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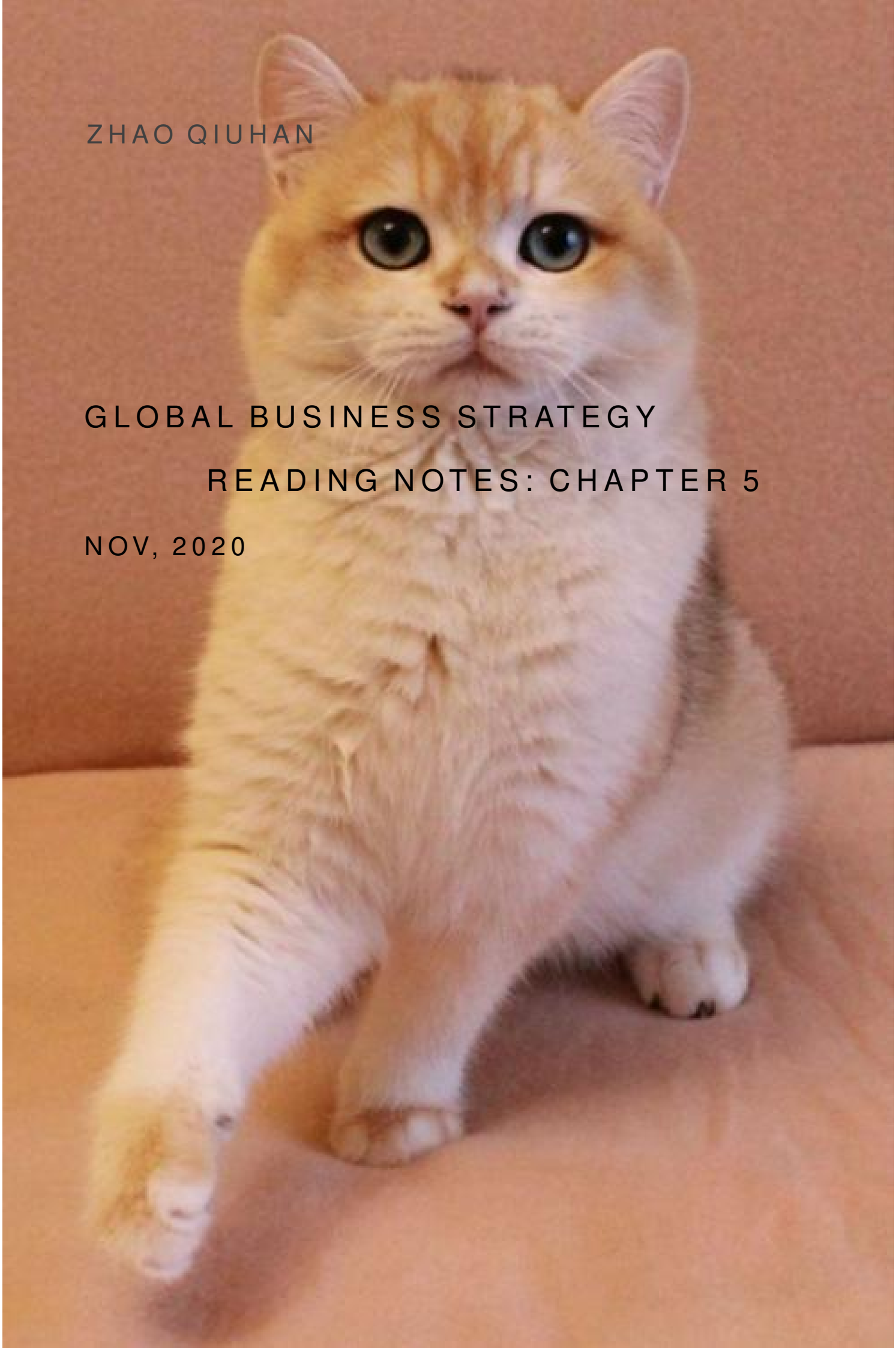

GLOBAL BUSINESS STRATEGY

READING NOTES: CHAPTER 5

NOV, 2020

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Chapter5: New Business Model as Response to Competition from Emerging Economiies

Topics to be covered:

- Business (Technology Management) Strategy.
- Product Architecture and difficult to catch-up business model.
- Global Infrastructure business as an example of complex system.
- Business planning: practical guide and introduction to global business competition.

1.1 Emergence of Threats Associated with Rise of Emerging Economies

- Threats:

Low economic growth among developed countries, including Janpan, because of decreasing population growth rate, with no future prospects for large market expansion. More, high rate of economic growth in developing countries can be understanded as "catching up technologically" and "adopting modern management techniques", which means a high rate of technological innovation. (e.g. Tasks in pp. 77-78)

- For Japan to respon to threats

- Not only technological advancement but also the overall **business model**.
- Basic concept: (X)Good-enough products and they will sell. (O)**maximizing value creation for customers** and **product and service design that is difficult to replicate**.
- Partnership with local companies.

1.2 Moving from a "Product-Centric" to a "Customer Value Model"

"Make good products and they will sell" comes from the supply side. From the prospective of "The Innovator's Dilemma [1]", it will lose its effectiveness when the products exceed the level of customer technology demands. (Analysis of demanding first. e.g. Windows, pp. 79) –> Markets in developing countries, companies must switch from "product-centric strategy" to "customer value model [2]".

[1] Christensen

[2] **Service-Centered Logic for Marketing**. Vargo, S. L., & Lusch, R. F. (2004). Evolving to a new dominant logic for marketing. Journal of Marketing, 68 , 1–17.

1.3 Product Architecture and Technological Catch-Up

Product architecture is typically of two types: **Modular** and **Integral**. **Modular Architecture:** little mutual dependencies and structures among each parts. So, for competitor, it is easily to finish some parts of a product according to external sources. By contrast,

Integral Architecture: highly mutual dependencies among parts, which creates a higher entry barriers for companies from develping countries.

In terms of Technological Catch-Up, products with an interated architecture make it difficult for companies in developing countries to catch up. On the contrary, the lower level of complexity, which means difficulty in imitation, the more difficult in the size of value added (Slide -> Product architeture and value creation, e.g. Driving forces).

1.4 Business Models That Are Difficult to Be Imitated

To conclude, this section takes PCs and airplane for instance, talking about two different modules respectively – Modular & Integral.

Products with highly modularized architectures are difficult to technologically differentiate, making it diffi cult for companies came from developed countries to compete against low-cost strategies adopted by companies in developing countries. In another word, it is easily be imitated. But, Greater modularization allows a faster pace of technological **innovation** because the modules encapsulate information inside and enable technological progress regardless of the status of other modules.

By moving from a **business model** based on outright sale of products to one based on **customer service** as system integrators, will enable these companies to build competitive advantage over companies from developing countries.

1.5 Infrastructure Exporting as a Systems Integration Business

Infrasture investment between 2011 & 2020 in Asia is emnormous, of which 51% is energy related, 31% to be transportation related, 13% to be telecommunications related, and 5% to be water and hygine related [3].

Public-private partnerships (PPPs). (Why government needs PPP?) management by specialized business is more effcient; moreover, it is more convient and effective in incorporating taxes. (Why governments in developing countries aren't in this way?) Cause they lack the expertise and financial resources to efficiently manage such large-scale public services and mitigate the gap between infrastructure supply and demand.

PPP for infrastructure services often operate within a build, operate, and transfer (BOT) system. PPPs for infrastructure services are large, complex systems that involve many different parties over a long period of time. (CASE: pp. 88-89)

[3] **Ministry of Economy, Trade, and Industry (METI)**. (2010, August). White Paper on International Economy and Trade 2010. Tokyo: Ministry of International Trade and Industry.

1.6 Appendix: NPV and IRR

Net Profit Value (NPV) is defined as the algebraic sum of the **present value** of cash outflow paid by the investment and the

present value of the cashflow generated by the investment.

C_{I_i} means the cashflow in year i, C_{O_i} reprensts the cash outflow in year i. $i \in [0, n]$. k_i represents the discount rate in year i.

Generally:

$$NPV = \sum_{i=0}^{n} \frac{C_{I_i} - C_{O_i}}{(k_i + 1)^i} \tag{1.1}$$

One-time investment:

$$NPV = \sum_{i=0}^{n} \frac{C_{I_i}}{(k_i + 1)^i} - C_O \tag{1.2}$$

The construction period is $i = 0- > s$:

$$NPV = \sum_{i=s+1}^{n} \frac{C_{I_i}}{(k_i + 1)^i} - \sum_{i=0}^{s} \frac{C_{O_i}}{(k_i + 1)^i} \tag{1.3}$$

when the investment is equal in s year:

$$NPV = \sum_{i=s+1}^{n} \frac{C_{I_i}}{(k_i + 1)^i} - \frac{1}{s} \sum_{i=0}^{s} \frac{C_O}{(k_i + 1)^i} \tag{1.4}$$

Internal Rate of Return (IRR). In this conception, **discount rate** k is constant, defined as:

$$\exists k, \qquad s.t. \quad NPV = 0 \tag{1.5}$$

Thus, if the investment C_I is in one-time, **IRR** can be solved as higher order differential equation:

$$NPV^0 = C_I - \sum_{i=0}^{n} \frac{C_{O_i}}{k + 1^i}$$

$$\xrightarrow{NPV^0 = 0} C_I = \sum_{i=0}^{n} C_{O_i} * (k+1)^{-i}$$

$$\xrightarrow{y = (k+1)^{-1}} C_I = \sum_{i=0}^{n} C_{O_i} * y^i$$

End of Chapter 5