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Bandit cellphones: A blue ocean strategy

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A B S T R A C T

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The cellphone market has been dominated by global brand companies for years. However, “bandit” cellphones (i.e., unbranded or unknown-brand “white box” cellphones) have introduced a new business model that is changing the rules of the game. Low cost, high value-added features are characteristic of bandit cellphones. Developing countries offer huge market potential for the growth of bandit cellphone sales. MediaTek (the biggest supplier of chips for bandit cellphones in China) and many small and medium-size Chinese companies have created new businesses in the manufacture and sales of these cellphones. This paper uses the blue ocean strategy, proposed by Kim and Mauborgne, to analyze the bandit cellphone strategy. This analysis provides a good example in the field of strategy and innovation management.

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1. Introduction

Shipments of cellphone shipments worldwide amounted to more than one billion units in 2007, and growth continues to increase, and strong demand from developing countries will drive global cellphone shipments to new records over the next five years. In 2000, Nokia, Motorola, and Ericsson dominated the cellphone market with over 70% of market share. In 2008, this changed somewhat to reflect Nokia, Samsung, Motorola, LG, and Sony Ericsson as the top five cellphone brands. The strong growth of Samsung and LG showed that nothing is impossible in the high-tech industry. Global brand companies still dominate the cellphone market. However, a new business model has begun to change the rules of the game. By the end of 2007, bandit cellphones were being manufactured in such numbers that they have become a threat to the domination of branded cellphones.

Low cost, high value-added features are characteristic of bandit cellphones. In China, these unbranded or unknown-brand “white box” cellphones satisfy a wide range of

demands from consumers. In rural areas, farmers want cellphones with loud speakers, while young people want cellphones with a distinctive appearance. Others like cellphones with powerful audio and video functions. With hundreds of different bandit cellphone models available in the market, consumers can easily find one that meets their needs. At the same time, many consumers feel that global brand cellphones do not offer as many options.

This paper focuses on MediaTek, a chipset supply company, which has created a new business model for manufacturing cellphones.

Kim and Mauborgne [1] proposed the “blue ocean” strategy, which emphasizes avoiding competition while creating value innovation that drives down costs while simultaneously driving up value for buyers. They developed a framework that includes four-actions: factors to be eliminated, reduced, increased, and created. Thinking that is different from traditional strategy is the key to creating value innovation. This paper uses the blue ocean strategy to explain MediaTek’s strategy in the cellphone industry. Section 2 describes MediaTek and the cellphone market. Section 3 explains the blue ocean strategy. Section 4 presents the four-action framework and strategy canvas applications. Section 5 presents the conclusion.

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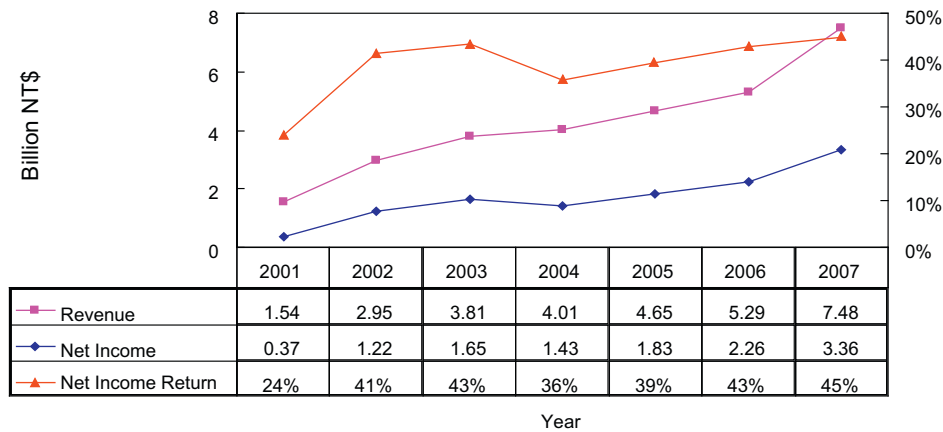


Fig. 1. Operating performance of MediaTek, 2001–2007. Source: [2].

2. MediaTek and bandit cellphones

MediaTek, founded in 1997, is a leading integrated circuit (IC) design company for optical storage, digital TV, wireless communications, and digital multimedia solutions. The company, headquartered in Taiwan, has sales and research subsidiaries in China, Singapore, India, Japan, Korea, US, UK, Ireland, and Denmark [2]. According to Global Semiconductor Alliance statistics, MediaTek is ranked among the top 5 fabless¹ companies in the world [3], and the largest one in Taiwan. Its low cost, high value-added solutions for cellphones helped MediaTek become the biggest supplier of chips for bandit cellphones in China. Industry leaders gain the triple benefits of shorter time-to-market, lower costs, and better products [4]. In the past, Qualcomm, Broadcom, and Samsung were the dominant suppliers of chips for cellphones.

MediaTek began manufacturing bandit cellphones in China in 2003. In October 2007, the Chinese government announced that companies manufacturing cellphones no longer had to ask for permission to manufacture. This new policy encouraged more small and medium-size companies to manufacture cellphones. MediaTek provided solutions for these companies, enabling them to launch new products faster and easier than before. It is estimated that more than 100 million bandit cellphones have been shipped to date, and MediaTek provides more than 50% of the chips for those cellphones. Fig. 1 illustrates the operating performance of MediaTek from 2001 to 2007, revealing a highly successful company.

The Asia-Pacific region has enjoyed better sales growth than other regions (see Table 1), with a growth rate of 33% in 2007—twice the world's rate of 16%. In 2008, the growth rate for Asia-Pacific was 16%, more than twice the world growth rate of 7%.

¹ A fabless company conducts research, produces chip designs, and carries out marketing and sales while outsourcing the fabrication (manufacturing) of semiconductors. It also may outsource or manufacture cases and other components.

The Asia-Pacific region has consistently had the highest percentage of global cellphone sales (see Table 2), undoubtedly propelled by strong demand from China.

Demand from China has been very strong. The factory average selling price (ASP) of 2G phones was relatively low compared with total cellphones (see Table 3). By the end of 2008, 2G phones had the best sales performance in China. Meanwhile, MediaTek supported many small and medium-size companies in manufacturing 2G cellphones. Bandit cellphone became the major driver for the growth of the cellphone market in China.

The next section analyzes how MediaTek and the small and medium-size Chinese companies successfully acquired the largest share of China's cellphone market.

3. Blue ocean strategy²

Creating blue oceans is not a static achievement but a dynamic process. Once a company creates competitive advantages, and its superior performance is shown, sooner or later imitators begin to appear in the market [1]. A good blue ocean strategy is one that is not easy to imitate. Company actions that favorably affect its cost structure and its value proposition to buyers create value innovation. A great value innovation effectively prevents imitators from entering the market, and cost savings occur by reducing and/or eliminating the factors on which an industry competes.

MediaTek provides total solutions to help small and medium-size Chinese companies assemble cellphones. These manufacturers had little money to spend on R&D, so buyer value was increased by creating elements the industry had never offered. Due to innovative designs, these manufacturers easily satisfy the demands of small market segments. Consequently, the manufacturers could introduce new bandit cellphone models quickly into the market. Rapid dissemination via the Internet also enables

² In Kim and Mauborgne's blue ocean strategy, "blue oceans" represent "untapped market space" and "the opportunity for highly profitable growth" [1].

Table 1

Sales of global cellphone to end users, by regions (000's of units).

Region	2005	2006	2007	2008	2009	2010	2011
Asia-Pacific	203,969	300,789	400,758	465,605	469,051	523,738	587,464
Eastern Europe	78,234	85,485	86,520	91,546	89,092	94,956	99,467
Japan	44,952	47,288	52,464	41,090	38,086	40,451	41,826
Latin America	101,798	118,066	127,027	145,586	140,058	142,229	144,950
Middle East and Africa	75,277	99,912	118,991	139,772	138,698	160,992	175,190
North America	148,404	164,204	176,347	183,817	184,708	197,376	207,465
Western Europe	163,898	175,135	190,855	170,739	164,774	177,912	184,821
Total	816,532	990,880	1,152,962	1,238,156	1,224,466	1,337,654	1,441,184

Source: [5].

Table 2

Percentage of global cellphone sales to end users, by regions.

Region	2005	2006	2007	2008	2009	2010	2011
Asia-Pacific	25.0%	30.4%	34.8%	37.6%	38.3%	39.2%	40.8%
Eastern Europe	9.6%	8.6%	7.5%	7.4%	7.3%	7.1%	6.9%
Japan	5.5%	4.8%	4.6%	3.3%	3.1%	3.0%	2.9%
Latin America	12.5%	11.9%	11.0%	11.8%	11.4%	10.6%	10.1%
Middle East and Africa	9.2%	10.1%	10.3%	11.3%	11.3%	12.0%	12.2%
North America	18.2%	16.6%	15.3%	14.8%	15.1%	14.8%	14.4%
Western Europe	20.1%	17.7%	16.6%	13.8%	13.5%	13.3%	12.8%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: [5].

them to minimize advertising expenses. Over time, costs are reduced further because of economic scale [7]. Fig. 2 illustrates the cornerstone of the blue ocean strategy.

As Fig. 2 shows, a blue ocean strategy is about driving costs down while simultaneously driving value up for buyers. This is a win–win solution for sellers and buyers. Buyer value comes from the utility and price offered to buyers by the company. Value to the company is achieved when the profit target is reached. This approach makes a blue ocean strategy one that is sustainable by integrating a firm's functional and operational activities.

Value innovation is more than innovation; it is about a strategy that embraces the entire system of a company's activities. Value innovation requires a company to make every effort to achieve a leap for both buyers and the company itself.

3.1. Red ocean strategy

In contrast to blue ocean strategy, a red ocean strategy is competition-based, the industry's structural conditions are given, and firms compete within those conditions [8–10]. This assumption is based on what academics call the structuralist view, or structure–conduct–performance, in which the conduct of firms in different industry structures will produce different performances. In red ocean, competition, cost, and price are important elements for

Table 3

Factory ASP of cellphones.

Year	2005	2006	2007	2008	2009	2010	2011
Total cellphones	142	128	123	121	116	116	115
2G	99	79	65	58	53	48	40

Source: [6].

surviving in the industry. Also, adequate and appropriate competition is good for industry development, and competition will not hurt companies or customers. In red ocean, differentiation costs a lot of money because firms compete with the same best-practice rules [11–13]. In contrast with blue ocean, value innovation in red ocean is based on the view that market boundaries and industry structures are not given. They can be reconstructed by industry players. Firms would have better performance if they create value innovation. Kim and Mauborgne call this the “reconstructionist” view. Table 4 compares “red ocean” and “blue ocean” strategies.

3.2. Blue ocean strategy and competition

As a company succeeds and expands in the blue ocean, more companies will try to enter this market. Therefore,

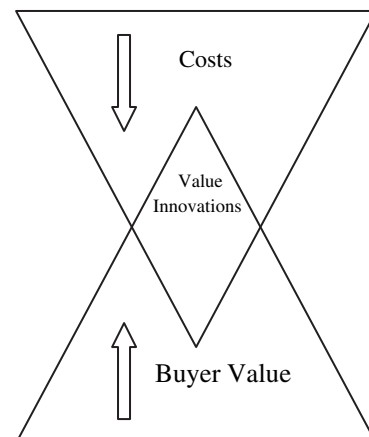
**Fig. 2.** Value innovation: the cornerstone of blue ocean strategy. Source: [1].

Table 4
Red ocean vs. blue ocean strategies.

Red ocean strategy	Blue ocean strategy
Traditional thinking.	Innovative thinking.
Compete in existing market.	Create uncontested market.
Beat the competition.	Make the competition irrelevant.
Meet existing demand.	Create and satisfy new demand.
Trade off between value and cost.	Trade off is not necessary.
Pursue differentiation or low cost.	Pursue differentiation and low cost.

Source: [1].

Table 5
The eliminate-reduce-raise-create grid for bandit cellphones.

Eliminate: <ul style="list-style-type: none"> • Intellectual property cost • Brand equity 	Raise: <ul style="list-style-type: none"> • Customization • Speed of new product development
Reduce: <ul style="list-style-type: none"> • Product price • R&D expense • Inspection expense • Advertising expense • Quality • Product warranty • Product life cycle 	Create: <ul style="list-style-type: none"> • Small size cellphone players • Small batch and unique cellphones • Surprising design • Bold design

creating barriers against imitation by competitors is very important. The following are imitation barriers that explain why a blue ocean strategy is not easily imitated by competitors.

- Value innovation does not comply with conventional logic thinking.

- Change is not an easy thing for a company with an original brand image, operation, or culture.
- A natural monopoly will obstruct other players from entering the market.
- Patents or legal rights will stop imitation.
- First-mover advantages, such as cost advantages and network externalities, will discourage imitation.

4. The four-actions framework and strategy canvas

Kim and Mauborgne proposed a four-actions framework to reconstruct buyer value elements in order to craft a new value curve. If there is value innovation, it will easily be found in the new curve and existing curves. There are four key questions that should be asked to challenge an industry’s strategic logic and business model [1]:

- Which factors taken for granted should be eliminated?
- Which factors should be reduced well below the industry’s standard?
- Which factors should be raised well above the industry’s standard?
- Which factors should be created that the industry has never offered?

Based on these questions, we interviewed industry experts, and Table 5 summarizes the results.

Based on the grid in Table 5 and our research findings, Fig. 3 depicts a strategy canvas for a high-end brand cellphone, a low-end brand cellphone, and a bandit cellphone. It reveals that the high-end and low-end brands have a similar strategy, while the bandit cellphone has a much different strategy. It eliminates the competition-based

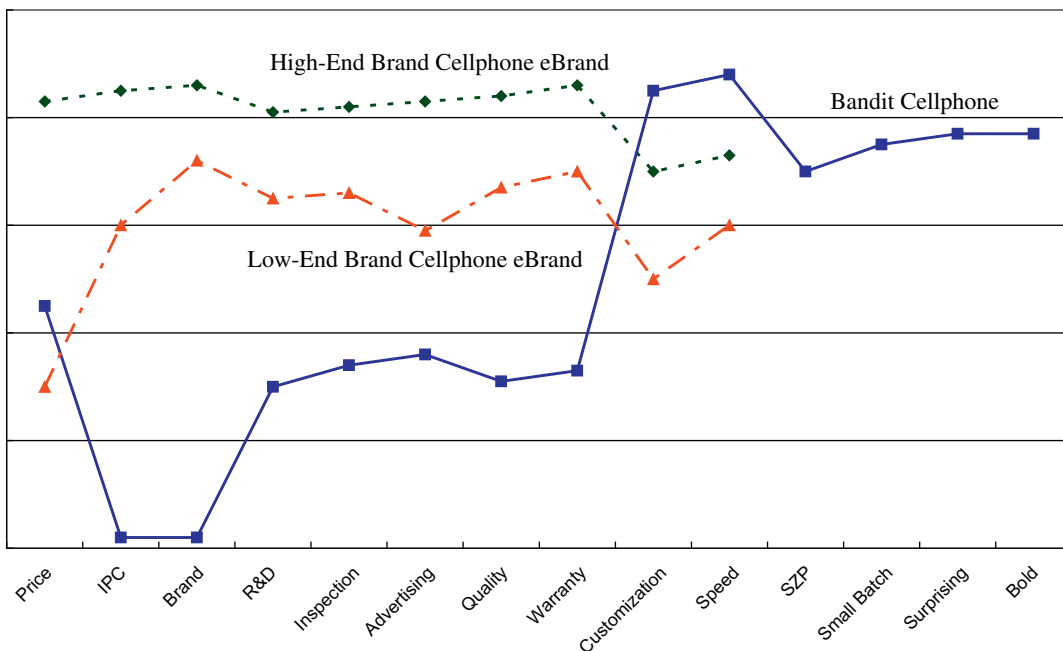


Fig. 3. Strategy canvas for cellphones.

business models used by major brand cellphones, and shows that customers and users are no longer passively waiting for products [14]. Value innovation is critical to satisfying customers.

5. Conclusions

In the last decade, branding has become an important competitive priority in the cellphone market. However, MediaTek and its partners have changed the rules of the game in China by creating new business models for the cellphone market. Value innovation is the most important component in the blue ocean strategy. If MediaTek and its partners create value without innovation, it will quickly be imitated. If they create innovation without value, they will produce products and/or services beyond what customers are ready to buy or use.

This case confirms the applicability of the blue ocean strategy. Analyzing the Chinese cellphone market using this strategy, we found that MediaTek and its partners have created a different strategy canvas. The business model created by MediaTek has attracted imitation by other industries such as the notebook industry, but MediaTek's successful strategy has had a significant impact on the technology industry in the Asia-Pacific region. This case analysis is an excellent example for use in the study of strategy and innovation management.

6. Questions for discussion

This case raises a number of interesting questions. Here are some examples:

- Cellphones have become smart, and many now include some combination of cameras, recorders, MP3 players, global positioning systems, Internet connectivity, touch screens, and text-reading pads. This has made cellphone design more complicated and requires consistent quality. Consumers are concerned about product warranty and maintenance. However, bandit cellphone manufacturers are small and medium-size companies that cannot provide after-sales services as do global brand companies. What does this imply for small and medium-size companies?
- Standards for mobile telecommunications continue to change over time. Does this suggest that MediaTek can still create another blue ocean for the next standard for mobile communications?
- In addition to China, India has great growth potential for the cellphone industry. What is the likelihood that MediaTek can reproduce its China experience in India?

- Understanding the sources of sustained competitive advantage is an important topic in the study and the teaching of strategic management. According to Barney [15], value, rareness, imitability, and substitutability are four indicators for understanding the sources of sustained competitive advantage for firms. Has MediaTek successfully sustained these or other competitive advantages? If not, what do they need to do to create competitive advantages that they can sustain? For example, can players in the notebook industry copy the bandit cellphone business model successfully?

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References

- [1] Kim WC, Mauborgne R. *Blue ocean strategy*. Cambridge, MA: Harvard Business School Press; 2005.
- [2] MediaTek. Available from: <<http://www.mediatek.com/>>; 2009.
- [3] For information on the Global Semiconductor Alliance, and its rankings of companies, see: <http://en.wikipedia.org/wiki/Fabless_semiconductor_company>.
- [4] Kar S, Subramanian S, Saran D. Managing global R&D operations—lessons from the trenches. *Research-Technology Management* 2009;52(2):14–21.
- [5] Gartner website. See: <<http://www.gartner.com/>>; 2008.
- [6] iSuppli website. See: <<http://www.isuppli.com/>>; 2009.
- [7] Abernathy WJ, Wayne K. Limits to the learning curve. *Harvard Business Review* 1974;52:109–20.
- [8] White RE. Generic business strategies, organizational context and performance: an empirical investigation. *Strategic Management Journal* 1986;7:217–31.
- [9] Hill WL. Differentiation versus low cost or differentiation and low cost. *Academy of Management Review* 1988;13:401–12.
- [10] Porter ME. What is strategy? *Harvard Business Review* 1996;74:61–78.
- [11] Hamel G. Opinion: strategy innovation and the quest for value. *Sloan Management Review* 1988;39(2):7–14.
- [12] Katz M, Shapiro C. Systems competition and network effects. *Journal of Economic Perspectives* 1994;8(2):93–115.
- [13] Arthur WB. Increasing returns and the new world of business. *Harvard Business Review* 1996;74:100–9.
- [14] Awazu Y, Baloh P, Desouza KC, Wecht CH, Kim J, Jha S. Information-communication technologies open up innovation. *Research-Technology Management* 2009;52(1):51–8.
- [15] Barney J. Firm resources and sustained competitive advantage. *Journal of Management* 1991;17(1):99–120.

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