Perwaja Steel

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PERWAJA STEEL

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PERWAJA STEEL

On 20 August 2008, Perwaja reached a new milestone in its history by making its debut on the main board of Bursa Malaysia Securities Berhad. At an initial public offering (IPO) price of RM2.90, the shares were oversubscribed by 189%. Since then, however, the company's stock had traded at below its IPO price, reaching a low of RM0.60 in March 2009. In mid-2009, the company reported net losses exceeding RM100 million for the first half of 2009 compared to profits of more than RM200 million for the same period in 2008. This was attributed partly to the decrease in steel demand and prices worldwide amidst the global recession. Henry Pheng, Perwaja's CEO, told Reuters in an interview in March 2009 that the goal for the year was to ride out the recession by planning purchases carefully and taking other cost-saving measures rather than to make profits. Industry observers, however, wondered how much more market uncertainties the company could withstand and what strategic moves it would make to strengthen its market position and succeed in the competitive and volatile steel industry.

THE STEEL INDUSTRY

The steel industry was in a state of uncertainty in early 2009 as the global economic recession that started in 2007 intensified. The global crisis had led to a slowdown in the industries on which the steel industry depended (e.g., automobile and construction). Consequently, steel demand and prices declined, and many steel producers reduced production or stop production temporarily. Some steel producers were operating at less than 50% capacity and incurred losses in the first half of 2009. Those who had stocked up raw materials earlier at high prices now experienced a tight working capital situation and cash flow problems. The share prices of many steel companies listed in the main board of Bursa Malaysia fell sharply. The demand for steel of about 8 million metric tons in 2008 was expected to drop in 2009. Many of the steel producers when interviewed by the Edge stated that they expected steel demand and prices to increase by end-2009 and were hopeful that they would once again be profitable in 2010.

Steel Production

Steel production was a capital intensive activity. Setting up a steelmaking facility could cost billions of ringgit. Working capital requirements were also high as steel producers had to buy and stock sufficient raw materials to ensure a continuous supply of feedstock for its production processes. The main raw materials used in steelmaking were iron ore, coking coal, limestone, and scrap steel.

Steel was produced by smelting iron ore in a blast furnace loaded with coke and limestone to produce pig iron or by reducing iron ore directly (i.e., without smelting) into direct-reduced iron (DRI) in a shaft furnace. The DRI could be converted into a densified form of DRI known as hot-briquetted iron (HBI). HBI could be stored longer, was more resistant to handling, was easier to ship, and consumed less energy than DRI.

Reduced iron was converted into steel using an open-hearth furnace, a basic oxygen furnace, or an electric arc furnace. The molten steel from one of these furnaces was casted to produce crude steel—that is, steel in its solidified state directly after casting. While still malleable, the casted steel would be rolled into semi-finished forms, that is, billets, blooms, or

slabs. Finished long products (e.g., bars, rods, or sections) were made from billets and blooms, and finished flat products (e.g., steel plates, sheets, or flat strips) were made from slabs. These finished products from primary (i.e., upstream and mid-stream) steel production were used in secondary (i.e., downstream) steel-making activities (e.g., making tinplate, steel wire, and pipes).

The two major cost factors for steel production were iron ore and energy (e.g., coal, natural gas). In general, the prices of these commodities were volatile and determined mainly by market forces. For iron ore and coking coal, steel producers usually entered into long-term contracts with suppliers to ensure a continuous supply. Annual negotiations between the major buyers (e.g., steel producers in Japan) and major suppliers (e.g., iron ore and coal producers in Australia) determined benchmark global market prices. In general, iron ore and coal prices have been increasing for the last few years and reached their peak in mid-2008. However, with the slowing global economy and worldwide drop in steel demand, prices dropped in 2009.

Steel producers that used the electric arc furnace relied very much on scrap steel as a raw material and electricity and gas as energy sources. Because scrap was a byproduct of manufacturing and steel products that had become obsolete, its supply was limited and its price volatile. Like the prices of iron ore and coal, scrap steel prices had followed an upward trend but dropped in 2009. As the local supply was insufficient, the industry imported about 70% of the scrap used. It was estimated that the import value of scrap steel exceeded RM4 billion in 2008. Since June 2008, the price of gas had doubled to RM22.58 per mbtu (million British thermal units) whereas in the following month higher electricity tariffs had been imposed by the government.

Steel Demand and Supply

The demand for steel was price elastic because of the homogeneity of the product and the lack of brand name differences. The construction sector was the largest buyer of steel. Because the steel industry was viewed as important for national development, in the past the government had imposed export controls and price ceilings to ensure a stable supply of steel for the construction sector. The price of steel increased by 55% to about RM4,000 per tonne after the government lifted the ceiling price in May 2008. This was in line with world prices that exceeded USD1,000 per tonne in mid-2008.

The steel industry comprised companies that manufactured upstream products such as DRI and billets and midstream products such as bars and rods (see Exhibit 1). It was dominated by a few public-listed companies such as Ann Joo Steel Berhad, Kinsteel Berhad, Malaysia Steel Works (KL) Berhad (MASTEEL), Perwaja Holdings Berhad, Southern Steel Berhad, and Lion Group. Lion Group, which owned three major steelmaking companies (i.e., Amsteel Mills Sdn Bhd, Antara Steel Mills Sdn Bhd, and Megasteel Sdn Bhd), was the largest steel producer in the country. Some industry observers believed that the steel producers should integrate forward into downstream activities (e.g., manufacturing pipes, wires, etc.) to be more competitive. In 2008, manufacturers of basic iron and steel products (e.g., iron and steel bars, rods, wires, pipes, drums) generated sales of about RM28 billion.

Exhibit 1
Product Line and Capacity of Major Steel Producers in Malaysia

Category	Product	Producers	Capacity (tonne)
Upstream	Scrap substitutes:		
	• DRI	Lion Group, Perwaja	3,340,000
	• HBI	Lion Group	880,000
	• Hot metal	Ann Joo	500,000
	Semi-finished products:		
	• Billets	Lion Group, Perwaja, Ann Joo, Southern Steel, MASTEEL	5,250,000
	• Blooms	Perwaja	750,000
	• Slabs	Lion Group	3,200,000
Midstream	Finished long products:		
	• Bars and wire rods	Kinsteel, Lion Group, Ann Joo, Southern Steel, MASTEEL	7,180,000
	• Sections	Kinsteel	700,000
	Finished flat products:		
	• Hot-rolled coils	Lion Group	2,500,000
	• Cold-rolled coils	Lion Group, Mycron, CSC	2,140,000
	• Plates	Lion Group	850,000

Source: Malaysian Iron and Steel Industry Federation.

Global Competition

The global steel industry was a highly competitive one. Although the local steel industry was a major contributor of export earnings for Malaysia, it was relatively small compared to the steel industry of countries such as China, Japan, and USA. In 2008, Malaysia produced about 7 million metric tons of crude steel compared to China's production of about 500 million metric tons and the world's production of 1.3 billion metric tons. The country's exports of steel and steel products were also insignificant relative to the major steel exporting countries. In 2008, China was considered the world's largest steel producer and exporter of semi-finished and finished steel, followed by Japan. The top 15 steel producers accounted for about 36% of world steel production. The largest importers of semi-finished and finished steel were the European Union, USA, and South Korea. The major markets for Malaysia's steel and steel products included Singapore, Thailand, and Vietnam.

COMPANY HISTORY AND DEVELOPMENTS

In the 1970s, Malaysia experienced a shortage of steel that prompted the Malaysian government to consider setting up an integrated steel plant. Consequently, Perwaja Terengganu Sdn Bhd was incorporated in 1982 with a paid-up capital of RM250 million.

Heavy Industries Corporation of Malaysia (HICOM), a government agency for industrial development was the major shareholder with a 51% stake in the company. The other shareholders were a consortium of Japanese companies headed by Nippon Steel of Japan (with a 30% stake) and the Terengganu state government (with a 19% stake). The steel project was also financed with a RM500 million loan from the Export-Import Bank of Japan.

Nippon Steel undertook the task of constructing Perwaja's RM1.2 billion steel complex in the state of Terengganu, which was completed in August 1984. During the initial years of its operations, the company continuously lost money and was beset with problems triggered partly by external events such as the global recession of the mid-1980s, appreciation of the yen, decline in steel prices, and weak demand for steel. The difficulties of the company were compounded further by its own internal operating problems. Perwaja's plant was to run on a new direct reduction method that used natural gas to process iron ore into HBI, the feedstock for making high-grade billets. This method, developed by Nippon Steel, had worked in pilot projects in Japan in the 1970s but had never been used commercially. Because Nippon Steel was confident that the new process would work, it agreed to pay Perwaja compensation should the process fail. After attempts to produce HBI of an acceptable standard failed, Nippon Steel compensated Perwaja more than RM500 million in 1987. The HBI plant was closed, and the company resorted to making billets from scrap steel.

In 1988, the government brought in Eric Chia, a prominent Malaysian entrepreneur, to assume the position of managing director with the hope that he would help improve the performance of the company. In 1989, the Japanese shareholders gave up their 30% stake to the Malaysian government for a nominal sum of RM1, and in the following year, a major restructuring of the company took place. All assets and working capital of the company were transferred to Perwaja Steel Sdn Bhd, a wholly-owned subsidiary incorporated to take over the manufacturing operations. Outstanding debts of about RM1.2 billion, however, were retained by the parent company. Despite the various restructuring and improvement efforts management took under the leadership of Chia, Perwaja reported an accumulated loss of about RM2.5 billion for the financial year ended 31 March 1995. The company was in an insolvency status, and the government empowered Price Waterhouse, an audit firm, to perform an overall audit of Perwaja. Chia resigned in mid-1995 and was charged with embezzlement in 2004 but was acquitted in 2007.

Given that the government believed the steel industry was a main driver of economic growth and development and had high potential, it considered several alternatives to turnaround Perwaja, including privatizing the company. In response to the intention of the government to privatize Perwaja, in 1996 Maju Holdings Sdn Bhd (Maju) submitted a proposal to undertake the privatization exercise. The privatization plan, however, had to be put on hold with the onset of the Asian financial crisis in 1997. Instead, Maju was given the task of restructuring and managing Perwaja on behalf of the government. In 2000, the privatization plan was revived, and Maju was asked to submit a revised privatization proposal. The privatization exercise was completed in 2003 with Maju as the ultimate holding company. In 2006 Perwaja became a subsidiary of Kinsteel Berhad when the latter acquired 51% equity interest in it. In 2008, Perwaja went public with an initial public offering price of RM2.90 and was listed in the main board of Bursa Malaysia under the holding company Perwaja Holdings Berhad. An agreement had also been signed with the finance ministry for Perwaja to fully settle its remaining debts of RM250 million within 5 years.

PRODUCTION

Perwaja manufactured mainly upstream steel products in the form of DRI and semi-finished long steel products. DRI was produced in the form of small pellets or lumps. Due to its spongy microstructure and small size, DRI (also known as sponge iron) was easy to re-melt but sensitive to re-oxidation and ignition. It was used mainly as feedstock in electric arc furnace steel production in addition to scrap steel. Its supply and price was more stable as long-term delivery contracts could be negotiated in advance. It also had a more consistent chemical composition and quality. DRI was used mainly as feedstock in the production of semi-finished flat steel products such as slabs and semi-finished long steel products such as billets. It could be used also to make a wide range of steel and other ferrous metal alloys including carbon steel and stainless steel.

Semi-finished long steel products were those that required further rolling or forging to produce finished products that were used in various industries such as the construction industry. In 2008, the semi-finished long steel products Perwaja made were billets, blooms, and blanks (see Exhibit 2). The company also made semi-finished long steel products for specialized applications such as weldable structural steel for offshore structures, low carbon wire steel rod for arc welding electrodes, carbon steel filler metals for gas shielded arc welding, low carbon steel, and engineering steel.

Exhibit 2
Product Line of Semi-finished Long Steel Products

Product	Length	Height × Width	General Description
Billets	3.9 m to 12 m	120 mm × 120 mm 150 mm × 150 mm	Lengths of continuously-cast steel used as feedstock for making rods, bars, wires, and sections.
Blooms	3.9 m to 12 m	200 mm × 200 mm	Lengths of continuously-cast steel used as feedstock for making heavy beams and sections.
Blanks	3.9 m to 10 m	390 mm × 470 mm	Lengths of continuously-cast steel used as feedstock for making I-beams and H-beams.

Source: Perwaja Holdings Berhad Prospectus.

FACILITIES AND PRODUCTION

Perwaja's steel-making operation was carried out in its integrated steelmaking facility located on an industrial site in Kemaman, Terengganu. This facility, which was close to off-shore natural gas resources, power stations, and port facilities, comprised a DRI plant and a semi-finished long steel products plant. The main sections of the DRI plant included an iron ore yard, gas reformer, carbon dioxide absorber system, DRI storage, and DRI reactors. The main sections of the semi-finished long steel products plant included electric arc furnaces and continuous casting machines.

Although the production facility of the company was initially installed with a HBI plant that had an annual production capacity of 600,000 tons of HBI, the company discontinued this line of production in 2003. Instead, the company shifted its focus to the production of DRI and semi-finished long steel products. The DRI plant used the HYL III production technique developed in Mexico to make its DRI. In this process, iron ore was reduced in a DRI reactor by having its oxygen chemically removed using hydrogen gas and carbon monoxide gas. This gas mixture was generated by passing a mixture of natural gas, steam, and recycled gas through an external reformer. In 2008, Perwaja was one of only two producers of DRI in the country and one of only a few in Southeast Asia. It had the capacity to produce 1.5 million tons of DRI a year and produced more than 50% of the total production of DRI in the country. The DRI produced was sold to the external markets as well as used to make its semi-finished long steel products, which accounted for more than 10% of total production in the country. It had the capacity to produce 1.3 million tons of semi-finished long steel products a year. In 2007, Perwaja produced more than 900,000 tons of these products (see Exhibit 3).

Exhibit 3
Production Volume by Product Type (in tons)

Product	2005	2006	2007
DRI	855,804	906,854	1,078,983
Semi-finished long steel products	608,934	543,264	902,256

Source: Perwaja Holdings Berhad Prospectus.

Semi-finished long steel products were made using solely DRI, solely scrap steel, or a combination of DRI and scrap steel. The production of billets from scrap steel, for example, involved feeding the scrap into an electric arc furnace where it would be melted with other ferrous materials. The scrap mixture comprised shredded scrap, bundles, bloom butts, pig iron ingots, and heavy melting scraps. Burnt lime and carbon would also be added in the process. When the conversion to the desired steel grade was complete, the molten steel would be tapped into a casting ladle. This ladle with the molten steel would be transferred to a continuous casting machine. Here, samples would be taken and tested, and alloys added if necessary. After the steel was casted, it would be cut into the required length and cooled before being sent to the billet yard. To ensure the quality of its products the company carried out quality checks at various stages of its production process, starting from the incoming raw materials to the finished products before delivery to customers.

Steelmaking was a labor-intensive activity. Under normal circumstances, the company's production workers worked 24 hours a day, 7 days a week, and 365 days a year on three 8-hour shifts to reduce wastage in energy cost incurred during stoppages. Each time production stopped, machinery had to be heated up again to resume production. The company had to comply with government regulations to shutdown its DRI reactors every 18 months for scheduled routine inspection by the Department of Occupational Safety and Health. During this inspection period of about a month, no DRI was produced, and the company relied on scrap iron and its stockpile of DRI to make its semi-finished long steel products. Because of

the high cost of equipment and the need to operate without stoppages, worker efficiency was an important productivity issue.

Although labor productivity was important, the major component of the cost of production was the cost of raw materials (see Exhibit 4). The primary raw materials used were iron ore, scrap steel, and pig iron. Perwaja sourced its raw materials from only a few suppliers (see Exhibit 5). Although it imported all its iron ore, sourcing for local iron ore reserves might be a possibility given that Malaysia is believed to have at least 50 million tonnes of iron ore reserves. Perwaja bought most of its scrap steel locally. Although steelmakers were major buyers of iron ore and scrap steel, individual steelmakers had little leverage in setting prices for these raw materials, and this was the case also for Perwaja. To ensure an uninterrupted supply of iron ore, the company had entered into long-term supply contracts for iron ore with its suppliers. These contracts had provisions that enabled the company to purchase from the contracting supplier a specified quantity of iron ore each year at a price that was determined periodically.

Exhibit 4
Production Cost by Cost Category (in RM'000)

Cost Category	2005	2006	2007
Raw materials	571,078	669,021	888,557
Energy and utilities	198,369	152,184	228,425
Direct labor	8,114	17,337	15,758
Consumables	98,570	76,693	201,717
Factory overheads	70,368	8,356	34,130
Depreciation	71,937	64,892	64,884
Others	29,345	25,507	8,025
Total	1,047,781	1,013,990	1,441,496

Source: Perwaja Holdings Berhad Prospectus.

Exhibit 5
Percentage of Purchases by Supplier

Supplier	2005	2006	2007
Compania Minera Del Pacifico (iron ore)	20.5	27.8	15.8
Gulf Industrial Investment Co.	15.9	15.1	7.2
PKK (scrap iron)	8.1	11.0	19.7
Tenaga Nasional Bhd (electricity)	15.5	10.5	11.4
Hylsamex, S.A.	–	10.3	9.8
MBR Overseas Ltd	10.3	7.2	1.7
Cargill International Trading Pte Ltd (pig iron)	–	–	1.4
Others			

Source: Perwaja Holdings Berhad Prospectus.

MARKETING AND SALES

Marketing Strategies

Perwaja aimed to position itself as an integrated producer of high-quality DRI and semi-finished long steel products for the global market. Its marketing strategies included (a) positioning itself as an established producer with a long track record; (b) ensuring that all products were of high quality, met with customer specifications, and delivered on schedule; (c) continuously carrying out research and development to diversify its range of semi-finished long steel products to meet customer needs; and (d) keeping abreast of developments in the primary steel products industry to better meet customer needs and stay ahead of the competition.

Customers and Distribution Channel

The primary customers of Perwaja were (a) producers that used DRI to make semi-finished steel products and (b) producers that used semi-finished steel products to make finished long products such as bars, wire rods, beams, and so forth. About half of the top 10 customers of the company had been dealing with the company for at least 4 years. Its principal customer, Kinsteel Bhd, which was also its largest shareholder, contributed about 32% to its sales in 2007, and Perfect Channel Sdn Bhd (a 51% subsidiary of Kinsteel Bhd) contributed about 21% to its sales (see Exhibit 6).

The products of the company reached its end users through both direct and indirect distribution channels. Sales to domestic customers were made directly through the sales and marketing division of the company. Sales to overseas customers (e.g., in countries such as Vietnam, Thailand, Myanmar, China, Taiwan, and Korea) were made mainly through international trading companies in Malaysia, Singapore, Korea, and Hong Kong. More than 80% of the revenue of the company were from the local market (see Exhibit 7).

Exhibit 6
Percentage of Sales Revenue of Major Customers

Customer	2005	2006	2007
Kinsteel Bhd	24.5	42.9	31.9
Megasteel Sdn Bhd	1.5	11.1	2.6
Southern Steel Bhd	14.2	10.1	4.5
Daewoo International Corporation	5.4	–	2.0
Perfect Channel Sdn Bhd	–	8.0	20.8
Cargill International Trading Pte Ltd	–	1.2	17.5

Source: Perwaja Holdings Berhad Prospectus.

Exhibit 7
Sales Revenue by Geographic Sector (in RM'000)

Market Sector	2005	2006	2007
Domestic	781,912	1,043,389	1,390,623
Overseas	280,660	138,703	302,384
Total	1,062,572	1,182,092	1,693,007

Source: Perwaja Holdings Berhad Prospectus.

Pricing

In general, the prices of the products of the company were determined by market forces. In the past, the price and exports of billets were regulated by the government. In May 2008, however, these price control and export restrictions were lifted. The average selling prices of the products of the company are as shown in Exhibit 8.

Exhibit 8
Selling Price by Product (Averaged Over 3 Years: 2005–2007)

Product	Low	High
DRI	RM933	RM1,254
Billets	RM1,267	RM2,426
Blanks/Blooms	RM1,294	RM1,908

Source: Perwaja Holdings Berhad Prospectus.

LOCAL COMPETITORS

Perwaja's local competitors included Lion Group (steel division), Southern Steel Berhad, Ann Joo Steel Berhad, and Malaysia Steel Works Berhad. The Lion Group, founded in the 1920s, was Perwaja's biggest competitor and held a significant market share. Lion Group distinguished itself from other steel producers by focusing on upper upstream products such as special grade billets for specialty bars and higher grade wire rods for stringent applications. It also had a wider product range targeting the oil and gas as well as shipbuilding sectors. Its DRI production was mainly for its internal consumption. Its overseas ventures included steel projects in China and potentially in Vietnam. The company employed a few thousand employees as at end 2008.

Ann Joo Steel Berhad (formerly known as Malayawata Steel Berhad), established in 1946, was the first integrated steel mill in South East Asia. Although primarily a semi-finished products (billets) and rolled products (bars and wire rods) producer, in 2009, Ann Joo expanded its offerings by producing flat steel products, a market that was traditionally dominated by Megasteel Sdn Bhd of the Lion Group. The company employed about 1,500 employees as at end 2008.

Southern Steel Berhad, established in 1963, was the first steel mill group in Malaysia to be awarded the ISO 9002 certificate. Company executives were confident that the company could weather the current economic crisis due to its well-balanced product mix and diverse export markets. The company exported to Europe, USA, Russia, and the Middle East. The company employed about 1,200 employees as at end 2008.

Malaysia Steel Works Berhad began operations in 1971. The company had expanded its global reach to include countries like Australia and New Zealand. To cushion its financial position against the cyclical nature of the steel industry, the biotechnology arm of the company served as its alternative source of income. The company employed about 500 employees as at end 2008.

MANAGEMENT AND PERSONNEL

The head office of Perwaja in Kuala Lumpur handled corporate planning, sales, marketing, finance, and other nonproduction matters. In 2008, Perwaja employed more than 1,600 employees (see Exhibit 9). About 65% of its employees worked on the factory floor, and none belonged to unions. The CEO was Henry Pheng, a former CEO of Kinsteel Berhad. He was assisted by a senior management team of nine people (see Exhibit 10).

Exhibit 9
Employees by Category and Seniority as at end-May 2008

	Years of Employment			
Employee Category	Less than 1 year	1 to 5 years	More than 5 years	Total
Management	31	64	89	184
Technical Professionals	10	24	25	59
Other Technical	19	54	79	152
Sales and Marketing	6	14	8	28
Clerical and Administrative	9	37	95	141
Factory Floor (Skilled)	141	107	162	410
Factory Floor (Semi-skilled)	184	255	144	583
Factory Floor (Unskilled)	22	22	4	48
Total	422	577	606	1,605

Source: Perwaja Holdings Berhad Prospectus.

Exhibit 10
Top Management Team in 2008

Name	Age	Position	Other Information
Henry Pheng	37	Chief Executive Officer (CEO)	Earned a Bachelor of Commerce degree from University of Wollongong and a chartered accountant by profession. Was CEO of Kinsteel Bhd (since 1997) before being appointed as CEO of Perwaja in 2006.
Tee Choon Pung	51	Chief Operating Officer (COO)	Earned an MBA degree from University of South Alabama. Worked as general manager in Megasteel Sdn Bhd and Amsteel Sdn Bhd and as chief operating officer in Amalgamated Industrial Steel Bhd before joining Perwaja in 2007.
Look Tian Fook	56	Chief Operating Officer, Business Development and Projects	Graduated from the University of Strathclyde and an engineer by profession. Was general manager of a downstream steel products manufacturer and a rubber products manufacturer before joining Perwaja in 2005.
Lew Choon	51	Head of Marketing	Worked in the steel business for more than 20 years.
Mohd Tunus Alia	63	Head of Logistics	Began career in 1963 as a commission officer with the Royal Malaysian Navy. Joined Perwaja in 1988 as a purchasing manager and assumed present position in 1996.
Cheok Kia Yong	38	Chief Accountant	Earned a Bachelor of Accountancy degree from Universiti Utara Malaysia. Worked with Ernst & Young and Andersen before joining Perwaja in 2005.
A. Thandayithabani	49	General Manager, Plant Operations	Earned a diploma in Human Capital Management from Universiti Teknologi MARA. Has more than 29 years of experience in the steel industry and has been with Perwaja since 1984.
Che Amdilah Abdullah	47	General Manager, Business Development and Projects	Earned a Bachelor of Science (Civil Engineering) degree from Iowa State University. Worked with a few construction companies before joining Perwaja as an engineer in 1989. Assumed present position in 2006.
Fakhrul Azman Nordin	40	General Manager, DRI Plant	Earned a Bachelor of Engineering degree from Swansee University. Started career as an engineer with Perwaja in 1991 before assuming present position in 2005.
Kok Mei Ann	32	Legal Manager	Earned a Bachelor of Law degree from Staffordshire University. Worked with two law firms before joining Perwaja in 2006.

Source: Perwaja Holdings Berhad Prospectus.

FINANCE

The revenue of the company from the sales of its products and its financial summaries are given in Exhibits 11 to 13.

Exhibit 11
Sales Revenue by Product (in RM'000)

Product	2005	2006	2007
DRI	190,343	408,404	203,864
Billets	813,309	534,174	1,178,826
Blooms and blanks	–	43,169	282,007
Others	58,920	196,345	28,310
Total	1,062,572	1,182,092	1,693,007

Source: Perwaja Holdings Berhad Prospectus.

Exhibit 12
Perwaja Steel Sdn Bhd
Profit and Loss Account for Years Ended 31 December, 2005–2009 (in RM'000)

	2005	2006	2007	2008	2009
Turnover	1,062,572	1,182,092	1,693,007	2,319,522	1,571,158
Gross profit	14,791	168,102	251,511	208,066	41,901
Other income	26,550	27,543	37,159	10,417	2,888
Selling and distribution expenses	(13,578)	(24,240)	(19,339)	(16,623)	(16,767)
Administrative expenses	(76,236)	(40,118)	(40,742)	(73,615)	(83,297)
Results from operating expenses	(48,473)	131,287	228,589	128,245	(55,275)
Finance costs	(54,653)	(34,826)	(66,003)	(66,148)	(87,266)
Profit/(Loss) before taxation	(103,126)	96,461	162,586	62,097	(142,541)
Taxation	–	110,000	–	28,000	27,000
Profit/(Loss) after taxation	(103,126)	206,461	162,586	90,097	(115,541)

Source: Perwaja Holdings Berhad Prospectus and Annual Report 2008.

Note. Profit and Loss Account for 2009 was obtained from the unaudited financial statement available at Perwaja Holdings Berhad official website.

Exhibit 13
Perwaja Steel Sdn Bhd
Balance Sheets as at 31 December 2008 (in RM'000)

ASSETS	
Current Assets	
Inventories	662,015
Trade receivables	9,731
Other receivables, deposits, and prepayments	57,988
Amount owing by related companies and parties	85,819
Tax refundable	103
Fixed deposits	63,050
Cash and bank balances	1,957
Noncurrent Assets	
Property, plant, and equipment	1,414,459
Prepaid lease payments	27,460
Other investment	4,000
Deferred tax asset	138,000
TOTAL ASSETS	2,464,582
EQUITY AND LIABILITIES	
Current Liabilities	
Trade payables	222,380
Other payables and accruals	31,862
Amount owing to holding company	214,332
Amount owing to related companies and parties	28,700
Loan Stocks (ICULS)	4,864
Short-term borrowings	392,828
Bank overdrafts	4,195
Noncurrent Liabilities	
Long-term borrowings	215,298
Murabahah medium-term loan	260,000
Collateralized loan	40,000
Equity	
Share capital	560,000
Share premium	101,502
Merger reserve	287,776
Loan Stocks (4% 10-year ICULS)	10,748
Retained Profit	90,097
TOTAL EQUITY AND LIABILITIES	2,464,582

Source: Perwaja Holdings Berhad Prospectus and Annual Report 2008.

LOOKING AHEAD

Fresh from its listing on the main board of Bursa Malaysia in August, 2008, Perwaja's plans for the immediate future included optimizing its plant capacity utilization rates and expanding existing production facilities. Other future plans included expanding its product line to include semi-finished flat steel products and new specialized steel products, diversifying into downstream products, and expanding into more overseas markets. The management of the company believed that the implementation of these plans would enable the company to become a major player in the competitive global steel market. In mid-2009, however, the company had delayed plans to build a new electric arc furnace and a new blast furnace due to the uncertainties in the industry. In order to cut costs further, Perwaja was reportedly considering plans to relocate the plant in Gurun, Kedah and to operate solely from the plant in Kemaman, Terengganu.

Data presented in this case are not useful for research purposes. This case was prepared using published information taken from (a) the publications of the Malaysian government; (b) articles and news reports found in business magazines and newspapers such as Economic Review, Business Times, Financial Times, Malaysian Business, The Edge Malaysia, The New Straits Times, The Star; (c) the web sites of various organizations including the Malaysian Iron and Steel Industry Federation, American Iron and Steel Institute, Steel Business Briefing, Steelonthenet.com, World Steel Association, and Perwaja Holdings Berhad; and (d) Perwaja Holdings Berhad Prospectus and Annual Report 2008. The section on the steel industry was extracted from an industry note entitled "A note on the steel industry in Malaysia" written by the same authors.

PERWAJA STEEL

INSTRUCTOR'S MANUAL

Case Synopsis

This business policy case presents a steelmaking company that was faced with an increasingly challenging business environment. The case outlines the formation of the company in 1982 as a government-owned steel company and the events that led to its establishment as a public-listed company. The management, operation, marketing, and financial situation of the company in early 2009 is described. Background information on the steel industry in Malaysia is also provided.

Courses and Levels for which the Case is Intended

This case is suitable for both undergraduate-level and graduate-level business students and business executives enrolled in courses in strategic management. The material may also be useful as background material for a course in international management given the increasingly global nature of the steel industry. Students using this case should have fairly well-developed knowledge and analytical skills in the functional areas of business.

Teaching Objectives

The case enables students to analyze and critique the past strategies of a steel manufacturing company and suggest future strategies to be adopted rather than to come to a decision about a specific problem. The main objectives of the case are to:

(a) expose students to real business issues faced by a steel producer in Malaysia,
(b) expose students to the complex nature of the external environment faced by a steel producer (e.g., economic, political, and technical),
(c) enable students to analyze and evaluate the objectives, policies, structure, performance, and strategies of a large steel producer,
(d) enable students to discuss the strategies available to a steel producer in view of the general environment in the steel industry and the internal resources of the company;
(e) enable students to discuss the entry modes available for international expansion.

Theory Application

SWOT analysis, business-level strategies (e.g., low-cost strategy, differentiation strategy), and international entry modes may be applied in analyzing this case.

Research Method

This undisguised case was prepared using secondary publications (e.g., the publications of Perwaja Steel Berhad and the Malaysian government, business magazines, newspapers) and materials taken from the web sites of various organizations including Perwaja Steel Berhad, Malaysian Iron and Steel Industry Federation, American Iron and Steel Institute, Steel Business Briefing, Steelonthenet.com, and World Steel Association.

Suggested Teaching Approaches (not class tested yet)

The case should be given out to students at least a week before the discussion session or even earlier if the instructor expects students to do some background research on the company and steel industry. It can also be used for a long report (either as an individual or group project). Students should explore all aspects of the company and include in their discussion the following.

1. Characteristics and trends of the steel industry.
2. Forces that impact on the performance of the company including the competitive conditions that the company faces.
3. Future prospects of the company.
4. The strengths, weaknesses, opportunities, and threats of the company.
5. The strategies for developing and maintaining a competitive advantage.
6. The modes of entry for international expansion.

It is recommended that the case be discussed in a 90-minute session as follows:

Setting the stage for discussion	5 min
Company analysis	55 min
Recommendations for company	20 min
Summary of discussion	10 min

A grading rubric can be used to rate students' performance in the case analysis (see Appendix).

Discussion Questions and Suggested Answers to Questions

1. What are the global characteristics and trends of the steel industry? In light of these characteristics and trends what are the (a) implications for Perwaja Steel? (b) potential problem areas that need particular attention?

Global characteristics and trends	**Implications for Perwaja Steel**	**Potential problem areas that need attention**
Demand for steel is cyclical and volatile depending on the conditions of the global economy and the industries (i.e., automobile and construction) on which steel was used.	Volatility in the steel industry can result in either a loss or profit for Perwaja. For example, a global economic downturn toward the end of 2008 caused a slump in steel demand, a decline in the price of steel, an increase in costs of production, a decrease in share prices of steel companies, and losses for steel companies including Perwaja. Perwaja reported a loss of more than RM100 million in 2005 and 2009. On the other hand, when the economy is booming, steel production can be a highly profitable business. Indeed, Perwaja was profitable in 2006, 2007, and 2008.	The uncertain market conditions place considerable pressures on top managers to monitor the market closely, adapt to market changes quickly, and make strategic decisions effectively.
Prices of iron ore and coking coal are predetermined and fixed on a yearly basis, whereas the price of steel fluctuates depending on the worldwide demand for steel.	When making strategic business decisions, it is important to get the timing right and look for favorable market conditions. Otherwise, the company will be at risks of absorbing higher production costs and selling its steel products at lower prices.	The fixed negotiated prices of iron ore and coking coal and volatile price of steel may put Perwaja at a cost disadvantage.
Over the years, the local steel industry has transitioned from relatively sheltered markets to more open/competitive ones.	An advantage of this transition is there are more global opportunities (e.g., increased market size, economies of scale, and development of new capabilities). In all likelihood, Perwaja would have to plan its business to operate globally. The top management team must develop global mind-sets and competence to manage different problems, complexities, and threats that might accompany the firm's international expansion.	A major challenge is it now faces stiffer competition from large producers such as those in China and Japan. With stiffer competition, a lack of product differentiation, and low switching costs, Perwaja needs to protect its local and overseas markets. It needs to be a strong home-country competitor that can also be a successful global competitor.
Major steel players engage in diversification and international expansion efforts.	To remain competitive and profitable as a major steel player, Perwaja would have to diversify its business and expand to reach more customers.	Difficult economic conditions and cost-cutting measures could hamper diversification and expansion efforts.

2. Prepare a SWOT analysis for Perwaja Steel.

Strengths: 1. Has high production capacity and capability to develop economies of scale. 2. Has control over domestic customers (e.g., Kinsteel and Perfect Channel). 3. Has dominance over the domestic DRI market (e.g., produced more than 50% of the total DRI in the country). 4. The management is committed towards cost-cutting measures and settling Perwaja's debt.	Weaknesses: 1. Almost 40% of its employees are older employees who have been employed for more than 5 years. These employees may resist change and face problems adapting to the fast-changing competitive global environment. 2. Cost disadvantage due to underutilization of its DRI and semi-finished long steel production capacity. Its HBI plant is idle due to quality problems. 3. Offers a limited product line that focuses on upstream products. 4. Has a limited number of overseas customers.
Opportunities: 1. Global market seems promising as export restrictions have been lifted. 2. International expansion might help in achieving economies of scale as well as provide opportunities for learning and innovation. 3. There is possibility of sourcing for local iron ore instead of relying on imports.	Threats: 1. Unfavorable market conditions: Demand for steel is cyclical and depends on the global economy. An economic downturn can cause a slump in demand and a drop in steel prices. 2. Strong competition from cost-effective and value-added imports from China and Japan. 3. Fixed negotiated price of iron ore and unstable supply of scrap steel. 4. Rising costs of raw materials, coal, gas, transportation, and inventory holding.

3. In light of the findings of the SWOT analysis, what recommendations would you make to the company to (a) improve its long-term performance and prospects, (b) compete in the domestic market, and (c) explore international expansion?

In general, recommendations to improve Perwaja's long-term performance and prospects may include developing effective strategic leadership, expansion plans, and cost saving plans.

1. Effective strategic leadership is crucial. Top management team members with substantive expertise in the firm's core functions and businesses are important and needed to improve its financial performance, innovate, and create strategic change as necessary.

2. Perwaja needs to have effective expansion plans to capitalize on global opportunities and to ensure a more stable steel demand. It may consider expanding its market into new sectors and diverse geographical locations (e.g., diverse international markets including both emerging and developed economies).

3. Perwaja needs to have effective cost saving plans to keep production costs down continuously. For this purpose, it may consider integrating backward to have control over the suppliers and developing greater economies of scale (that would allow Perwaja to price its products competitively or earn higher profits). To minimize reliance on scrap steel, it may consider reviving its HBI production.

Students may recommend any of the two generic business-level strategies (see Ireland, Hoskisson, & Hitt, 2009 for a review) to compete in the domestic market depending on the SWOT analysis. Instructors may accept any recommendation as long as the recommendation given matches with the opportunities and threats in the external environment of the company and the strengths and weaknesses of its internal environment.

The SWOT analysis is likely to show that a low-cost strategy would be more appropriate for the following reasons.

1. A low-cost strategy would improve Perwaja's debt structure and financial position.
2. A low-cost strategy serves as a valuable defense against unfavorable market conditions.
3. A low-cost strategy would allow Perwaja to reduce prices to maintain attractiveness over competitors' products or other substitute products and to reduce threats from potential entrants.
4. A low-cost strategy would increase selling opportunities to new customers and reach a broader customer base.
5. A low-cost strategy would allow Perwaja to absorb price increases from suppliers because of higher margins (from large sales volumes) relative to competitors.
6. A differentiation strategy would not be suitable as Perwaja offers a limited product line and largely undifferentiated steel products (e.g., DRI). Furthermore, the domestic market for differentiated steel products is small.

According to Ireland et al. (2009), five entry modes can be recommended for international expansion depending on the objectives of the expansion (e.g., increase market share, diversification, forward and backward integration, technology transfer). Instructors should encourage students to discuss the advantages and disadvantages of the recommended entry mode(s) as outlined by Ireland et al. (2009) and listed below.

Exporting

A common form of international expansion is for firms to export products from the home country to other markets.

Potential advantages:

- Exporters have no need to establish operations in other countries.
- Exporters must establish channels of distribution and outlets for their goods, usually by developing contractual relationships with firms in the host country to distribute and sell products.

Potential disadvantages/risks:

- Exporters may have to pay high transportation costs.
- Tariffs may be charged on products imported to the host country.
- Exporters have less control over the marketing and distribution of their products.
- Firms must deal with currency exchange rates.

Licensing

Through licensing, a firm authorizes a foreign firm to manufacture and sell its products in a foreign market.

Potential advantages:

- The licensing firm (licensor) generally is paid a royalty payment on every unit that is produced and sold.
- The licensee takes the risks, making investments in manufacturing and paying marketing/distribution costs.
- Licensing is the least costly (and potentially the least risky) form of international expansion because the licenser does not have to make capital investments in the host countries.
- Licensing is a way to expand returns based on previous innovations, even if product life cycles are short.

Potential disadvantages/risks:

- The licensing firm has little control over the manufacture and distribution of its products in foreign markets.
- Licensing offers the least revenue potential as profits must be shared between licensor and licensee.
- The licensee can learn the firm's technology and, upon license expiration, may create a competing product.

Strategic Alliances

Most strategic alliances represent ventures between a foreign partner (which provides access to new products and new technology) and a host country partner (which has knowledge of

competitive conditions, legal and social norms, and cultural idiosyncrasies that will enable the foreign partner to successfully manufacture or develop and market a competitive product or service in the host country market). Research suggests that alliances are more favorable when uncertainty is high and where cooperation is needed to access knowledge dispersed between partners and where strategic flexibility is important. Acquisitions work best in situations with less need for flexibility and when the transaction supports economies of scale or scope.

Potential advantages:

- Firms may share the risks and resources required to enter international markets.
- Alliances facilitate the development of new core competencies that yield strategic competitiveness.

Potential disadvantages/risks:

Strategic alliances also present potential problems and risks due to

- Selection of incompatible partners.
- Conflict between partners.

Acquisitions

An acquisition is a transaction where one firm buys a controlling or 100 percent interest in another firm with the intent of making the acquired firm a subsidiary business within its portfolio.

Potential advantages:

- Acquisitions provide the fastest and often the largest initial international expansion of any of the alternative entry modes.
- Acquisitions serve many purposes including to: (a) increase market power (by becoming larger); (b) overcome entry barriers (by acquiring a firm with a position in the target industry); (c) reduce cost of new-product development and increase the speed to market entry; (d) reduce the risk associated with developing new products internally; (e) diversify both firm and managerial risk by increasing the level of diversification; (f) reshape the firm's competitive scope; and (g) boost learning and the development of new capabilities.

Potential disadvantages/risks:

- Acquisition requires difficult and complex negotiations.
- Owing to inadequate evaluation of the target firm, acquirers may pay more for the target firm than it is worth.
- Acquiring firms also may overestimate the existence and value of synergies from combining the two firms.
- Firms may face difficulty in successfully integrating the two firms due to complexities in merging different cultures and practices.
- If the acquisition is financed with debt, the costs related to a significant increase in debt—interest payments and debt repayment—may squeeze the firm's cash flow and limit managerial flexibility resulting in the firm passing up attractive long-term investment opportunities.

New Wholly-owned Subsidiary

Firms that choose to establish new, wholly owned subsidiaries are said to be undertaking a *greenfield venture*. This is the most costly and complex of all international market entry alternatives.

Potential advantages:

- Achieving maximum control over the venture.
- Being potentially the most profitable alternative (if successful).
- Maintaining control over the technology, marketing, and distribution of its products.

Potential disadvantages/risks:

- A new wholly-owned subsidiary carries the highest costs of all entry alternatives as a firm must build new manufacturing facilities, establish distribution networks, and learn and implement the appropriate marketing strategies.
- The firm also may have to acquire knowledge and expertise that is relevant to the new market, often having to hire host country nationals (in many cases from competitors) and/or costly consultants.

Reference

Ireland, R. D., Hoskisson, R. E., & Hitt, M. A. (2009). *The Management of Strategy: Concepts and Cases* (8th edition). Ohio: South-Western Cengage Learning.

APPENDIX: GRADING RUBRIC

Questions	Weight	Learning Outcomes	No Evidence 0	Below Expectations: Shows significant gaps in understanding of task 1 - 2	Average: Familiar with task but does not demonstrate high level of competence 3 - 4	Good: Understands task, demonstrates high level of competence 5	Comments
What are the global characteristics and trends of the steel industry? In light of these characteristics and trends what are the (a) implications for Perwaja Steel? (b) potential problem areas that need particular attention?	30%	Identify forces in the external environment that have implications on the company's performance and require top management attention.	No evidence	Unable to identify and highlight some of the relevant external forces or trends that impact the company's performance and require top management attention.	Able to identify and highlight some of the relevant external forces or characteristics that impact the company's performance and require top management attention.	External forces that impact the company's performance and require top management atttention are fully identified and highlighted.	
Prepare a SWOT analysis for Perwaja Steel.	30%	Conduct an analysis of the strengths, weaknesses, opportunities, and threats of the company.	No evidence	Unable to provide an adequate and acceptable analysis. Analysis is inadequate and imprecise.	Provides an adequate and acceptable analysis.	Provides a fully precise, accurate, and insightful analysis.	
In light of the findings of the SWOT analysis, what recommendations would you make to the company to (a) improve its long-term performance and prospects, (b) compete in the domestic market, and (c) explore international expansion?	40%	Provide recommendations for improving the company's future prospects and local and global competitiveness.	No evidence	Unable to provide relevant and acceptable recommendations and discussions. Recommendations and discussions are irrelevant and imprecise.	Provides relevant and acceptable recommendations and discussions.	Provides highly relevant and precise recommendations and discussions.	