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BUSINESS MODEL INNOVATION AND STRATEGY AT MITSUI & CO.

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Introduction

After successive years of profit, Mitsui & Co's results in financial year Mar 2016 plunged to a net loss of about USD 834 million¹. Its significance is compounded by the fact that it was the first loss ever recorded in recent decade of Mitsui. Is this a sign of more fluctuations of earnings to come, signaling that the general trading strategy traditionally held by Mitsui for decades is on the wrong footing with reality? "I take [this financial loss] very seriously," said president and chief executive officer (CEO) Tatsuo Yasunaga in his maiden message in Mitsui's 2016 annual report (Mitsui & Co, 2016, p. 8). Adding to this earning fluctuation concern, Mitsui's 10-year share price has been flat. As illustrated in Figure A in Appendix A, including dividends and share splits, an investor putting money into Mitsui in 2007 would get a 10-year return-on-investment (ROI) of 8.6percent by 2017. From Appendix C, it is observed in the profit margin percentage chart that net profit margins throughout the 10-year period were around 3.5 percent to 7 percent, ignoring the loss in 2016. With profit margins at these relatively moderate to low levels, Mitsui's revenue has to improve in order for the profits generated to be grown meaningfully. However, receipts remained relatively flat, with 2016's end-of-year revenue being approximately the same as that of 2007 at about USD 48 billion.

There appears to be an invisible ceiling preventing Mitsui's revenue from moving up further. It could suggest several possibilities, including saturation of its participation in operating markets, or inability to grab larger share of physical commodities due to increasingly competition from developing countries, or change in prices of commodities which Mitsui trades in that might have led to a reduction of revenue at the same volume of trade. In any case, to snap out of these charts of stagnating performances, a business-as-usual attitude will not be very helpful. Tatsuo Yasunaga has to find a way forward.

Conceived around the same time as when Tatsuo Yasunaga took over as president and CEO of Mitsui, the initiative for Mitsui to grow would be summarised by the corporate slogan:

360° Business Innovation

What exactly is 360° Business Innovation? How will a general trading company like Mitsui innovate when it has no manufacturing base? Announced on 24 September 2014 through Mitsui press release (Mitsui Press Release, 2014), "360° Business Innovation" forms the pillar of phase one of Mitsui's branding exercise. The branding exercise boldly claims on Mitsui's website about "how Mitsui is innovating the innovation process" (Mitsui, 2016a). The physical process involved the setting up of Karugamo Works (Mitsui, 2016a) mirroring the Skunk Works² idea (Lockheed Martin, 2017) originated from Lockheed Martin some 70 years ago. Employees spend 20percent of their work hours in a heterogeneous team to think in a complementary and mutually supportive way on innovative business ideas. Some examples of Karugamo Works successes described in the same website page are equity investment into Hampton Creek which has developed plant-based egg substitutes, and investment into Axelspace which produces microsatellites. Those were all

¹ Unless otherwise described due to its significance, all financial figures requiring Yen-to-USD conversion will be based on the ratio 100 Yen to 1 USD for ease of comparisons.

² Skunk Works is a registered trademark of Lockheed Martin. References to Skunk Works here merely support the discussion of the case and do not express any claim on any trademark.

investment ideas generated from Karugamo Works teams. The target investee companies, however, are outside entities prior to Mitsui's investments.

Other than Karugamo Works, employees have been urged to embody the spirit of "360° Business Innovation" through connecting people, businesses and ideas. Masami Iijima, president of Mitsui up till 2015, described it best in his 2015 New Year's message to Mitsui employees (Mitsui Press Release, 2015a) saying that:

But innovation at Mitsui is not limited to technology and ideas. I believe that we can innovate in the way we link one business with another and create new value. And that is exactly what we mean by 360° business innovation.

The belief would be that there are new opportunities within Mitsui's many subsidiary companies and customers of those companies. With 47,000 employees (Yasunaga, 2016) currently spread across all the subsidiary companies, there would be plenty of possible ways to combine strengths and resources to produce new demand or new supply opportunities. In other words, innovation could be based on Mitsui's business services from within.

Can service innovation be the key initiative for Mitsui to move forward? Can such innovation help to grow revenue? Can the innovative outcomes stabilise earnings? These will be some serious questions for which Tatsuo Yasunaga has to have ready answers to steer Mitsui into the increasingly unpredictable future.

Sogo Shosha – Historical ties to Japanese economy and government

Looking through the history of Mitsui would be almost like looking through the economic development annals of Japan (Company-Histories.com, 2000). In the Japanese Edo period in 1673, Mitsui was established when Takatoshi Mitsui founded a fabric drapery store, which has grown into today's premium Mitsukoshi store (Fujita & Danker, 2017). In the two and a half centuries that followed until the start of World War II, the Mitsui store grew into one of the four largest family-held *zaibatsu* in the Japanese economy (Wikipedia, 2016b) along with the establishment of Mitsui Bank in 1876 (Sumitomo Mitsui Banking Corporation, 2017). *Zaibatsu* are essentially vertical monopoly businesses operating in key sectors of the Japanese economy (Beamer, 2017). According to some estimates, until just before World War II, the big four *zaibatsu* controlled some 70percent of Japanese commercial stock exchange (Wikipedia, 2017b). After the war in 1946, most *zaibatsu*, including Mitsui, were seized, eliminated and dissolved (Wikipedia, 2016c). Elements of Mitsui group of companies later reconstituted after 1950s into Mitsui & Co (Wikipedia, 2016b) with the related Sakura Bank, which has evolved from Mitsui Bank, being the central funding source for the group.

In post-war Japan from the 1950s, *sogo shosha* companies like Mitsui helped rebuild the Japanese economy. *Sogo shosha* companies are known as general trading companies, seeking any and all kinds of business opportunities to match supply and demand. Encouraged by the government in resource-poor Japan, *sogo shosha* companies have been importing energy, food and raw materials to power the local manufacturers, and exporting heavy machineries and intermediate goods to gain valuable foreign exchange currencies (Marubeni, 2016). Operating like a middleman, buying and

selling huge quantities of supplies, they profit from price differences, commissions or fees for services rendered (Ryan, 2013, p. 20). In the 1980s, the top nine *sogo shosha* companies had a combined trade volume equivalent to about 65percent of all Japan imports and about 50percent of all its exports (Ryan, 2013, p. 5). Profit margins were thin, but due to the large volume of trades, *sogo shosha* companies prospered as the Japanese economy took off.

After the burst of the asset bubble in early 1990s, *sogo shosha* companies had to restructure their businesses and some had to merge or be bought out. For example, Mitsui and Sumitomo merged their building materials businesses to establish Sumisho & Mitsui Bussan Kenzai Co Ltd in February 2002 (J-CAST, 2004). The role as middlemen has become less viable as more Japanese manufacturers, such as Toyota, become more established with international expansion and need less of *sogo shosha* services. Many *sogo shosha*, including Mitsui (Mitsui Press Release, 2015b), have gradually expanded downstream and upstream. Mitsui has begun a shift to a business strategy of investing, building, and owning resource assets like infrastructure, where applicable, so as to increase business opportunities and profit margins. The Paiton Energy project involving coal-fired power generation plants in Indonesia (Mitsui Press Release, 2015b), the Moatize coal mine in Mozambique (Vale, 2014), and Penske Truck Leasing in the United States (Penske Truck Leasing, 2015) would be some outcomes of that shift in strategy.

Mitsui has 47,000 employees in about 460 companies (Yasunaga, 2016) generating roughly USD 50 billion annual revenue through seven major industrial domains covering energy, iron ore and minerals, food and fertilizers, infrastructure and power plants, transportation, medical and healthcare, and lifestyle and services (Mitsui & Co, 2016). As of March 2017, its market capitalization was roughly USD 30 billion (Bloomberg, 2017). Amongst the top seven *sogo shosha* in Japan, Mitsui ranks second in terms of both total assets and earnings, after Mitsubishi group (Wikipedia, 2016a).

Globalization and protectionism

Globalisation, which took off since 1820s (O'Rourke and Williamson, 2000), has helped open up economies, generate demands for exports, improve trade, and reduce cost of imports. It has, in principle, facilitated the growth of Japan (Matsuba, 2013) and, indirectly, *sogo shosha* companies like Mitsui. A successful ratification of a free-trade agreement like the Trans-Pacific Partnership (TPP) involving 11 Pacific Rim countries including the U.S. and Japan would be a positive boost to Japan's economy. It was no surprise then for Japan's Prime Minister Shinzo Abe to actively promote the TPP both locally within Japan and internationally with the previous U.S. President Barrack Obama up until 2017 January.

But with a stroke of a pen, U.S. President Donald Trump who took office in January 2017, pulled U.S., the world's largest economy, out from TPP, rendering it substantially ineffective. The U.S. action might encourage, or in some cases even force, world economies to become more protective of their markets and generate headwinds to global trading. Country risks appear to have increased after President Trump pursued "American First" policies, even towards Japan which has been the United States' strong ally and trading partner in Asia for many years. Pulling out of TPP and renegotiating North American Free Trade Agreement (NAFTA) (Rampton, Rascoe and Chiacu, 2017), President

Trump's actions could alter worldwide demand patterns, affect supply costs, and indirectly lead to short- to mid-term increase in commodity price fluctuations.

In addition, President Trump's more hardline attitude towards China, and China's potential reactions have heightened uncertainties which could all lead to sudden change in demand and/or supply continuity. Calling China "grand champions" of currency manipulation on 24 February 2017 (Holland and Lawder, 2017) was another salvo to provoke negative Chinese reactions. These occurred against the backdrop of the U.S. being China's top export destination at USD 411 billion in 2015 (Workman, 2017a), and China being U.S.' largest trade-deficit country at USD 366 billion in 2016 (Workman, 2017c). While these could be cause for President Trump's impatience with China trade and could perhaps explain in part China's relatively restrained response so far, things might have been brewing below the surface. If trade war should erupt between the two largest economies in the world, Japan would possibly bear non-trivial amount of collateral damage. The U.S. and China are Japan's top two export destinations in 2016 (Workman, 2017b). A trade war, depending on the degree of severity, scope and duration, could have direct negative consequences and unexpected implications to Japan's economy.

A scenario which the U.S. imposes import tariffs, import quotas, and outright import banning of selected goods would make Chinese goods very expensive and undesirable in U.S. markets. This could incite China to both retaliate the same with drastically reduced purchases of U.S. goods and also flood the worldwide market with huge excess of goods which would otherwise had been exported to the U.S. market. The consequential reduction in transaction volumes and prices of the goods involved would certainly not bode well for traders like Mitsui.

Mitsui's growth, being intricately linked to worldwide developments and demand-supply patterns, could be complicated by these political and country risks, making the need for innovative strategies all the more necessary to steer itself through the uncertain decade ahead.

China

China, the world's second largest economy with a gross domestic product (GDP) of USD 10.736 trillion and about 260percent larger in GDP than Japan in 2015 (Focus-Economics.com, 2017), has been providing the world, and Mitsui, a source of demand of raw materials and a source of supply of large variety of low-cost finished products. Operating almost as the world's factory, China has been importing and consuming huge quantities of minerals, energy resources and raw materials to fuel its export-led economy. Amongst China's top 10 imports (Workman, 2016a) in 2014 (MIT OEC, 2017), for example, mineral products, chemicals, metals and transportation vehicles have been all major domains in which Mitsui trades. On the export side, China's top 10 exports in 2014 (Workman, 2016b) (MIT OEC, 2017) included chemical products, metal and mineral products, all of which are within the domain interests of Mitsui's trading.

Increasingly, however, signs of China's slowing economic growth have begun to show (Staff and Agencies, 2016). Its impacts have rippled across continents, affecting commodity demands, supplies and prices (Mitsui & Co, 2016; Yasunaga & Matsubara, 2016), including inflicting some USD 2.6 billion in impairment losses at Mitsui (Lewis, 2016) in 2016. The increasing risk that this slowing

growth is a sustained trend rather than a temporary flip could force general traders like Mitsui to rethink their commodity ownership strategies ahead.

Mindful of the potential implications of a slowing economy through export-led activities, China has also been gradually transitioning into a consumer-driven economy (Keely and Anderson, 2015). One of the implications could be that China's demand for foreign goods would increase, along with demands for locally produced goods. For traders like Mitsui, it could imply a shift in the kinds of goods to trade in – from manufacturer-oriented raw materials like iron ore and coal to consumer-oriented products and services.

However, selling consumer goods by Japanese firms or with Japanese brands could be tricky given arguments over the ownership dispute of the South China Sea islands, and the deeply ingrained sentiments over historical developments between China and Japan in World War II. According to a 2013 poll by Searchina and Nippon Research Center, two thirds of Chinese boycotted Japanese goods due to the ownership dispute of the islands (Kyodo, 2013). In January 2017, China ordered for a boycott of Japan's APA hotel chain after an escalating row over the hotelier's denial of the 1937 Nanjing Massacre (Griffiths, Ogura, Jiang and Chen, 2017).

If *sogo shosha* trading companies were to consider shifting more into consumer-oriented supplies and services to tap the potentially very large China market, they might have to be superbly innovative to work around sensitive issues to achieve long-term success.

Commodity price volatility and demand fluctuations in the world market

As developing countries progress with new needs for infrastructure development, demands for various infrastructure-related and consumer products naturally increase. This, in turn, leads to further increase in demands for raw commodities like iron ore for steel production, potassium chloride for fertilizers, crude oil for various energy and downstream by-products, natural gas and coal for energy generation. Price fluctuations due to uncertain supplies and competing demands can only intensify as more countries develop their economies. Mitsui trades in all these commodities (Mitsui & Co, 2016).

Swings in demand of commodities and the consequential effects on the logistics on transporting these commodities could present unexpected risks to Mitsui. For example, when Mitsui ordered the construction of the world's largest floating Liquefied Natural Gas (LNG) vessel worth USD 394 million in 2013, the hope was that its size would provide economy of scale to transport huge quantities of LNG via sea. However, in the years that ensued, supplies of onshore gas had increased along with increased shipping competition from smaller vessels with reduced leasing fees (Cooper, Matsuda, Whitley, 2016). Bloomberg estimated that Mitsui's LNG vessel probably would not be getting customers until 2018 (Cooper, Matsuda, Whitley, 2016). It further reported that as smaller vessels were idle or used at only around 30percent of capacity, finding suitable jobs for Mitsui's huge LNG vessel might be hard to come by.

Predicting and timing commodity demands, trends and prices are very tricky exercises, even for seasoned *sogo shosha* companies. Kana Inagaki described in Financial Times on 27 April 2015 that,

“The instincts of Japan’s *sogo shosha* failed them when it came to reading the commodity cycle, with many embarking on a shopping spree for resource assets just as commodity prices were reaching their peaks” (Inagaki, 2015). Mitsui CFO Keigo Matsubara said in an interview published on 6 November 2015 that, “We [Mitsui] aim to expand businesses that are not affected by volatility of commodity prices,” (Reuters, 2015).

Citing weak trends in commodity prices and effects of a slowing China economy, Tatsuo Yasunaga announced and explained in March 2017 the impairment losses of copper projects Acrux and Caserones in Chile (USD 1,150 million), iron ore at Valepar in Brazil (USD 350 million), coal at Mitsui Coal Holdings in Australia (USD 250 million), Liquefied Natural Gas (LNG) at Browse LNG in Australia (USD 400 million), other losses of oil and gas (USD 150 million) and power generation infrastructure (USD 300 million) (Yasunaga & Matsubara, 2016).

Those losses were substantial and widely spread across various commodities. As Mitsui might very likely have to bear the brunt of fluctuating commodity demands and prices possibly in years to come, it could be imperative for Mitsui to first consider innovating itself out of such a victimised financial position than to think about other forms of innovation.

Business problems

Earnings risk and fluctuations

CEO Tatsuo Yasunaga noted in his 2016 Annual Report opening message that,

I recognise that the reason for Mitsui’s net loss was that, above all, we have not made sufficient progress in our efforts to establish an earnings base capable of withstanding these cycles in the commodity market.

One of his key thrusts to work on is to stabilise income sources.

As a conglomerate involving in seven different industrial domains of trading activities, the risk of large earning fluctuations ought to have been minimised to very little. After all, classical corporate finance theories suggest the reduction of risks through diversification. However, an analysis of Mitsui’s annual revenue stream in exhibit E shows that when the bulk of the revenue was derived primarily from several commodities used in various different industries, fluctuations in commodity prices inevitably dictated the bulk of revenue fluctuations. According to the statistically significant multiple regression model developed in exhibit E, as much as 70percent of fluctuations observed in Mitsui’s revenue stream could be accounted for by combinations of fluctuations in commodity prices of iron ore, crude oil, potassium chloride (used mainly as fertilizers) and natural gas.

Doing more businesses in more commodities would not help to even out earning fluctuations. One possibility could be to venture into yet another industrial domain which has counter-cyclical behaviour to smoothen out existing fluctuations. But as discussed in the subsequent sub-section on “Conglomerate: blessing or bane?” it could have more downsides than upside.

A key strategy in terms of contributing to earning stability might as well be to take advantage of the conglomerate's status and experience in rebuilding the economy of Japan by re-applying the same successful model to other under-developed or developing countries. Chief Operating Officer (COO) Hiromichi Yagi mentioned a similar idea in Mitsui's 2016 Annual Report (p. 43). Such a strategy could involve more of infrastructure, transportation, and food trading businesses, which have less exposure to direct commodity price fluctuations, thus helping to meet the objective of stabilising earnings.

Shintaro Ambe, executive vice president, described another strategy in Mitsui's 2016 annual report (p. 43) which could potentially reduce earnings fluctuations:

... we are taking initiatives in businesses that create future demand through collaboration among the gas development, liquefaction (LNG) business and businesses of other key strategic domains.

... we are making concerted efforts in downstream businesses that will lead to the creation of LNG demand.

By creating demand for commodities (LNG in this case), Mitsui could reduce the risk of having to dispose excess commodities in its possession at lower prices due to declining demand. Although this directly addressed the commodity price fluctuation, at least for liquefied natural gas, successful execution of demand generation for the right commodity at the right time would often be challenging. As academics like Meng Zimin from Niigata University already noted in December 2006 in his study conclusion (Meng, 2006, p. 273) that,

For non-manufacturer and non-consumer sogo shosha, it is very difficult to create new business opportunities in upstream and downstream industries. They do not have enough capabilities, time and psychological reserves necessary to anticipate client and market needs in order to create new business.

This would be especially so when Mitsui typically trades commodities at such large quantities which few buyers could absorb. If there were few eligible buyers to begin with, even fewer eligible buyers might want a specific kind of commodity at that specific time and agreeable price which Mitsui would be willing to sell.

Commodity price fluctuations and dependency

As both a buyer and seller of commodities in different industries, Mitsui faces triple assaults of demand uncertainties, supply limitations, and price fluctuations. While it might be possible for a small scale pure buyer or a pure seller to manage their commodity risks through hedging, Mitsui has to solve its commodity risks by either carrying huge amounts of inventories, or going all the way upstream to own perhaps some portions of the manufacturing or raw material sources in order to better manage supply quantities and prices.

Indeed, Mitsui might have managed its commodity risks so successfully that its valuation appears to be too uncomfortably tied to commodity prices.

As illustrated in Figure B in Appendix B, Mitsui's past 10-year monthly average stock price could be modeled with monthly average prices of four commodities: natural gas, crude oil, coal and potassium chloride. About 70percent of fluctuations as observed in Mitsui's monthly average stock price could be explained by the multi-regression model. It simply means that Mitsui's monthly average stock price could be reasonably well predicted by weighted sums of the four-monthly-average commodity prices. This could probably imply that Mitsui has an excessive inventory of these commodities, so much so that fluctuating commodity prices essentially dictate most of Mitsui's stock price.

Another perspective of this observation would be the interpretation of stock price as a valuation of Mitsui's business activities. Most of what Mitsui had done in its business operations did not do much in influencing the monthly average stock price fluctuations. At the most they might account for only less than 30percent of fluctuations of Mitsui's monthly average stock price, not forgetting that there could be other reasons such as stock market trading sentiments and political influences that could inject fluctuations. With this in mind, an investor is inclined to question whether Mitsui is sufficiently value-adding to its investment. Can "360° Business Innovation" initiative help improve this weighted-sum relationship between Mitsui's average monthly stock price and the four commodities? Can the innovation outcome help improve Mitsui's value-adding ability to its stock price?

On the yearly revenue performance variable, exhibit E's analysis illustrates that Mitsui's annual revenue and gross profit depended linearly and positively on potassium chloride's yearly average price. That meant that the higher the yearly average price of potassium chloride, the higher the annual revenue and gross profit for Mitsui. This analysis implies that Mitsui's large net surplus of low cost potassium chloride will be required in large quantities worldwide for agricultural fertilizers and related products. For the agricultural customers to whom Mitsui sells fertilizers, the fertilizer demands can be mostly inelastic. So, when prices of potassium chloride rise, Mitsui's revenue increases along with gross profit. Potassium chloride, thus, has played an important role in the positivity of Mitsui's financial performances. Should Mitsui focus a lot more on this commodity? Can "360° Business Innovation" explore further innovation in this successful commodity to do more for Mitsui?

Mitsui's past annual revenue also had a somewhat negative linear dependency with iron ore's yearly average price- higher iron ore yearly average price tended to give Mitsui lower yearly revenue. In the analysis shown in exhibit E, it is clear that, on average, each dollar increase in average annual iron ore USD price per ton would lead to a drop of USD 169.74 million in Mitsui's annual revenue, all other commodity prices being held constant.

Unlike potassium chloride, that result might hint that Mitsui's competitors were willing to cut prices to outsell Mitsui when iron ore yearly average prices were high, perhaps due to their lower cost environments or better stocking abilities. Mitsui has fared poorly in iron ore market than in potassium chloride market. Should Mitsui gradually reduce activity in iron ore trades and focus resources more on the profitable potassium chloride trades where it appears to have more market advantages? Can "360° Business Innovation" generate ideas to counter Mitsui's weakness in iron ore business?

Mitsui's Business model: B2C?

Mitsui's model has always been to work with businesses. Whether it is business-to-business (B2B), B2B-to-consumer (B2B2C) or business-to-government (BTG), Mitsui has the scale, expertise and in-house resources to operate in those modes. These are also areas where Mitsui's trade financing, logistics arrangements, and knowledge about import and export procedures worldwide added value to businesses in need of such expertise. However, increasingly, such expertise has also become less essential as world trade and the Internet have made more and more governments and companies go digital with their trade processing.

Manufacturers have begun moving downstream, aided by ease of information dissemination and worldwide electronic payments enabled by the Internet. Discovery of information, such as excess supplies and unmet demands, although not completely solved, have become somewhat easier for manufacturing suppliers, production businesses and consumers. The web has turned complex government procedures into openly known steps, hidden suppliers into search-discoverable providers, and uncertain demands into specific information on websites. Mitsui's role as a middleman in general trading activities has been eroded.

Many companies, including post-2000 start-ups, have exploited the inter-connectedness of the Internet with the billions of consumers around the world using B2C models. This would be where Mitsui has not explored. The rise of e-commerce platform contenders like Alibaba and Rakuten could not have gone unnoticed.

Alibaba's single-day sales amounted to USD 17 billion in 2016 – one day alone. This was roughly 30percent of Mitsui's approximately USD 50 billion for the whole year of 2016. Granted, Alibaba's sales were more related to gross merchandise value (GMV), which meant that the "revenue" was accounted for by the hundreds of thousands of participating merchants instead of streaming into Alibaba's account. The commission fees on those GMVs could yield substantial actual revenue for Alibaba even for small fee percentage. It also means reduced financial risk and financing requirements for Alibaba. In 2016, Alibaba's GMV reached 3 trillion Chinese yuan, roughly USD 420 billion with about 423 million active buyers (Alibaba, 2016). In the same year Rakuten in Japan achieved approximately USD 30 billion GMV (Rakuten, 2017a) and generated annual revenue of USD 7.8 billion (Rakuten, 2017b).

Can Mitsui write off B2C companies like Alibaba and Rakuten by assuming that they most likely would not have the expertise and foreign relationships to compete with the likes of Mitsui? In early January 2017, Alibaba's executive chairman Jack Ma met U.S. President Donald Trump discussing plans on job creation through small medium enterprise (SME) e-commerce (Henderson, Alexander, Chiacu and Kearney, 2017), offering the President exactly what he wanted and opening up exactly the possibility of what Alibaba needed in terms of expanding its successful China operations into U.S.

The technology companies have been redefining "trading" – the traditional own-nothing-want-nothing *sogo shosha* style of trading – and will continue to do so. Instead of *sogo shosha* style of buying from and selling to businesses in order to get scale and speed of transactions, the web and

mobile e-commerce have achieved scale and electronic speed easily and could bring meaningful trading relationships directly to billions of consumers. If Mitsui is interested in a few USD billions of projects, should it not explore USD 30 billion GMV worth of the Japanese e-commerce market?

Should Mitsui stick to its B2B2C and B2G models? Or should it explore B2C? This might not be as preposterous as it sounds, since general trading companies possess the agility and resources to move up and down the supply chain. With the continued disintermediation of supply chain by global Internet and mobile trends, Mitsui has a very strong need to innovate its business model. With “360° Business Innovation” as the slogan, can it offer innovation in business model and strategy that would open up new chapter of growth for Mitsui?

Conglomerate: blessing or bane?

It will be very difficult to form a conglomerate in modern days. If it is possible to obtain investor’s money, the justification for taking the money will almost always have to be focused on just one purpose. But justifying investor’s money for more than one objective will invite questions about the need for so much money for so many objectives or doubts about the ability or probability to achieve multiple objectives.

However, for historical reasons, Mitsui has been operating in multiple industrial domains, all of which have formed non-trivial parts of Mitsui’s general trading operations (Company-Histories.com, 2000). With seven industrial domains ranging from iron ore, crude oil, natural gas, to fertilizers, hospitals and transportation all operating at reasonably healthy and sizeable levels currently (Mitsui & Co, 2016), Mitsui can be considered blessed, enjoying diversification of revenues and risks, as well as possible cross-domain synergies and opportunities.

But there will always be two sides to a coin. Has Mitsui been really performing at its optimal level with its conglomerate operations? A conglomerate like Mitsui has diversified revenue streams and ought to have relatively more stable earnings. However, as discussed in earlier sub-section on earnings risk and fluctuations, Mitsui is worried about its earnings stability. Its high dependence on the trades of several volatile commodities has weakened its earning stability advantage often associated with conglomerates.

What about the question on the best use of financial capital? With its capital split into seven domains to support the working capital required in each of the industrial domains, the ability for each of the domain to innovate and expand further might be self-limiting due to lack of timely funding support. Competing internal demands for funding from the seven domains could lead to prioritisation which might eventually not be optimal for any of the domains.

It will also be reasonable to question the best use of human capital. Inevitably, some domains will be profitable while others would not. In Mitsui’s financial year 2016, for example, four out of seven domains were profitable while the rest lost money, according to its annual report. The profitable domains could not have done more as money and employees were tied up in other domains. The money-losing domains are not only a drain on Mitsui’s resources - both money and people, but also require extra management attention. With each domain having its own complexity and requisite

depth of knowledge, it will be a tall order for management to be conversant with the intricacies of all seven domains to begin with. Can all management personnel be conversant with all seven domains? If “360° Business Innovation” initiative expects all 47,000 employees to connect and explore innovation within Mitsui’s group of companies operating in these seven domains, will it not be necessary for employees to develop some level of competencies in all seven domains in order to effectively explore cross-domain opportunities?

In addition, to constantly pursuing shareholder’s value creation, conglomerates must often question whether their value as conglomerates exceeds the sum of their business units; if the sum of their stand-alone business units is worth higher, it will make more sense to split the business units that can fetch higher values through usual disposal methods like initial public offering (IPO) or corporate sales for the purpose of achieving higher shareholder’s value. According to Aswath Damodaran of New York University Stern School of Business, evidence seems to suggest that conglomerates are valued significantly lower than the sum of their stand-alone business unit valuations (Damodaran, 2004). The reasons he cited were the lack of focus and poor management (Damodaran, 2004).

Losing the earning stability advantage of being a conglomerate but keeping the depressed shareholder’s value, Mitsui appears to have reaped not much advantage while experiencing many of the disadvantages of remaining as a conglomerate. Can innovative ideas from “360° Business Innovation” exploit Mitsui’s conglomerate status and help extract more value, revenue and business opportunities from Mitsui’s seven industrial domains?

Response Appropriate?

Mitsui has delivered “360° Business Innovation” in response to a realization that business-as-usual would not be the right thing to continue under an increasingly changing business environment with disruptive technologies being introduced more and more frequently and unexpectedly. Under “360° Business Innovation”, past and present Mitsui CEOs (Mitsui Press Release, 2015a; Yasunaga, 2016) have urged employees to explore and connect more people and businesses so as to generate new ideas. However, questions on whether such an interpretation of innovation will be impactful to Mitsui’s future financial performances yet have to be answered.

The underlying assumption of enacting “360° Business Innovation” has been that there are large unfulfilled gaps of needs and demands amongst the 460 companies (Yasunaga, 2016) wholly- or partially-owned by Mitsui. If so, having better connections amongst the 47,000 employees working in the 460 companies to uncover latent unfulfilled customer demands would be an excellent idea. But can Mitsui depend on this for the next leap in financial performance? To be certain, such gaps in demands should amount to at least some additional tens of billions of dollars in annual revenue to Mitsui for them to be realistically meaningful. Should there actually be such huge untapped latent opportunities within the Mitsui group of companies, will it not be possible for employees or management to discover such needs even without the call for “360° Business Innovation”? In other words, would a special call for employees to execute “360° Business Innovation” in the form of connecting more people, businesses and ideas uncover several extra tens of billions of dollars of future revenue which otherwise could not be uncovered?

The inward-looking posturing as embodied in the way the “360° Business Innovation” slogan can end up creating less of an impact than what the slogan might inspire. In the two examples about Hampton Creek’s plant-based egg substitute and Axelspace’s microsatellites cited as successes of “360° Business Innovation” (Mitsui, 2016a), Mitsui invested in later stages of these companies’ development³ after employees had brainstormed during Karugamo Works and identified these as appropriate investment targets. Such investment-target short-listing only filtered whatever innovations which were present at the time of evaluation. Identifying a company for investment hardly constitutes the true meaning of the word “innovation”. Even if the word “innovation” were to be re-interpreted as “discovery” or “identification”, would the financial returns of these adventurous detours be impactful to Mitsui given its strong financial dependency on commodity prices (Exhibits B, E) and high exposure to various sources of risks?

Given Mitsui’s deep-rooted operating mode as a general trader who would provide various services such as financing, logistics or risk-hedging in order to perform a transaction deal, “innovation” could not be taken the same way as what innovation would mean in, for example, Japanese technology giant Fujitsu’s case or American technology giant IBM’s case.

For example, Fujitsu produced the world’s fastest CPU “Venus” in 2009 and went on to break that record with the “K” computer in 2011. IBM has had decades of world-leading technological innovations, from the earlier mainframe computer in the 60s’ and personal computers (PC) in the 70s’ to the record-breaking Sequoia computer in 2012. Its Watson technology gained instant worldwide fame by beating former human champions in Jeopardy! Show in 2011. The innovations have made strong impacts to the world and people.

But whether sticking to the true definition of “innovation” or not is not as important as perhaps asking whether “360° Business Innovation” will deliver significant contribution to Mitsui’s financial performance, for example, in revenue growth and earnings stability.

Final Remarks

The own-nothing-want-nothing style of traditional *sogo shosha* is long known to be over. Trading on ownership of huge volumes of commodities was good for a while in the 1990s when commodity prices were climbing steadily. But that strategy was beginning to crumble as commodity prices fell and volatility increased. Mitsui’s record loss of USD 834 million in financial year ended in March 2016 (Mitsui & Co, 2016) is probably an unmistakable signal that seasoned risk-managing general trading houses like Mitsui could still misread the commodity markets (Inagaki, 2015). Mitsui has to innovate itself out of being trapped in commodity cycles and volatilities, which have led to major financial concerns like stagnant revenue growth and earnings volatility.

But as exhibit E illustrates, if Mitsui’s annual revenue stream so far is well-predicted by a suitably chosen multi-variable model involving just several commodity prices, a significant breakthrough in Mitsui’s revenue can be difficult if nothing significant in Mitsui’s businesses changes. In addition,

³ In the case of Axelspace, there were some discrepancies in descriptions between Mitsui and Axelspace. Mitsui described itself as having invested in Axelspace in 2015 September (Mitsui, 2016a). But Axelspace’s website in “About Us” described Mitsui as one of several collaborating business partners (Axelspace, 2017).

volatility of commodity prices has shown no signs of subsiding in the years to come due to many factors affecting business cycles of supply and demand patterns (CommodityFACT.org, 2017). With a revenue stream so closely tied to commodity prices, Mitsui's goal of achieving earning stability can be very challenging to begin with.

But these challenges will be exactly where "360° Business Innovation" could deliver. If "innovation" means creating something which has not yet existed, then creating revenue growth and creating earning stability for Mitsui can arguably be interpreted as "business innovations". 2017 is just the second year after the announcement of the branding exercise calling for a more innovative Mitsui. There is still time to further expound on how innovation can help Mitsui further its growth and what "360° Business Innovation" should deliver. CEO Yasunaga may not want to miss this window of opportunity.

End-of-Case Questions

Question 1

What have been the difficulties and challenges faced by Mitsui?

Question 2

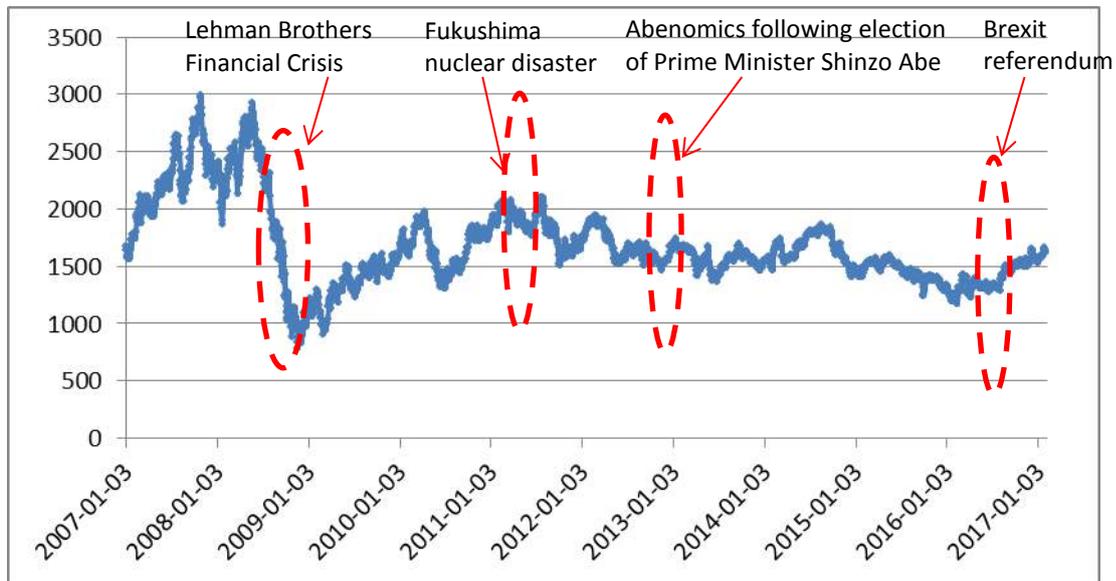
How appropriate and effective has the "360° Business Innovation" initiative been to Mitsui?

Question 3

Explore and discuss the possibility of using a corporate-wide exercise like "360° Business Innovation" to make Mitsui future-ready.

Appendix A

Mitsui's 10-Year Share Price Performance



Raw Data Source: Yahoo Finance,

<http://finance.yahoo.com/quote/MITSY/history?period1=808675200&period2=1486224000&interval=1d&filter=history&frequency=1d>
(Accessed on: 2017 Feb 05). Graphics and annotation were originally produced in this case article.

Figure A – Mitsui Share Price for the Past 10 years

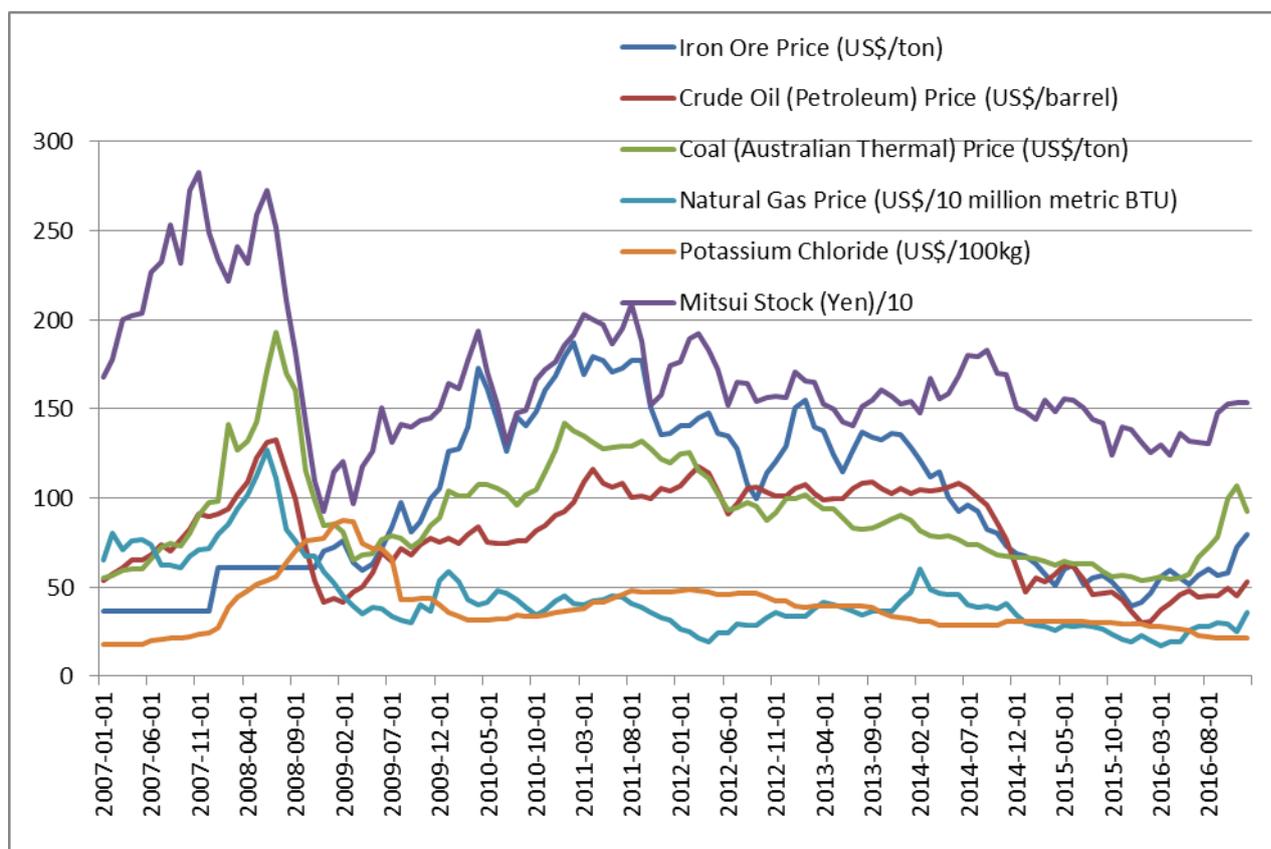
The graph above shows time series of Mitsui & Co American Deposit Repository (ADR) closing price performance converted from USD to yen. According to data source Yahoo Finance, closing prices have been adjusted for dividends and share splits.

Source data is in ADR USD. Using 1 ADR = 20 common shares to convert to share price, and a standardized USD-to-yen exchange rate of 100 yen to 1 USD to get share price in yen, we have obtained the above share price time series graph.

In particular, ADR-equivalent share price was 1676 yen on 03 January 2007 and 1532 yen on 03 January 2017 ten years later. An investor investing into Mitsui on 03 Jan 2007 would get a 10-year return-on-investment (ROI) of *−8.6percent*.

Appendix B

Commodity Price Fluctuations Compared with Mitsui Stock Price



Raw Data Source: Yahoo Finance, <http://finance.yahoo.com/> (Accessed on: 2017 Feb 05)
 Raw Data Source for all commodity prices: IndexMundi.com, (Accessed on: 2017 Feb 05)
 Iron Ore: <http://www.indexmundi.com/commodities/?commodity=iron-ore&months=120>
 Crude Oil: <http://www.indexmundi.com/commodities/?commodity=crude-oil&months=120>
 Coal: <http://www.indexmundi.com/commodities/?commodity=coal-australian&months=120>
 Natural Gas: <http://www.indexmundi.com/commodities/?commodity=natural-gas&months=120>
 Potassium Chloride: <http://www.indexmundi.com/commodities/?commodity=potassium-chloride&months=120>
 Graphics and annotation were originally produced in this case article.

Figure B – Commodity Price and Mitsui Stock Price Fluctuations

The composite graphics chart above compares the time series of various major commodity prices which Mitsui traded in with Mitsui’s stock price (in yen and divided by 10 so as to make the y-axis price scale comparable).

Using the above data, a correlation table of Mitsui monthly average stock price with each of the five commodity monthly prices was developed to detect signs of linear dependencies. The resulting correlation table is shown below:

Correl(Mitsui, Oil)	0.529069
Correl(Mitsui, Coal)	0.482985
Correl(Mitsui, Natural Gas)	0.668551
Correl(Mitsui, Potassium Chloride)	-0.24495
Correl(Mitsui, Iron)	-0.03876

Taken into account the various activities in each of the seven industrial domains in which Mitsui operated, the correlation table reveals a rather strong linear dependency between Mitsui monthly average stock price with natural gas. Although to a slightly lesser degree, Mitsui monthly average stock price also correlated rather strongly with oil and coal.

Given Mitsui's conglomerate nature operating mostly in matured industries involving energy and chemicals, investors will be likely to value Mitsui's stock price predominantly on its net assets. The strong correlation between Mitsui's monthly average stock price with natural gas, oil and coal reveals a possible large inventory of these energy commodities, so much so that the fluctuations in Mitsui's stock prices in general are influenced primarily by these commodity prices. While this is not be surprising given Mitsui's operating activities in these industries, it is startling that for a general trading company which operates based on buying and selling, the strong correlations can imply that Mitsui has been accumulating perhaps relatively excessively large stocks of natural gas, oil and coal.

Using multiple regression test predicting Mitsui's monthly average stock price with the four component variables, namely, the monthly average commodity prices of natural gas, oil, coal and potassium chloride, the resulting model below shows very strong statistical significance with a p-value of essentially 0.0000 and all four variables being highly significant at 1percent level:

```
Call:
lm(formula = d$Stock ~ d$NaturalGas + d$CrudeOil + d$Coal + d$PotassiumC
hloride)

Coefficients:
                Estimate Std. Error t value Pr(>|t|)
(Intercept)    1078.4805    75.9243   14.205 < 2e-16 ***
d$NaturalGas      9.4585     0.9964    9.492 3.95e-16 ***
d$CrudeOil       3.8682     1.0242    3.777 0.000253 ***
d$Coal           2.9333     1.0382    2.825 0.005569 **
d$PotassiumChloride -10.3306    1.3300   -7.767 3.67e-12 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 203.3 on 115 degrees of freedom
Multiple R-squared:  0.7104, Adjusted R-squared:  0.7003
F-statistic: 70.51 on 4 and 115 DF,  p-value: < 2.2e-16
```

The resulting model is:

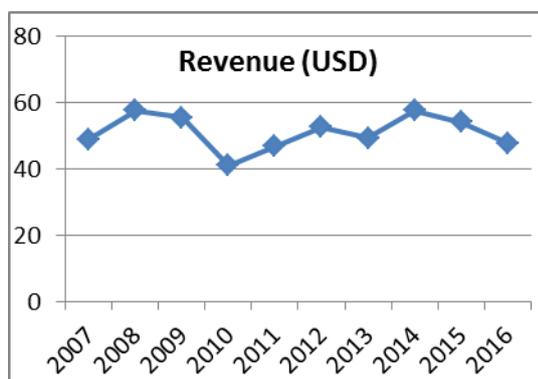
$$Stock = 1078.4805 + 9.4585 \times NaturalGas + 3.8682 \times CrudeOil + 2.9333 \times Coal - 10.3306 \times PotassiumChloride$$

where *Stock* is Mitsui monthly average stock price in yen, *NaturalGas* is USD natural gas price per 10 million British thermal unit (BTU), *CrudeOil* is USD crude oil price per barrel, *Coal* is USD Australian thermal coal price per ton, and *PotassiumChloride* is USD potassium chloride price per 100 kg.

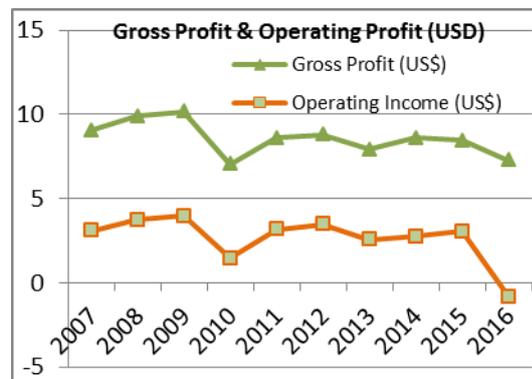
With a high adjusted R-squared value of 0.7003 and a model p-value of 0.0000, the multi-regression model can explain approximately 70percent of the fluctuations observed in Mitsui stock price.

Appendix C

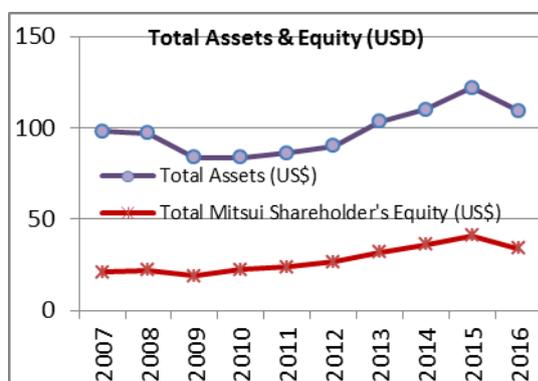
Mitsui Financial Performance



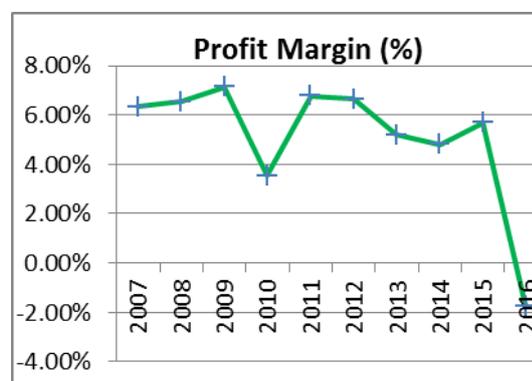
Source Data: Mitsui Annual Report 2016. Vertical axis was shown in billions of USD. Graphics and annotation were originally produced in this case article.



Source Data: Mitsui Annual Report 2016. Vertical axis was shown in billions of USD. Graphics and annotation were originally produced in this case article.



Source Data: Mitsui Annual Report 2016. Vertical axis was shown in billions of USD. Graphics and annotation were originally produced in this case article.

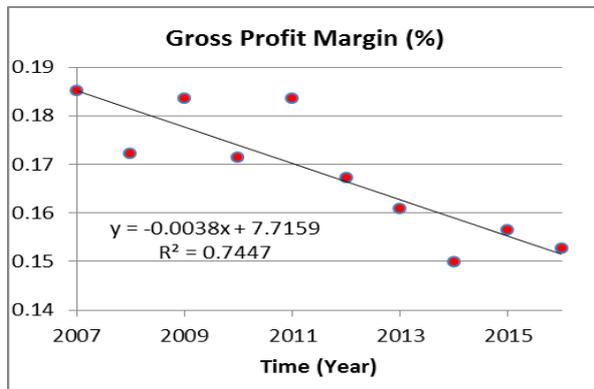


Source Data: Mitsui Annual Report 2016 providing 10-year operating profit and revenue from 2007 to 2016. Profit margin percentages were derived in this case article by dividing operating profit by revenue. Graphics and annotation were originally produced in this case article.

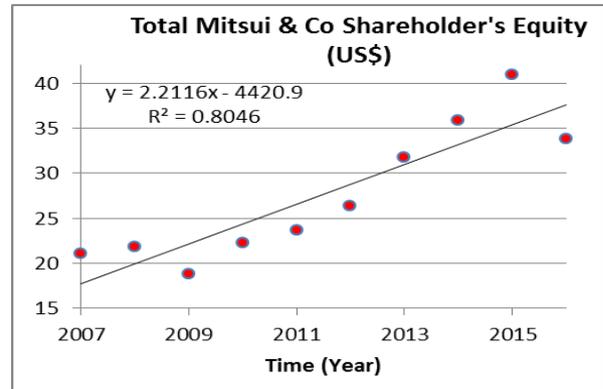
The graphic charts above show Mitsui's financial performance from 2007 to 2016 with data obtained or derived from Mitsui's 2016 Annual Report. All monetary values are in billions of USD.

Appendix D

Analysis of Mitsui Key Financial Variable Time Series



Source Data: Mitsui Annual Report 2016. Graphics and annotation were originally produced in this case article.



Source Data: Mitsui Annual Report 2016. Vertical axis was shown in billions of USD. Graphics and annotation were originally produced in this case article.

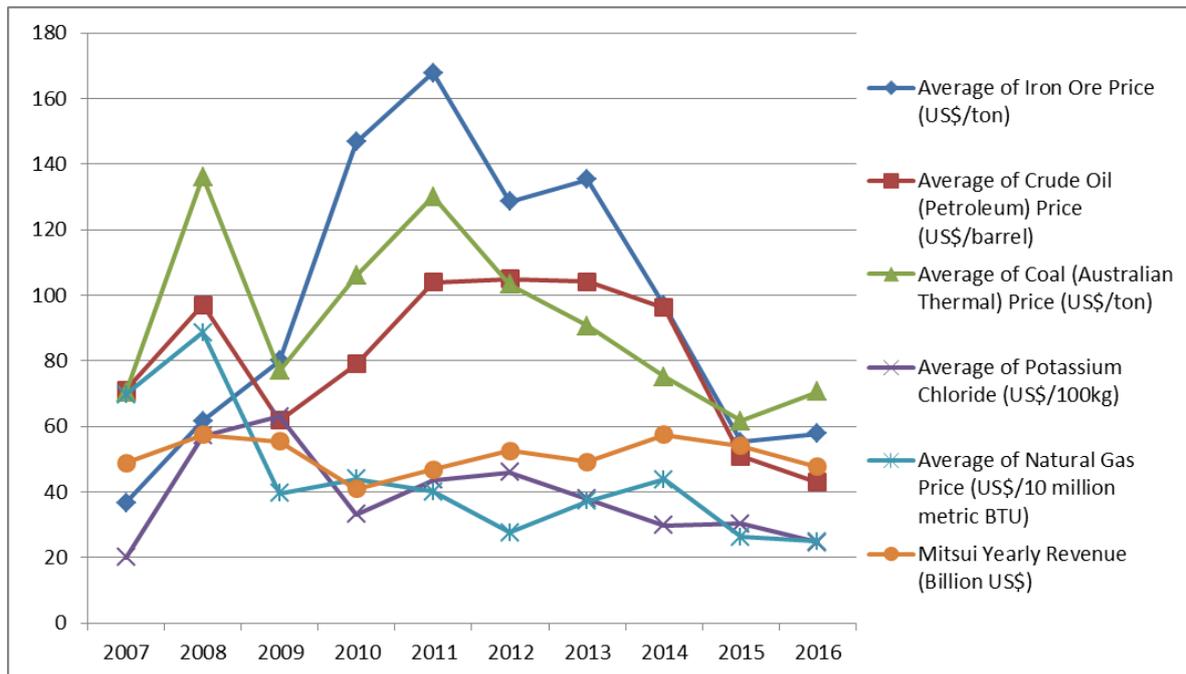
Correlation analysis of Mitsui's operating financial performance with time highlighted two results:

- Gross profit margin dropped, on average, by 0.38 of a percent on a yearly basis
- Shareholder's equity increased, on average, by USD 2.2116 billion annually

The graphic charts above show Mitsui's operating gross profit margin and shareholder's equity from 2007 to 2016 with values taken from Mitsui's 2016 annual report. All monetary values are in billions of USD.

Appendix E

Commodity Price Fluctuations Compared with Mitsui Revenue



Source Data: Mitsui revenue from Mitsui annual report 2016.

Raw Data Source for all commodity prices: IndexMundi.com, (Accessed on: 2017 Feb 05)

Iron Ore: <http://www.indexmundi.com/commodities/?commodity=iron-ore&months=120>

Crude Oil: <http://www.indexmundi.com/commodities/?commodity=crude-oil&months=120>

Coal: <http://www.indexmundi.com/commodities/?commodity=coal-australian&months=120>

Natural Gas: <http://www.indexmundi.com/commodities/?commodity=natural-gas&months=120>

Potassium Chloride: <http://www.indexmundi.com/commodities/?commodity=potassium-chloride&months=120>

Graphics and annotation were originally produced in this case article.

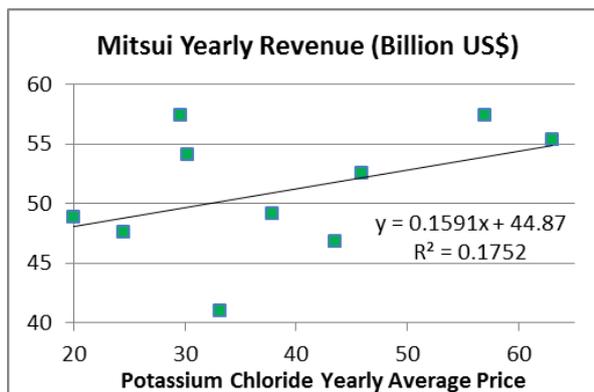
Figure E – Commodity Price and Mitsui Revenue Fluctuations

Mitsui’s 10-year revenue extracted from Mitsui’s 2016 annual report was cross-examined with five major commodities in which Mitsui traded directly or indirectly, namely, iron ore, crude oil, coal, potassium chloride and natural gas. To facilitate comparison and analysis, each commodity’s daily price throughout the year was averaged to give an annual average price.

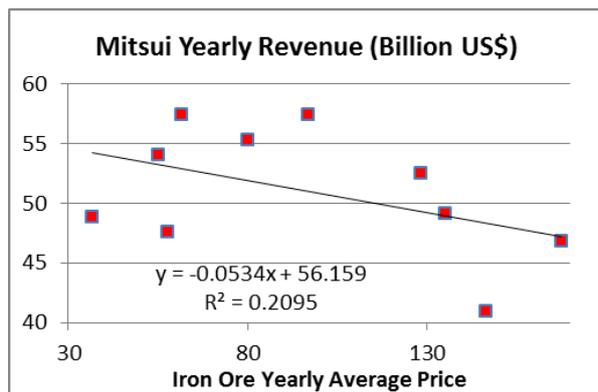
A correlation analysis was performed to reveal pairwise dependencies between each commodity with each of Mitsui's financial operating performance variable extracted from Mitsui's 2016 annual report.

Mitsui's Operating Performance	Average of Iron Ore Price (US\$/ton)	Average of Crude Oil Price (US\$/barrel)	Average of Coal (Australian Thermal) Price (US\$/ton)	Average of Potassium Chloride (US\$/100kg)	Average of Natural Gas Price (US\$/10 million metric BTU)
Revenue (Billion US\$)	(0.4577)	0.0823	(0.1174)	0.4186	0.2318
Gross Profit (US\$)	(0.3427)	0.1539	0.1581	0.6684	0.4984
Operating Income (US\$)	0.0545	0.4782	0.2802	0.5889	0.3839
Gross Profit Margin (%)	0.1150	0.1523	0.3923	0.4081	0.4411
Profit Margin (%)	0.1655	0.5229	0.3233	0.5314	0.3630
Total Assets (US\$)	(0.5297)	(0.3772)	(0.5847)	(0.5465)	(0.2050)
Total Mitsui & Co Shareholder's Equity	(0.1568)	(0.2446)	(0.5182)	(0.5085)	(0.5419)
Net Interest bearing Debt (US\$)	(0.7926)	(0.5174)	(0.7086)	(0.4940)	0.0407

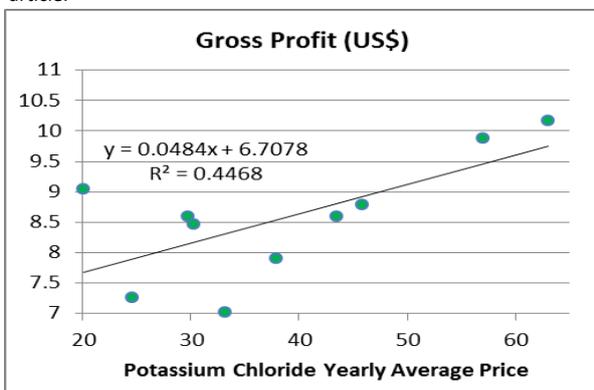
The analysis showed that Mitsui's revenue was closely related to iron ore and potassium chloride prices. Iron ore prices also related negatively with net interest-bearing debt. Another notable dependency was observed between gross profit and potassium chloride. Their regression plots were shown below.



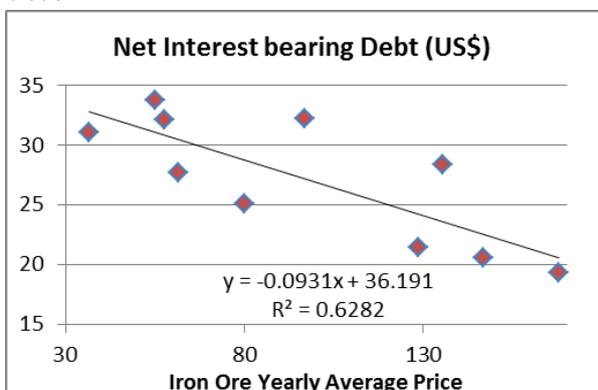
Source Data: Mitsui Annual Report 2016. Vertical axis showed billions of USD. Horizontal axis showed units of USD. Graphics and annotation were originally produced in this case article.



Source Data: Mitsui Annual Report 2016. Vertical axis showed billions of USD. Horizontal axis showed units of USD. Graphics and annotation were originally produced in this case article.



Source Data: Mitsui Annual Report 2016. Vertical axis showed billions of USD. Horizontal axis showed units of USD. Graphics and annotation were originally produced in this case article.



Source Data: Mitsui Annual Report 2016. Vertical axis showed billions of USD. Horizontal axis showed units of USD. Graphics and annotation were originally produced in this case article.

```

Call:
lm(formula = d$Revenue ~ d$IronOre + d$CrudeOil + d$PotassiumChloride +
    d$NaturalGas)

Coefficients:
                Estimate Std. Error t value Pr(>|t|)
(Intercept)      47.86812     4.10196   11.670 8.12e-05 ***
d$IronOre        -0.16974     0.03978   -4.267 0.00796 **
d$CrudeOil         0.23328     0.07491    3.114 0.02642 *
d$PotassiumChloride 0.20167     0.07559    2.668 0.04446 *
d$NaturalGas     -0.16260     0.07023   -2.315 0.06845 .
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 2.929 on 5 degrees of freedom
Multiple R-squared:  0.8289, Adjusted R-squared:  0.692
F-statistic: 6.056 on 4 and 5 DF,  p-value: 0.0372

```

A multiple regression model was developed to establish a multi-variable model to predict Mitsui's revenue performance. The resulting model is:

$$\text{Revenue} = 47.86812 - 0.16974 \text{ IronOre} + 0.23328 \text{ CrudeOil} + 0.20167 \text{ PotassiumChloride} - 0.16260 \text{ NaturalGas}$$

where *Revenue* is Mitsui annual revenue in billions of USD, *IronOre* is average annual iron ore price per ton in USD, *CrudeOil* is average annual crude oil price per barrel in USD, *PotassiumChloride* is average annual potassium chloride per 100 kg in USD, and *NaturalGas* is average annual natural gas per 10 million metric British thermal unit (BTU) in USD.

The multi-regression model using commodity prices to explain Mitsui's annual revenue was statistically significant at 5percent level and has the ability to explain roughly 70percent of Mitsui's annual revenue fluctuations.

The four commodity prices which significantly dictated Mitsui's past 10-year revenues were iron ore, crude oil, potassium chloride and natural gas. On the positive side, the higher the prices for crude oil and potassium chloride, Mitsui's annual revenue tended to be also higher. On the negative side, the higher the prices of iron ore and natural gas, the lower was Mitsui's annual revenue.

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