

東亞發展中經濟體行動電話產業政策與研發策略之比較研究

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中文摘要

近年新興開發中國家經濟快速成長，廣受全球矚目。開發中國家以龐大市場規模與低廉勞動成本之利，吸引全球資金與國際大廠的目光。另一方面，自 1996 年全球主要國家及地區陸續推動電信自由化後，以往國營獨占的局面逐漸被打破，許多新通訊技術與服務不斷為業者所推出，並得以進入一般民眾的生活領域，通訊產業無疑已成為動輒左右全球景氣榮枯的指標，因此全球主要 IT 大廠均投入相當的人力、物力、財力來搶攻行動電話這塊市場大餅，世界各主要國家也希望透過產業政策的手段來達到扶持國內行動電話製造商的目的。

而根據 Lessard (2003) 關於「產業國際化潛力」的分析模型，行動電話與網路設備產業是一個典型的國際化產業。在這種具有國際化特徵的產業中，那些因跨國經營而享有規模經濟的國際企業相對於任何一個國家的本土企業都擁有難以逾越的優勢，因此本研究試圖以東亞主要開發中國家在行動通訊產業的發展為例，為後進業者歸納出如何達到「後發先至」的效果。

本論文之研究範圍，包括東亞地區主要行動通訊服務商、行動電話品牌商、通訊設備製造商、通訊設備代工廠商等。並以中國大陸、南韓、台灣地區為主要分析課題，歸納出各種不同的成長模式：

一、南韓模式：以高度垂直整合為基礎架構，同時藉由通訊設備、通訊服務需要高度互動特性，來達到在地化的優勢。而行動電話廠商則在有限的研發資源上，藉由提高研發效率來拉近與領先業者之間的差距。

二、中國大陸模式：以龐大本土市場規模為籌碼，以政府產業政策做股權、生產權、銷售權等限制來逐步吸引外資進入，以構建自有技術能量。而在成長策略方面，其模式為先將本土廠商品牌規模建立，再追求自有研發與製造能力之突破。

三、台灣模式：台灣代工廠商以 PC 代工為基礎架構進行微調，針對通訊產業缺乏共通標準的產業生態下，發展出趨近於一對一的 ODM 代工模式，在有限的研發資源投入下，以補足代工夥伴在產品線上的不足，作為其研發策略。除使代工關係更為緊密，亦可與代工夥伴在技術能力上同步成長。

關鍵詞：通訊產業、電信產業政策、開發中經濟體、研發活動、研發效率

A Comparative Study of Cellular Phone Industry Policies and Innovation Strategies in East Asian Developing Economies

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ABSTRACT

The production of more and more basic goods and services, even IT product are being transferred from the high-wage economies of the North to the low-wage economies of the South. Organizations are increasingly turning to outsourcing in an attempt to enhance their competitiveness due to globalisation, especially in IT industry. Through outsourcing, manufacturing costs as well as investment in plants and equipments can be reduced.

On the other hand, the researcher (Lessard 2003) also indicated that the typically international industry has some characteristics such as economy of scale, comparative advantage, and so on. In the ICT industry, due to globalisation and the trend in world trade, major cellular phone makers, Nokia and Motorola, sell their phones in most of countries with advantage of economies of scale and a firm's comparative advantages. For latecomers, in order to compete with foreign leading companies, they should take advantage such as economy of scale or market niche expect policy protection. Therefore, this paper tries to find out the benchmark and developing models for developing economies. Our research target focuses on the cellular phone industry in East Asian developing economies including China, Korea, and Taiwan.

China's mobile industrial policy has affected the development of its mobile industry as a whole. China focuses on extending domestic vendors' market share by combining the industrial policy and domestic market supply/needs. However, setting up R&D ability is an important issue in the next step for the China's mobile industry.

In Korean model, this paper shows that South Korean firms' R&D efficiency has generally been superior to European and American competitors in the past years, and their innovative power came from three sources: interaction with operators, getting the information of service and applications from service providers, and internal and external competition. After successful experiences in innovative products for the domestic market, South Korean cellular phone makers use customised design with foreign mobile operators and their foreign R&D centres to localise design and modifications in order to meet foreign market demand.

Finally, this paper compares the development modes of major cellular phone and NB/PC manufacturers as two OEM client-oriented industries in Taiwan. Because the cellular phone is a type of consumer product with relatively less standardization, and Taiwan's cellular phone makers have used different approaches to attract global OEM outsourcing orders in addition to cost down, the experience of these manufacturers as latecomers shows how they have implemented R&D resources more effectively in the face of non-standard products. Due to different industry ecosystems, Taiwan's cellular phone makers pay more attention on R&D activities in order to attract their OEM clients by developing relatively complete product lines.

Keywords: Communications industry, Telecom industrial policy, Developing Economies, R&D activities, R&D efficiency

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中華民國九十六年九月

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