not been recovered. Moreover, the damage of the great earthquake which was centered just offshore of Tohoku region was not just limited to this region. The damage was far more widespread, the tsunami caused damage to a vast swath of Japan from the southern coast of Hokkaido, through the Tohoku region to Kanto. In addition to the tsunami, there was the earthquake and various infrastructure failures which brought their own consequences, including the destruction of a number of dams in the affected areas. Not to mention the damage to infrastructure across the region and the disruption to society and businesses. Unfortunately, the Fukushima Daiichi nuclear power plant located on the Eastern Pacific Ocean was destroyed by the tsunami and a core meltdown occurred, necessitating the long-term evacuation of the surrounding areas, representing an additional disaster event in combination with the earthquake

and tsunami itself, these evacuations representing the destruction of local communities.

As a result of this terrible earthquake, Japan's energy policy, which until that time had relied on nuclear power plants for much of its electricity (partially on environmental grounds, re the reduced carbon dioxide emissions achieved with nuclear energy generation) came under immense pressure to change direction. As a direct result of this tragedy, the nuclear power plants scattered throughout Japan were forced to shut down almost immediately[28]. Until this earthquake and subsequent tsunami, Japan had not been able to break away from its dependence on nuclear power plants, even with the global trend of switching to renewable energy generation to options such as wind and solar power. As a direct result of the damage to the Fukushima reactor, the power situation deteriorated rapidly because Japan, through public opinion, was pressured to change its direction away from nuclear power generation almost at once. One of the immediate consequences of the taking "off-line" of the Fukushima plant was large scale power outages in the east Japan region. Many people who recalled the bitter experience of the first oil shock in 1973, likened the Fukushima experience to the first oil shock experience. Many Japanese have now come to recognize that this significant earthquake, (an unprecedented magnitude 9.0 on the Richter scale, making it the largest earthquake in modern history) marked a turning point which, even 10 years later, many people are still suffering from its aftermath.

These natural threats to society are not limited to earthquakes. Even after the earthquake, Japan and the rest of the world has experienced natural disasters causing significant loss of life and resulting huge economic losses. No matter how

28) Afterwards, there is a nuclear power plant which was admitted to restart partly because of the change of the nuclear power plant policy. According to the Nuclear Propulsion Committee, nine nuclear power plants have been restarted as of November 2020.

good governments' disaster planning scenarios are, it is almost impossible to avoid the threat of natural disasters or anticipate them fully. As has been pointed out, earthquakes and typhoons cannot be avoided, but sometimes the failure to respond effectively to these tragic events turns a nature caused event into a man-made disaster, compounding the natural disaster by making a bad situation worse.

(2) Threat of pandemic

Another factor that mankind understands all too well now, one which cannot be avoided by humanity and which can cause dramatic change, is that of a pandemic. The historian Yuval Noah Harari[29] points out that "For man, the second enemy following famine is the plague and infectious diseases[30]", revealing the fear of infectious diseases that have greatly changed history. Until now many Japanese and advanced western nations who, on the whole, live a most protected hygienic life and rush for medical attention at the slightest hint of any health issue, have considered themselves immune to such problems, for what people thought was a bygone age. Indeed, humanities very success, since the last great Spanish flu epidemic of 1918 may have led us to become complacent and believe that pandemics were from stories of the Middle Ages and subjects of fiction or movies[31]. Even the recent impact of Ebola was, because of our success in controlling successive outbreaks, considered a distant threat. However, early in the new year of 2020, mankind received a rude awakening about the power a simple virus has to change our lives immediately and radically. The global experience

29） The Complete History of Sapiens andHomo DeusAn Israeli historian who has authored bestsellers such as

30） Yuval Noah Harari, "HOMODEUS: A Brief History of Tomorrow", Yuval Noah Harari, 2015.

31） In 2009, "Infected Islands" was screened by Toho Co., Ltd. Produced by the Infectious Islands Policy Committee.

from Covid19 indicates that it is a lesson which will not be forgotten soon. The impact that one cruise ship can have on entering Yokohama port surprised many people[32] . Even then, given this first-hand experience at Yokohama, it was not until the middle of February of the same year that Japan responded in earnest to this infectious disease.

As with many advanced countries, in Japan, until now, infectious diseases have not featured very highly on people's consciousness. In fact, various infectious agents do challenge humanity every decade or so. If one looks at humanities experience in the first two decades of the 21st century, we have had SARS (severe respiratory syndrome) in 2002-03, bird flu in 2005, hog flu in 2009-10, and Ebola hemorrhagic fever in 2014-15. In addition, as is the case with the annual influenza virus, many lives are lost in the winter from influenza, whilst more than 30 million lives were lost worldwide in the AIDS virus that occurred in the early 1980s[33], and 1 million infected people die every year even today[34]. However, in many cases, Japanese people have had a heightened awareness of infectious diseases only for a short period of time either by popping Tamiflu or getting flu shots.

For the Japanese who did not have infectious diseases high on their risk assessments to their stable ordered society, 2020 was a year when the potential of such a threat became all too apparent. The only weapon at our disposal as

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32) "Corona VIrus Desease 2019".

33) According to an announcement by the Ministry of Health, Labour and Welfare, there were 3,325 deaths of influenza in Japan in 2018.

34) UNAIDS,「DADABOOK」, 2017, http://www.unaids.org/sites/default/files/media_asset/20170720_Data_book_2017_en.pdf
UNAIDS,「Core epidemiology slides, June 2017」, http://www.unaids.org/sites/default/files/media_asset/UNAIDS_2017_core-epidemiology-slides_en.pdf
UNAIDS,「Fact sheet - Latest statistics on the status of the AIDS epidemic.」, http://www.unaids.org/sites/default/files/media_asset/UNAIDS_FactSheet_en.pdf
UNAIDS,「Global AIDS Update 2016」, http://www.unaids.org/sites/default/files/mediaasset/global-AIDS-update-2016_en.pdf
UNAIDS AIDS Info (viewed October 2017), http://aidsinfo.unaids.org/

experienced in the beginning of the outbreak at Wuhan City in China, was to go into dramatic immediate lockdown. In spite of lockdowns, the virus spread globally very swiftly, within a month. In response to the events in Wuhan City, the Japanese government decided on January 28 to make this new type of pneumonia a designated infectious disease. However, many Japanese did not realize the threat this new infectious agent represented. Many universities in Japan conducted entrance examinations as normal, without any special measures, and initially there was no problem with inbound tourism and no great change to everyday lives, which aided its rapid spread throughout society.

However, things began to change in mid-February when the 3,500 passengers of the cruise ship Diamond Princess, which entered Yokohama port on February 4th, disembarked the ship. The shortage of masks and disinfectant alcohol became apparent, and some large companies began to take measures against infectious diseases such as closures, time difference commuting and teleworking. Little by little the general public in Japan began to feel a sense of crisis[35]. At the end of February, the Japanese government recognizing the implications of the emerging pandemic moved swiftly, and on February 27, 2020, the Government of Japan requested that elementary, junior high and high schools nationwide should be closed with immediate effect[36].

Furthermore, on 10th, March the Cabinet approved a draft amendment to the Special Measures Law, which is the basis for declaring a state of emergency. The next day, Mr. Tedros, Director of WHO recognized that Covid19 had reached

35）Masks are the subject of bomb-buying by Chinese tourists.

36）The national school was closed at the request of the government, but later there was a discussion on whether this measure was correct because the rate of serious disease in the case of children and young people was remarkably low. However, it was pointed out that the university becomes a cluster of the infection spread from the behavior style of the student, and the class was basically carried out by the remote method in many universities in the fiscal year 2020. Seijo University is no exception.

pandemic status, and called on governments to further strengthen measures, and thus the whole world was caught in the midst of Covid19 turmoil[37]. Subsequently, lockdowns were carried out one after another in European countries, and the IOC (International Olympic Committee) decided to postpone the 2020 Tokyo Olympic and Paralympic Games. On 7th, April a state of emergency was declared in Japan, and the new dormant life commenced on a nationwide scale.

Many companies' performance deteriorated rapidly because many economic activities were halted by pandemic countermeasures taken by countries around the world[38]. Restaurants, bars business, tourism businesses, hotels, aviation businesses and people to people businesses suffered particularly. Subsidies and support funds by national and local governments abounded but were unable to compensate for all that was lost and many hitherto thriving businesses collapsed. The longer the situation went on, the more severe the situation became, particularly as there was no end in sight, it was something which was difficult, if not impossible, to plan for. Some companies had to change their business models entirely, if they had not, the survival of the company could not be protected.

However, after the state of emergency was lifted, society regained its calmness little by little, and although it was a little less than before the pandemic, the number of customers increased and there was, for a time at least, when pre-pandemic daily life returned. Partly because of this, GDP in Japan fell to 30% as compared to it's annual high and rose 18% annually in the July-September quarter. Even though it was temporarily revived, there is no guarantee that any company can survive the coming "new normal" era without transforming. However, at the same time, the number of infected persons had increased greatly in Europe and the USA, and

37) See Nikkei Shimbun, 12th, March 2020.
38) According to the Nikkei Shimbun, 1st, August 2020, one in three major companies in the world was in the red.

there were many countries that had started lockdown again. Japan was no exception, though lockdown could not be introduced effectively due to statutory reasons. It was not a recovery based on adapting to new daily life but was a contingent recovery attempting as people learnt to deal with the new restrictions to daily life.

On the other hand, it was also true that a few companies were able to pivot and take advantage of the “new normal”, improve their business performance and increase their market capitalization in the wake of the pandemic. Under normal circumstances any business model conversion is very risky and takes time, particularly in periods of uncertainty and given the unclear future, it was very difficult to complete business model transformations in such a short time period. For many companies it was more realistic to operate the current business model through other methods and channels. In other words, the business model in many cases had to maintained as it was. For example, many of the major manufacturers in Japan chose the introduction of remote work, without the need for attendance on site. Many educational institutions such as universities, were able to convert to an online educational model, avoiding face-to-face classes. It seemed that the only way to prevent the spread of infectious diseases was to minimize movement, to wear a face mask when venturing out, and avoid “close contact”. Thus, there was no choice but to change to telecommuting, telework, remote lectures, etc. In such an environment, it was natural that enterprises which were able to develop business by having a suitable business model such as home delivery industry of food[39] and remote conference systems related enterprises[40] became winning

39) Delivery companies specializing in food and beverage such as Uber Eats and Demaekan are doing well, and workers working in these companies (independent self-employed workers) are called “gig workers.”

40) The stock price of ZOOM Co., which is listed on nasdaq was only 74.5USD one year ago (2019/11/29). However, it became 509.25USD at the end of November, 2020.

combinations, some were able to increase their performance significantly.

Natural disasters and pandemics cannot be predicted therefore, we can only learn lessons from them for the future. But in the moment, we have to take the necessary actions as we navigate the disaster. Hindsight is perfect vison, but in the midst of a pandemic, particularly one which is changing rapidly, how to make the "right" decisions? You can't do a thing you don't have (e.g. vaccines), and you can't do what you can't do (see what is coming next?). As a result, the only option is to react and learn for the next pandemic when it comes.

In this way, as well as the "progress of globalization" and the "evolution of information and communication technology and networks", so the "threat of natural disasters and pandemics" may create large social change and have the capacity to cause exponential social change. But our success in the last area is not necessarily assured, thus the importance to learn from our mistakes for the future.

5. Creating business through changes in management

In this paper, we have overviewed three factors creating energy for change in our society, i.e., "progress of globalization", "evolution of ICT and networks" and the "threat of natural disaster and pandemics", which we have experienced in fact and/or witnessed for about 65 years through the Showa era, Heisei era, and Reiwa era since second world war. These are the main factors that change the business environment of companies who ultimately aim to survive and prosper[41]. Moreover, these factors are also important factors to consider when examining future change. Of course, there may be other factors that cannot be aggregated into them, and new factors may emerge which will also lead to significant changes in the future.

41) This hypothesis is based on biological analogy.

However, if we limit our discussion to the business environment surrounding corporations in recent years, it can be said that these three factors individually and particularly collectively have had a massive influence on change. As additional factors emerge in the business environment that cause change, in conjunction with these three change factors, it is clear that the business environment and the social environment will become even more complex, and risk and uncertainty will rise. As a result, it would be wise for companies to consider the impact on themselves of existing and future challenges as undoubtedly more complex social change are likely to increase. Given such a scenario, companies should ponder their ability to react and adapt to such changes as without doing so they will become reactive, rather than proactive to changes, both seen and unseen.

For example, if we progress from a single-center national society such as the "Pan-Americana" era to an era of globalization with a multi-centered international society (MCGE), it is assumed that hegemonic nations will no longer exist and a politically and economically flat world will emerge[42]. On the other hand, when ICT and networks evolve, a new industrial society with completely different industrial structures should therefore arrive. For example, social structure transformed as the first industrial revolution fundamentally changed the industrial structure of the 18th century. It is not difficult to imagine that the Fourth Industrial Revolution will also bring about major structural changes. Society may need to change fundamentally the way it works. In anticipation of this new future the Japanese government legislated "Work Style Reform" initiative in 2018. It might well be that as a result of future "natural disasters and pandemic threats", the new normal is telecommuting, remote office, and extended "workcation" which is made up from work and vacation.

42) The process could go through a five-pole process between Japan, the United States, Europe, China, and Russia.

Given the wide potential of influences on future change (known and unknown) it would be unwise to predict the future with any certainty. However, if we consider the three change factors already discussed, it may be possible to predict a few key ares of concern accurately. It seems a convincing argument that there was a fundamental reason that Japanese companies and the Japanese economy could not recover from the Heisei Recession from 1991 to 2011. Everything introduced to bring change during this time were in fact stopgap measures[43]. However, when something changed, it could not be considered that one part was "relevant" and sometimes something "not related" would change. There were root causes that were not identified at the time, due to a number of factors and this created a very unpredictable situation which was difficult to adjust in real time, particularly given the significant negative impact being experienced at that time.

Undoubtedly "progress of globalization" and "progress of ICT and network" have made a substantial contribution to people's daily lives and their ability to pivot and adapt to change. "natural disasters and pandemic threats" have added to these two drivers of changed so there is now a triple convergence of change which may well take global societies in unforeseen directions.

When such events are viewed from a corporate human perspective, only one certain thing can be said. That is that opportunities are generally created for companies, societies and individuals, when the social structure changes. For example, companies and entrepreneurs should consider what kind of business model could be constructed and introduced in response to changes in the business environment. In other words, when a company responds to social changes, the first thing to work on is what kind of business model should they develop, what should

43) Self-deprecatingly,after all, many of the ideas presented by business scholars may be close to this. There is a case where a manager became a management scholar, but a management scholar have never seen a successful case in the business.

they keep from their current model and what should they divest of in the way they do things. What kind of products and services should they develop in the market, and importantly, how should these products and services be delivered, which will indicate the pivot each company will need to achieve in order to deliver on this new consumer opportunity? However, in pandemics, there is not much time to pivot and readjust a large company's business model, and it is not possible to innovate and identify (whilst in the middle or substantial change) which area of the business model should be tackled first in the business. Then, redesigning management models becomes urgent but without clarity as to how to adjust becomes an act of desperation. In other words, in the new normal, the redesign of the corporate model (overall structure of the enterprise) is realized by innovating the management model without going through the process of changing the business model. Needless to say, it is fundamental that the business model and management model are matched, but clarity of how to innovate the management model and evolve the new business models and by what kind of mechanism is undoubtedly a major future problem[44]. The question arises what benefits does the new normal give us. Then, we need to address what kind of business model is required to deliver this and consequently what kind of management and governance model are required in order to deliver it efficiently and effectively at minimal risk to the shareholders and other stakeholders. So, what corporate model should companies adopt? At the present time, the answer is unknown. However, in periods of exponential social change, it may not be easy for both companies and individuals to survive. On the other hand, there are many opportunities, and why is it so difficult to pivot to these new opportunities, those who can prosper and succeed, as the famed and feared British special forces SAS motto suggests "Who dares wins".

44）See Naoto Iwasaki, "Redesign of Corporate Design", Hakuto Shobo, 2012.

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