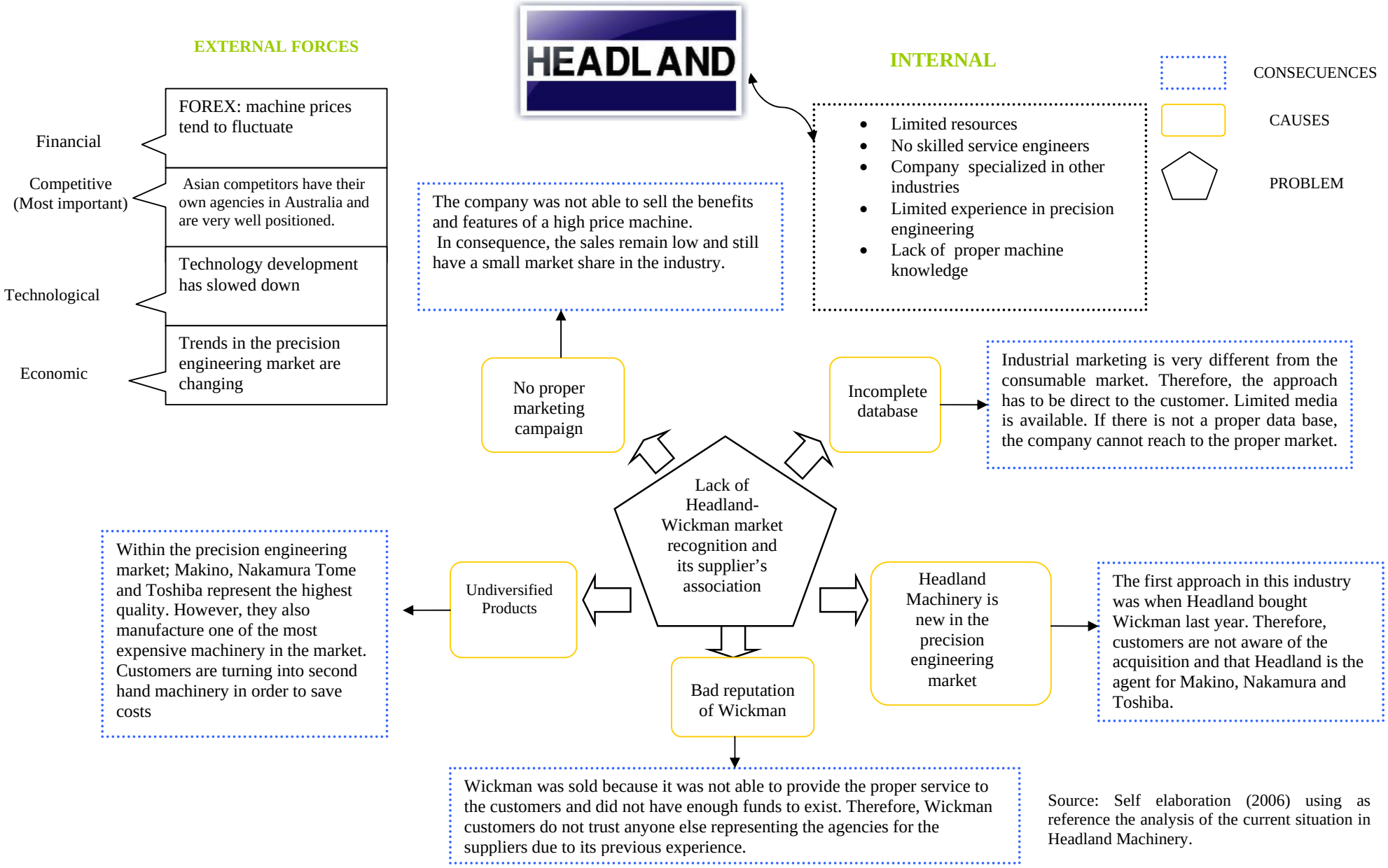
CHAPTER 2

DIAGNOSE OF THE PROBLEM

CHAPTER 2

In the following figure 2.1, a positioning map will graphically explain the variables implicated in the identified problem and a series of solutions will be proposed in the following chapter.

Figure 2.1 Problem Definitions for Headland Machinery



Source: Self elaboration (2006) using as reference the analysis of the current situation in Headland Machinery.

2 DIAGNOSE OF THE PROBLEM

2.1 INDUSTRY OVERVIEW

To facilitate the understanding of the different variables that affect the decision-making of the company and identify the complexity of the current situation in the Australian market is important to give a detailed description of the current behavior of the precision engineering industry.

The precision engineering industry consists mainly of CNC machining centers and lathes. The Global market size is unknown, however the Australian market for CNC machining centers and lathes is valued at US$110 million (approx. AUD$128 million).

The world market consists of approximately 10 large, and a whole scale of small manufacturers. The top five most powerful companies in today's field are Makino, Mazak, Gildemeister DMG, Mori Seiki and Okuma. The last three companies are the most important in affecting and competing in the Australian market.

This top five was established by using the following worldwide sales revenues of machine tools from 2004 provided by the *Metal Working Insiders Report*:

Table 1: Precision Engineering Manufacturers' sales revenues 2004

Yamazaki Mazak	US$1,152 million
Gildemeister DMG	US$1,106 million
Mori Seiki	US$776.9 million
Okuma	US$770.3 million
Makino	US$550.3 million
Daewoo	US$311.6 million
Haas	US$260.2 million
Hyundai	US$188.9 million

(Metal Working Insiders Report, 2006)

The world machine tool market shows three major price segments:

- high-end (niche) market over USD 300,000
- mid-range market between USD 100,000 & 300,000
- low-end market under USD 100,000

Japanese firms are mainly dominating the mid-range segment, while German and Swiss producers focus on the high-end. Due to the increase in consumption and imports in Asia, Taiwanese and Korean companies dominate the low-end of the market.

The Australian market

Nearly all CNC machining centers and lathes are currently being manufactured overseas. World production and consumption of machine tools has traditionally been concentrated in markets like Japan, Germany, and the USA.

Over the last two decades, regional demands for low technology machine tools, and relatively low costs of production, have seen China and Taiwan emerge as major producers and consumers of machine tools. Since the mid 1980s, the dominant supplier of machine tools to the Australian market has been Japan, particularly in machining centers (65 percent) and CNC lathes (30 percent). Taiwan is the second largest supplier of machining centers (10 percent) and the third largest supplier of CNC lathes (12 percent) behind Japan and Germany.

The tables below illustrates that imported machining centers predominantly come from Taiwan, Japan and the USA, followed by Korea and Germany. On the other hand, lathes are mostly imported from Japan, Taiwan and Korea, followed by Germany and the USA.

Table 2: Machining Centers export to Australia

	2000	**2001**	**2002**	**2003**	**2004**	**2005**
Germany	25	18	8	21	13	18
Japan	73	59	90	81	54	44
Korea	4	0	14	26	26	20
Singapore	0	0	0	0	2	3
Sweden	0	0	0	0	1	0
Taiwan	29	42	48	53	54	50
UK	6	9	11	8	2	1
USA	27	33	30	39	53	43
Other	1	0	0	0	3	2
Total	165	161	201	228	208	181

(AMTIL, 2006)

Table 3: CNC Lathes export to Australia

	2000	2001	2002	2003	2004	2005
Denmark	3	0	0	0	0	0
Germany	3	3	4	9	2	23
Hong Kong	1	0	0	0	0	0
Japan	82	65	106	105	117	146
Korea	31	18	38	20	18	38
Singapore	3	7	11	0	6	3
Swiss	4	5	1	2	3	2
Taiwan	20	26	31	51	52	46
UK	23	18	26	0	10	1
USA	5	4	15	22	21	21
India	0	0	0	4	3	2
Other	0	0	0	0	0	0
Total	175	146	232	213	232	282

(AMTIL, 2006)

Since most CNC Machining Centers and Lathes are manufactured overseas, the Australian market consists mostly of distributors/importers.

Most Australian companies (e.g. the clients) prefer to purchase imported equipment through local subsidiaries or representatives of overseas manufacturers and this practice has been followed by U.S., European and Japanese suppliers.

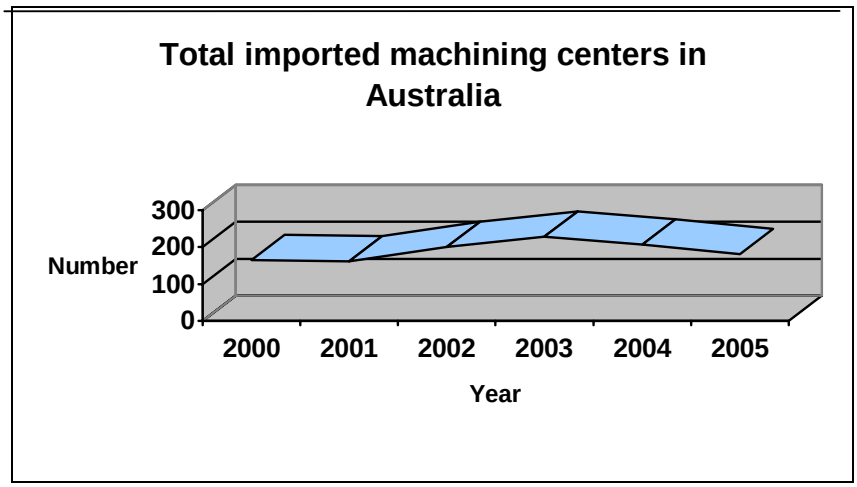
The importer/distributor normally sells directly to the end-user, and also provides back-up services for the equipment sold. This is an important factor in purchasing decisions by Australians, who prefer to deal with local firms, rather than to have long-distance communications with foreign suppliers.

CNC machining centers and lathes are aimed at the high end of the market. Therefore competition is based more on factors such as product performance, quality and ability to service the market rather than on other variables such as price, quantity and availability.

In the short to medium term, the total market for machine tools is expected to show modest growth primarily due to expectations for continued growth in capital expenditure. Growth is mostly expected in the lathes market. The future of CNC machining centers seems more unpromising, as sales/imports continue to decline. In general the expected growth comes after a few years of declined sales/imports.

All of the information provided is illustrated by the graphs and tables below:

Graph 1: Machining Centers import declining



(AMITL, 2006)

Table 4: Machining Centers import declining

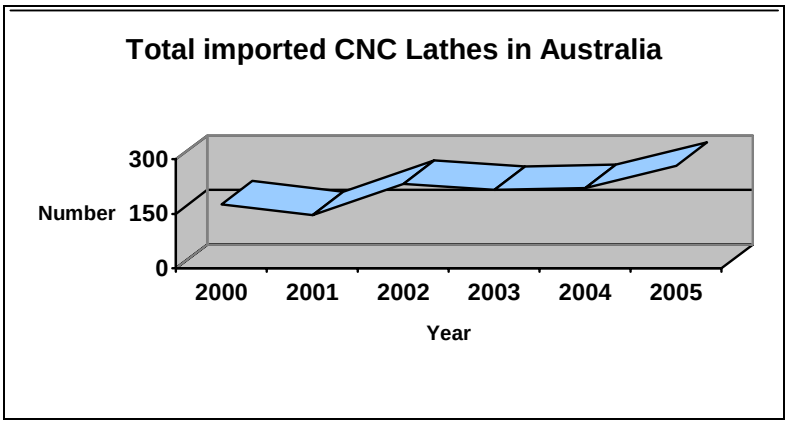
	2000	2001	2002	2003	2004	2005
VIC	70	96	105	120	84	90
NSW	46	22	37	37	49	32
QLD	28	24	30	33	46	32
SA	18	13	23	29	15	15
WA	3	6	6	9	12	12
Total	165	161	201	228	206	181

(AMTIL, 2006)

Fortunately, the machining centers market is not only a negative story, since table 2 also notes that after a slump in sales in 2004, the machining centers market seems to be recovering in Victoria (which is the biggest and most important segment of the Australian market) and is experiencing a small rise.

Even better news comes from the lathes market, as sales are still rising, which is illustrated in the graph and table below. Also note again the Victorian market is the most prominent in the Australian market.

Graph 2: CNC Lathes sales rising again



(AMTIL, 2006)

Table 5: Lathes sales booming

	2000	2001	2002	2003	2004	2005
VIC	92	74	96	91	68	113
NSW	29	29	49	53	57	70
QLD	29	21	60	37	52	53
SA	20	18	16	23	26	25
WA	5	4	11	11	18	21
Total	175	146	232	215	221	282

(AMTIL, 2006)

As is clearly noticeable from tables 2 – 5; the Victorian market is the most important one. The reason for this lies in the fact that most buyers of machining centers and lathes are concentrated in the automotive and metal fabrication industries, which is concentrated mainly in Victoria.

The market for CNC Machining Centers and Lathes is a technology driven market. This means that manufacturers spend a lot of their budget on R&D. Because the production costs of the machines are high, marketing plays a valuable part, since quality (also measured by brand name) and service are important factors.

2.2 PROBLEM OVERVIEW

As mentioned in the previous chapter, the main problem is the lack of Headland-Wickman market recognition and its supplier association. Thus, the following analysis will explain the main causes and consequences the company is currently facing in order to improve its position in the precision engineering market.

The greatest difficulty the company has to struggle with is that Headland Machinery is newcomer in the precision engineering market. The company already has a well-established reputation in the sheet metal, fabrication and storage industries. However, when Headland bought Wickman in February of 2006, they viewed it as a good opportunity to invest in other markets.

The main problem they encountered was that old Wickman customers left with the competition leaving only very few interested in the company. Most of the customers that used to buy machinery from Wickman are not aware of Headland's acquisition of Wickman and therefore do not know that Headland is the new agent for Makino, Nakamura Tome and Toshiba.

Also, Headland has reacted slowly to the current market trends. The current stock machine is mainly composed by CNC machining centers while the market trend clearly shows that it is switching to lathes (refer to graph 1 and 2). This is because lathes are more flexible to use, they are accurate and don't allocate. Also, they are more cost-effective over all because they are multi tasking. Toshiba and Makino are in the machining center market and the company has focused

much attention to them, while they should give the same or more interest to Nakamura Tome because they deal in lathes.

The reason Wickman was closed down was due to its poor performance in the precision engineering industry. Therefore, when it went into public sale, they company's reputation was much damaged. Not only the customers left the company, but most of the other suppliers retired their agency as well. This became even more difficult for Headland because customers currently do not trust the agencies representing Makino, Nakamura Tome and Toshiba due to their previous experience. Building a customer relationship is one of the hardest tasks Headland is facing.

By the time Wickman was sold, it lacked of a proper database because the company did not keep records on computer. Headland had only a few files from old customers and the information was not updated. For most of the customers there was no record, making it almost impossible to look at feedback of their consumption. When Headland acquired Wickman, there was not a proper database built. Therefore it has made it hard to reach to the proper market.

Consequently, the company has searched for potential customers through different Australian organizations: AMTIL and TIFA. They both represent the interests of Australian manufacturers within the most important industries and Headland Machinery is a proudl member of AMTIL. These organizations have an enormous impact on the precision engineering industry which makes it easier to access to this market and approach new customers.

Another problem Headland has encountered since the acquisition is the challenge to succeed in this kind of market due to the product they sell. Nakamura Tome, Makino and Toshiba are Japanese manufacturers. Nakamura represents accuracy, quality and reliability; Makino is the world leader in metal cutting and manufacturing technology; and Toshiba is the world leader in the machine-tool industry.

The three of them belong to the high end market and represent top quality worldwide. Thus, their products (CNC machining centers and lathes) are one of the most expensive in the industry which makes it difficult to commercialize. For instance, a Makino machine can cost up to one million Australia dollars. The precision engineering market is small and well segmented and this

kind of limitation narrows the sector even more. The lack of product diversification has become a challenge to the company.

In consequence, customers have turned to second hand machinery due to its low cost yet good performance. There are machines in good physical condition, cost much less than a new one and provide the same quality. The main disadvantage is that not all industries in precision engineering are able to use second hand machinery because they run the risk of not getting the product done properly the first time. The United States is becoming an important player for mid-range machinery including second hand due to its good reputation in this market and the price they offer. This makes it hard for Headland Machinery to compete in this sector because the machinery they sell is brand new.

A marketing campaign has been previously done without the expected results. Even though the company advertised in several media such as manufacturer's magazines, online publications, AMTIL and in national exhibitions, the results were not the desired ones. The main cause was that Headland was not able to sell the benefits and features of the machines.

2.3 INTERNAL/ COMPANY ANALYSIS

2.3.1 Limited Resources

Headland Machinery is not able to increase their current stock because each machine costs a lot of money (over US$300,000). At the moment, they have four machines in stock and have not sold any regardless of how much advertising and promotion they have done. Therefore, the company is forced to sell these machines before making any other investments. Also, the suppliers do not offer the equipment on consignment. This means Headland will only buy a new machine if it is sold beforehand and paid for by the customer. Precision engineering is a high cost industry, and since Headland forms part of another three industries, their resources are limited as well.

2.3.2 Limited Experience in Precision Engineering

As mentioned before, Headland Machinery has been in the precision engineering industry for less than a year. Therefore, the company is not aware of all the constant changes and difficulties being part of this industry entails. For instance, customers are reluctant of buying machinery from an agency that has not much experience in the field which is exactly the case with Headland. The suppliers (Makino, Nakamura Tome and Toshiba) are well positioned world wide but still the customers rather buy from other agencies that know the market better and have other well positioned brands.

Another issue the company has encountered with their limited experience is the lack of proper training/preparation of the service engineers. There are only two service engineers from Wickman that now work for Headland. Both of them are not in the state of Victoria (headquarters) because they are servicing the branch in Sydney. Even though they have trained the original engineers from Headland, they still do not know much about the machines (machining centers and lathes) or the suppliers.

2.4 EXTERNAL/ INDUSTRY ANALYSIS

2.4.1 FINANCIAL CHARACTERISTICS

2.4.1.1 Exchange Rates

Foreign Exchange Market (FOREX) movements affect the price of the imports and exports. FOREX movements also exert great influence on the final price of the imported machinery due to its constant changes. Furthermore because the machinery is imported mainly from Japan and Germany, the Australian agents suffer the difference of exchange rates between the Australian Dollar-Euro, and the Australian Dollar-Yen. The different currency rates affect the level of capital expenditure of both the automotive and aerospace industry.

Also, growth & inflation on both global and national economic activity affect levels of private capital investment by manufacturers.

2.4.2 ECONOMICAL CHARACTERISTICS

2.4.2.1 Market Growth Rate

Over the last five years the Machining Center and Lathe markets have experienced the following growth:

Table 6: Market growth for Machining Center and Lathes markets

Market growth	2001	2002	2003	2004	2005
Machining Centers	-2.42%	24.84%	13.43%	-9.65%	-12.14%
Lathes	-16.57%	58.90%	-7.33%	2.79%	27.60%

(AMTIL, 2006)

Machining Centers:

As table 6 points out, the market has been declining after a tremendous growth in 2002. According to the statistics a negative growth will continue through out the 2006. Judging from the table, it can be concluded the machining centers market seems to be mature or even in decline.

Lathes:

According to table 6, the market for lathes is blooming again, after some unstable years. Therefore the market will most probably continue to grow and keep the same trend for the next few years.

The precision engineering market is heavily influenced by infrastructure, automotive and aerospace industry development, which in turn are heavily dependant on economic growth, local and global interest rates and capital expenditure.

2.4.3 COMPETITIVE FORCES

2.4.3.1 Composition and degree of rivalry among competitors

Each competitor has niche markets, vs. strong competition for same markets and market share. There are approximately 5 major machining centers manufacturers in Australia. Most of them compete for the high end of the market. Generally speaking rivalry is moderate, with strong customer loyalty shown to manufacturers.

2.4.3.2 Barriers to entry

Manufacturers: High. Enormous costs to build machines and develop R&D capability and intellectual property. Therefore the threat of new manufactures entering the market is low.

Distributors: Initial set-up costs are average, if stock holdings are not required or offered on consignment. However, building up a customer list in the small Australian market is very difficult and relationship based, posing a strong barrier to entry. Therefore threat of new entrants, in the form of distributors is moderate.

2.4.4 COMPETITORS ANALYSIS

The following analysis overviews the three major Asian competitors Headland faces in the CNC machining centers and lathes in the Australian market: Mori Seiki, DMG and Okuma.

Competitor strategy & objectives

General

Mori Seiki Co., Ltd. was established in 1948 and has its head office in Japan. Mori Seiki is currently number one tool machine supplier in the world. Mori Seiki uses sales subsidiaries for their overseas markets. They have set up technical centers throughout Japan to respond to the customers' needs and provide a base for their service, education and retail activities. Japan is Mori Seiki's biggest market, followed by Europe.

Australian market strategy

Mori Seiki serves the Australian market in the following way: First, in 2004 they established a sales subsidiary (Mori Seiki Australia Pty Ltd) in Melbourne. Prior to the establishment of this subsidiary, Mori Seiki had been conducting sales through a local distributor. When this distributor withdrew the agency, Mori Seiki decided to establish a local direct sales subsidiary in order to expand sales and customer service for Australian customers, so they could get more detailed and precise information. Today, Mori Seiki applies a direct sales system through their subsidiary.

Competitor strengths

1. Aggressive marketing approach
2. Market insight, good forecasts
3. Technologically advanced products
4. Broad array of machines, both targeting the high level of branding based marketing and high- and low-end of the market
5. Brand reputation

Competitor strategy & objectives

General

John Gilbert-Lodge founded Gilbert Lodge and Company Limited in 1908 and registered the business in 1912. The firm grew to become a leader in the Australian and New Zealand machine tool, industrial products and metals industries.

After many owners, Atlas Steels purchased the shares in Gilbert Lodge and Company Limited in 1985. Atlas drove the company with a fresh approach to management and they delivered the levels of technical expertise increasingly demanded by the market.

In 1992 the company was renamed Atlas CNC Machines Limited. Atlas CNC experienced phenomenal growth, re-establishing the dominance of Okuma products in the market until its acquisition by Email Limited in 1995.

Smorgon and Onesteel separate from Atlas CNC Machines following a joint takeover in 2000. Okuma Corporation, Japan's largest publicly listed machine tool builder, acquired all shares in Atlas CNC Machines Limited and in 2002 the Company's name was changed to Okuma Australia Pty Ltd.

Okuma is currently ranked fourth in the world machine tool market and is the second most important manufacturer of CNC machining centers and lathes in Australia.

Australian market strategy

Okuma has established their own company, Okuma Australia, in order to serve the Australian and New Zealand markets. Okuma has decided to have everything on the Australian market run through their office. This means they don't use any dealers.

Competitor strengths

- Innovative products
- Technologically advanced
- Own company subsidiary in Australia

Competitor strategy & objectives

General

The Gildemeister group (DMG) was established on 1 October 1870 at Köln-Mindener station in Bielefeld, Germany. Nowadays The Gildemeister group has more than 5,000 employees in 58 group-owned sales and services companies that are ready to serve the customers in 32 countries world-wide.

Nearly 70 per cent of Gildemeister DMG's revenues come from the sales of machine tools versus 30 per cent out of services. That 70 per cent consists of 42 per cnt milling, 25 per cent turning and 2 per cen ultrasonic/lasertec.

Gildemeister's biggest market (45per cent) is Germany which is its domestic market. After that comes the rest of Europe, with 25 per cent. In Australia, they are the third most important supplier in the industry, right after Mori Seiki and Okuma.

Australian market strategy

Gildemeister DMG has its own subsidiary, located in Victoria, in order to serve the Australian market.

Competitor strengths

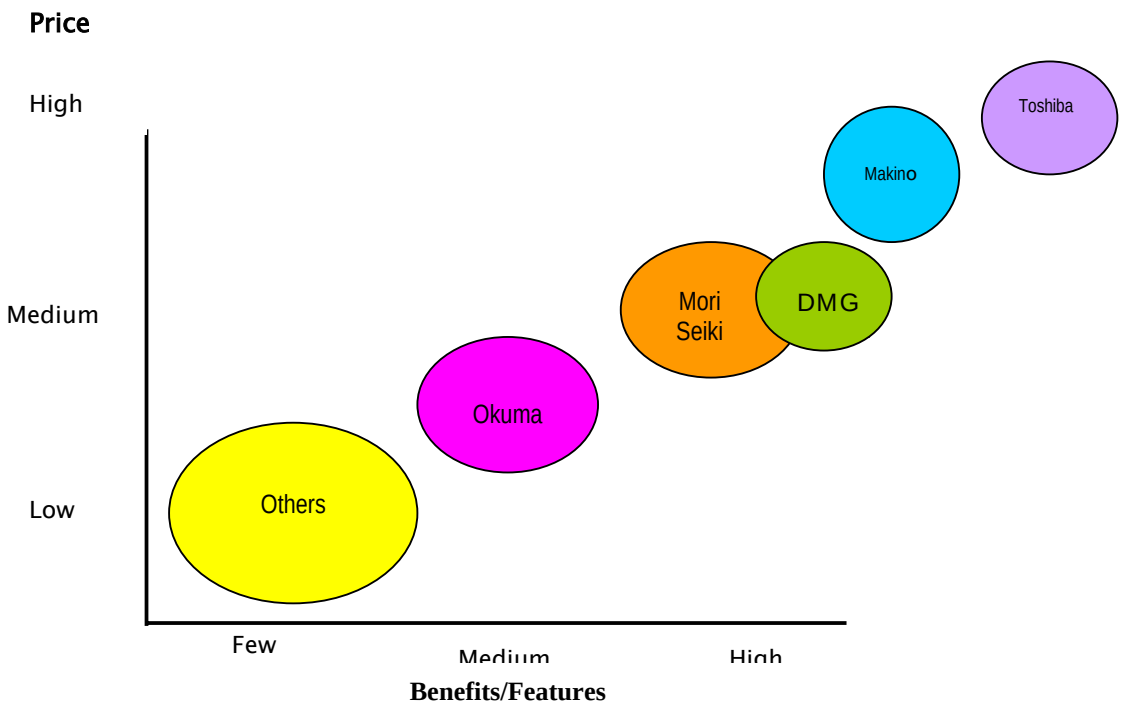
- Innovative products
- Technologically advanced
- Own company subsidiary in Australia

Competitor weaknesses

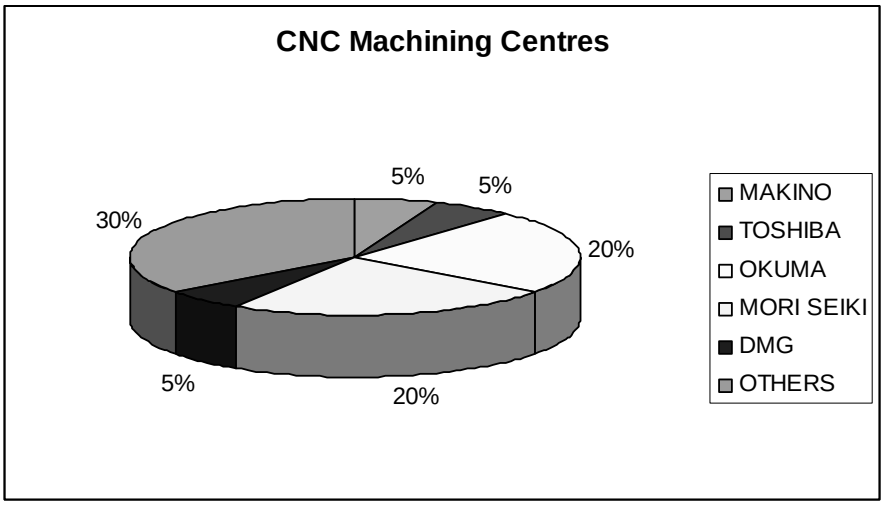
The company mainly focuses on technology, instead of customer. Therefore, it has been losing market share in the last couple of years due to the lack of a proper customer service.

The following graphs provide a better understanding of both Headland's and its competitor's position in CNC machining centers and lathes in the Australian market. This analysis was done in November of 2006 with the support of the company's service engineers because they have first hand experience on the field.

Graph 3: CNC Machining Centers



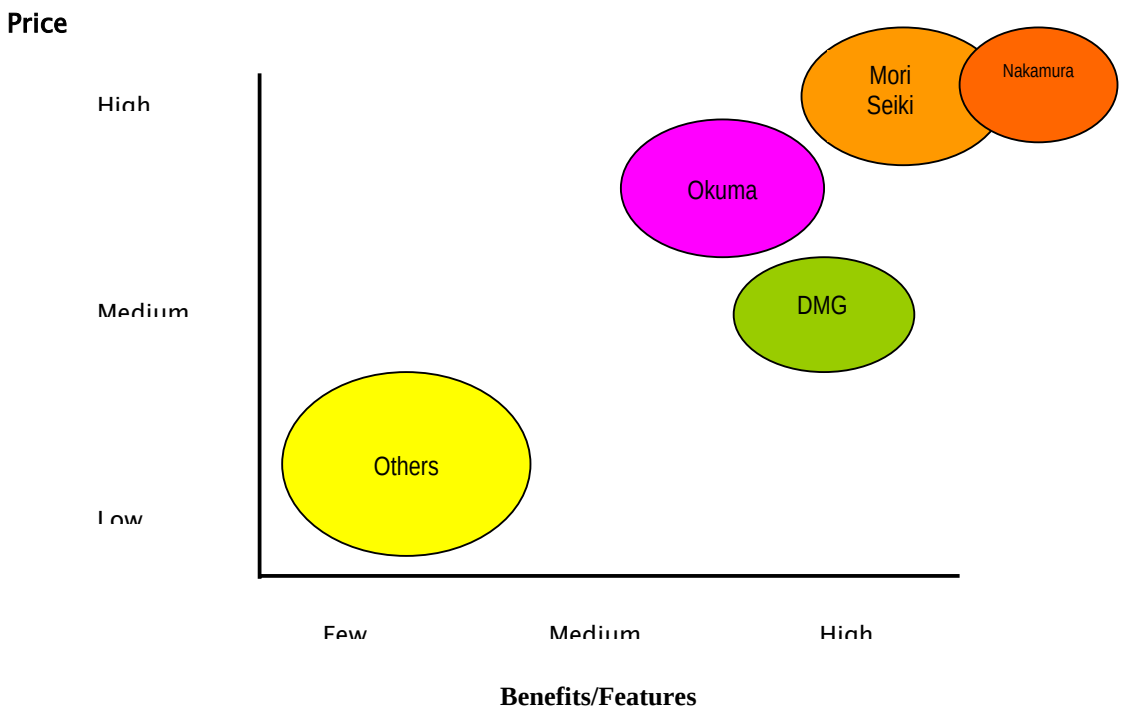
(Self elaboration, 2006 taking as reference information provided by Headland Machinery)



(Self elaboration, 2006)

The CNC machining center graphs show that Headland's suppliers, Toshiba and Makino belong to the high end market. Each one owns only five per cent of the market even though they manufacture machines with the highest technology and quality. The main reason is because they are also the most expensive machines in the market. On the other hand, DMG has five per cent of the market, but they are focused in the middle range market. This means, the benefits of the machines are high, but still at a reasonable price. In the case of Okuma and Mori Seki, each one owns 20 per cent of the total market share. Mori Seiki is the world's number one tool machine supplier and has a very well established reputation through Australia. Okuma, on the other hand, manufactures machines for a relatively low price but it's reflected also on the benefits the machines offer. Finally, the rest of the suppliers, 'others', are characterized by having the rest of the market which is 30 per cent. Most of them sell machinery with average or general features but for a much lower cost. In this case, these suppliers are more likely not to sell into the aerospace or automotive industry which the segment Headland is focused on.

Graph 4: Lathes



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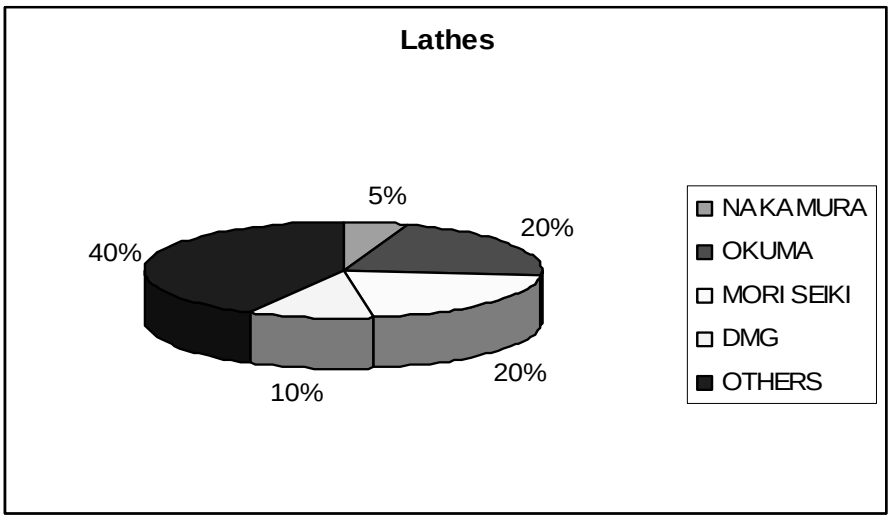


(Self elaboration, 2006)

The lathes graph shows that Headland's supplier, Nakamura Tome, owns only five per cent of the market share and offers the highest features and benefits because they specialize in lathes. They belong to the high end market, which means the machinery is not only the best but also the most expensive in the market. Okuma and Mori Seiki come right after Nakamura. However, the market share each one has is 20 per cent due to their good quality, based on machine tools and international recognition. Mori Seiki is more expensive than Okuma, but less than Nakamura even though both compete for the high range market. In the case of DMG, the company owns 10 per cent of the lathe market share. The benefits and price costumers obtain from their machines are in the medium range. Finally, 'others', which are the rest of the suppliers, own the biggest lathe market share. The 40 per cent is made up by more than 10 suppliers and they manufacture low cost machines with only basic features. As mentioned before in the CNC machining center analysis, Headland does not compete with them because their product (lathes) is not targeted to the same market (aerospace and automotive industry).

2.5 INDUSTRY KEY SUCCESS FACTORS

In order to be successful in the precision engineering industry, Headland Machinery needs to have the following qualities:

2.5.1 Technologically advanced products / Innovative products

The precision engineering industry is predominantly technology driven. Manufacturers therefore keep inventing and implementing new technologies and techniques. This has become such a pattern that the market now expects only the latest and the best technology. Manufacturers who can not deliver this will be pushed out of the market by others who can.

Users in the Australian market of precision engineering industry face tight margins and stringent quality control laws. As such having state of the art equipment, allows them to remain competitive. However, decreasing margins for key associated industries such as the automotive industry, puts price pressure on manufacturers and therefore limit the available capital for machinery expenditure.

As such suppliers to this industry, need to ensure that the benefits of the new technology will produce quantifiable return for the customer.

2.5.2 Hands-on approach

Over the past years the precision engineering industry has changed. Customers have more power and a better knowledge of what they want. Headland Machinery will need to stay ahead of the competition by finding new ways to serve and anticipate the market's needs.

Sales techniques need to be proactive not reactive in identifying equipment uses for their customer base. Due to the high capital outlay required for such machinery, sales needs to have a firm understanding of the product and its application for each client, due to the increasingly higher education level of the buyer and increased competition in the market.

2.5.3 High level of branding based marketing

As mentioned above, the precision engineering industry is technology driven and reputation based. Branding can be used as a tool to distinguish a company from its competitors. An example of this is Okuma that emphasises the service that comes with the product, or Mori Seiki's machine's incredible durability, versatility etc.

2.5.4 Relationship marketing

Because of the high capital expenditure required, a high level of relationship marketing is required. A high level of confidence in the customer and service support is required to finalise the sale. Relationship marketing is also important to ensure repeat sales.

2.5.5 Service

High service levels are required to ensure downtimes are minimised and that relationship marketing is continued throughout the life of the product, leading to repeat sales.

2.5.6 Product benefits

Product benefits/features can act as a distinguisher in a competitive market, especially where a high capital outlay is required.

In the following theoretical framework a review of diverse associated concepts of the problematic study will be executed in order to determine afterwards if the preliminary model of the problem requires modifications or not.

2.6 INDUSTRIAL MARKETING FRAMEWORK

In this chapter, concepts related to industrial marketing such as its definition, characteristics, specifications and advertising will be reviewed due to its direct involvement with the selected problem.

Facing the challenge of increasing globalization, market specialization is a recognizable tendency anywhere in the world. Technological complexity and new scientific advances have created an industrial sector more and more segmented and specialized. Therefore, with smaller market segments and an increasingly competitive market place, industrial marketing techniques need to be refined and market orientated, to ensure maximum impact and effectiveness.

The marketing of industrial products presents different challenges in comparison with the marketing of services and consumer products. Industrial products are generally purchased by business professionals who apply more objective criteria during the decision making process. Therefore, the marketing must be oriented to emphasize the technical and profitability benefits of the product in relation to its sale price. In this case, the technical specifications that are appreciated by the buyers include: speed, reliability, repeatability, efficiency and flexibility. This target market is mainly composed of the manufacturing, agriculture, construction, automotive, aviation and dies mould industries.

2.6.1 Industrial Marketing Definitions

There are several definitions of industrial marketing according to different authors:

‘Industrial marketing is the commercialization of goods and services between the business users in opposition to the final consumers (Mc Neil, 2005 p. 68)’

‘Industrial marketing is the marketing of goods and services to industrial and institutional customers. It refers to the process of segmenting the total market, targeting the most rewarding segment and positioning the offer… (Kotler, 2003 p. 179)’

‘Industrial marketing consists in designing strategies thus a group of companies find a supplier and this one can satisfy the raw materials…(Argyriou, 2005 p. 592)’

2.6.2 Main characteristics of the industrial marketing

As Mc Neil (2005) has pointed out, the key characteristic of the industrial products is the acquisition of goods and services to produce other goods and services.

- The nature of the goods is technical with perfectly defined technical characteristics.

- Compose an element of the production cost, thus, the price of the industrial product.

- In the field of industrial products, the product's worth is based on the quality and services it offers.

The main differences between industrial marketing (B2B) and consumer marketing (B2C) according to Minett (2001) are:

1. Reduced number of clients: Industrial products are directed to a small sector compared to the consumption market.

2. Greater importance to the client: Since the buyers are specialized, and the market is limited, the clients are generally more demanding. They have a higher power of negotiation and greater economic power.

3. Specific necessities exist: Each company or industry faces different challenges and requirements due to the customer needs they are usually detailed and very concrete. The industrial solutions must be "custom made" to the buyer market.

4. Intermediate products: The industrial goods are intermediate goods, this means they are in the middle of the value chain. Therefore, it is important to emphasize the added value that the products can offer in terms of improvements to productivity, time saving and technical facility.

5. Derived demand: The demand of industrial goods is derived in terms of the demand of the consumer goods. This means, if the demand of these goods (consumption) were reduced, in the same direction the demand of the raw materials would be affected. Therefore, in industrial marketing is important to be aware of the patterns of the final consumer and the external factors that affect it as well.

6. Professional purchase: Industrial goods are usually acquired by professionally trained people, who put effort and time into educating themselves about the product and the decision making process. This professional approach and greater ability to value the technical information, leads to higher costs in the purchase. Industrial marketing specialists require a high degree of product technical knowledge.

2.6.3 Industrial Segmentation

2.6.3.1 Specifications

The segmentation of consumer vs. industrial goods differs, since the objectives the purchase will fill are different and the education and information level of the purchases tends to be highly different. In the same way in which the consumer segment studies the product, the industrial segment studies the business value add that the product/purchase will bring to the production process.

2.6.3.2 Variables in the Industrial Segmentation

Mc Neil (2005) has found that the most commonly used variables to segment industrial products are the following:

- Industrial Sector: Knowledge of the sector in which the company is involved.

- Production Volume: To know if it is produced seasonally or if the production is constant throughout the year, and uses the businesses total production capacity.

- Number of Employees: How many employees are per department.

- Industrial Equipment: Type of machinery used, which spare parts are used to make the machinery work properly.

- Purchase Decision Process: Within the company who or which department is in charge of analyzing and authorizing the purchases required by the company.

- Geographical Position: Industrial, urban or rural location depending on the industry the company belongs to.

- Import or Export Activity: If the company produces to export, or imports products to commercialize them or its activities.

- National or Foreign Investment: If the investors are foreign, they will likely have different ways to negotiate.

- Administrative Centralization: If different departments have their own autonomy or depend on top management.

2.6.4 Purchasing Patterns

Minett (2001) identifies that the purchasing behavior in industrial marketing is considerably different to the behavior of mass consumption in several aspects. The differences are due to the nature of the product and the relationship between seller and buyer.

Direct Purchase. In the industrial market, direct purchase of the product from the supplier by the end user and information gathering about the product is very common. This can bee seen especially when there is a high value and complex order and the buyer requires a lot of technical assistance. Through the point of view of the seller, the direct sell in industrial marketing is due because there are relatively few potential buyers and they are characterized by being big or geographically concentrated.

Frequency of Purchase. In the industrial market, companies acquire certain products (i.e machinery) rarely. Due to this infrequent purchasing pattern, personal sales programs play an important role. Industrial representatives should visit the prospective customers frequently to keep them informed with the company's products and also be aware when those prospects might next require a purchase, but also to keep informed about the industry and changes in the market and customer requirements.

Order Size. The individual order value of an end user in the industrial sector is usually larger than one of an end user in the consumer market. Due to this, and the fewer frequent transactions, every sale in industrial marketing is very important, because the reduced volume of sales can affect profitability and cash flow for an industrial market supplier.

Length of the Negotiation. The period of negotiation for a industrial product is usually longer than for fast moving consumer goods. This means, generally executives participate in the

purchasing decision, and great amount of money is invested on the sales and in the sales decision making process. In many cases industrial products are also custom made and fabricated according to the customer's specifications, requiring an in depth analysis to establish them.

Service Expectations. As in many cases industrial purchases are business to business sales and are made to value add to existing business process, the customer desires excellent service to ensure business continuity, therefore constituting a strong motive or weighting in the purchasing decision and affecting the purchase patterns in the industrial market. Many times the only distinguishing characteristic of a business is the service they offer, since the product can be of generic use and a commodity product that can be purchased from another supplier.

Security of the Offer. Another pattern of the industrial purchase is the client insistence to have enough quantity of products with the same quality. The variations in quality of the materials that form part of the finished products can cause serious problems to the manufacturers. Their production processes can be affected if the imperfections surpass the limits of the quality control. The emphasis in the total quality management (TQM) has increased the meaning of the trustworthiness. In today's word, that has been established that businesses can operate virtually with zero defects, the buyers expect very high performance standard.

2.6.5 Commercial Distribution in Industrial Marketing

The fundamental role of the distributor is to promote the goods to the designated (usually local) market and implement a marketing strategy appropriate for that sub-section of the global market.

The distributor may also be responsible for technical service of the products sold in their rejoin, and realize that this will, affect the availability of the products at competitive prices and the delivery of service, will affect the customers decision making process considerably, as downtime of industrial goods, can directly affect the customers profitability.

The distributor usually operates independently of the supplier, so as to primarily support their own interests, and not necessarily those of their supplier. In some cases, when the distributor is the sole agent for supplier in a determined region, their interests could coincide. Even so, the distributor must invest its money in the supplier's products only when the investment shows that it meets its customer's needs, and is therefore aligned with market movements (Stanton, 203).

2.6.6 Advertising in Industrial Markets

Advertising plays a very important role in B2B marketing because the purchases are based on the individual technical requirements and quality specifications of each customer. The customer receives all types of technical, professional and specialized publications on all kinds of different products. Since adverts are one of the main sources of mass distributed information on the availability of products, they need to include specific information such as speed, power and time cycles, which relate to these specific customer requirements.

Customers might request additional information and even demonstrations of the product to perform tests on their individual usage requirements. Therefore, advertising prepares potential clients and facilitates the sale, however this can only be achieved if the selling company presents a consisient and ongoing message to the market, through advertising campaigns, pushing both technical specifications, and the quality reputation of the brand.

Argyriou (2005) indicates that in the B2B market, businesses can use different types of media resources to advertise their products:

1. Informative brochure: It should be edited in accessible terms, tailored to the target market, and it is necessary to indicate on the brochure mathematical comparison, data and reference to possible cases.

2. Magazines or business newspapers: They present periodically the detailed and objective information on different materials and products with concrete examples of resolved cases and the latest novelties and technologies.

3. Informative articles: They are targeted to the technical or professional press, in specialized newspapers and magazines. They are a media of knowledge and information widely used in advertising industrial products.

4. Trade exhibitions: Many industries plan trade exhibitions in a national, international and regional level. The activities developed in industrial exhibitions are mainly focused in the examination of the product, promote technological advances and establish comparisons with the competition.

In chapter 3 of the present document, an in-depth media and advertising analysis will be done with more information.

2.6.7 Post-Sale Support System

Generally industrial products require a post-sale support system, according to Mc Neil (2005) there are four fundamental elements:

1. Technical support: It is necessary to have specialized technical support in case of fault and to assist in minimizing post-sale anxiety, which can affect future sale opportunities.

2. Adequate supply distribution: Companies are not able to stop their production due to the lack of pieces, spare parts or provisions, therefore, the selling companies should have high turnover spare parts available in case there is a problem.

3. Training: In many cases it is necessary to train people in order to handle the equipment. Due to the complexity of the processes, training courses are required to provide the right maintenance and efficient and productive use of the products.

4. Follow-up: Companies have to do a constant follow up of their products, not only for customer satisfaction but for the companies' internal processes of quality management, technological evolution and trustworthiness.

In order to sell industrial products properly, it is important to consider the following:

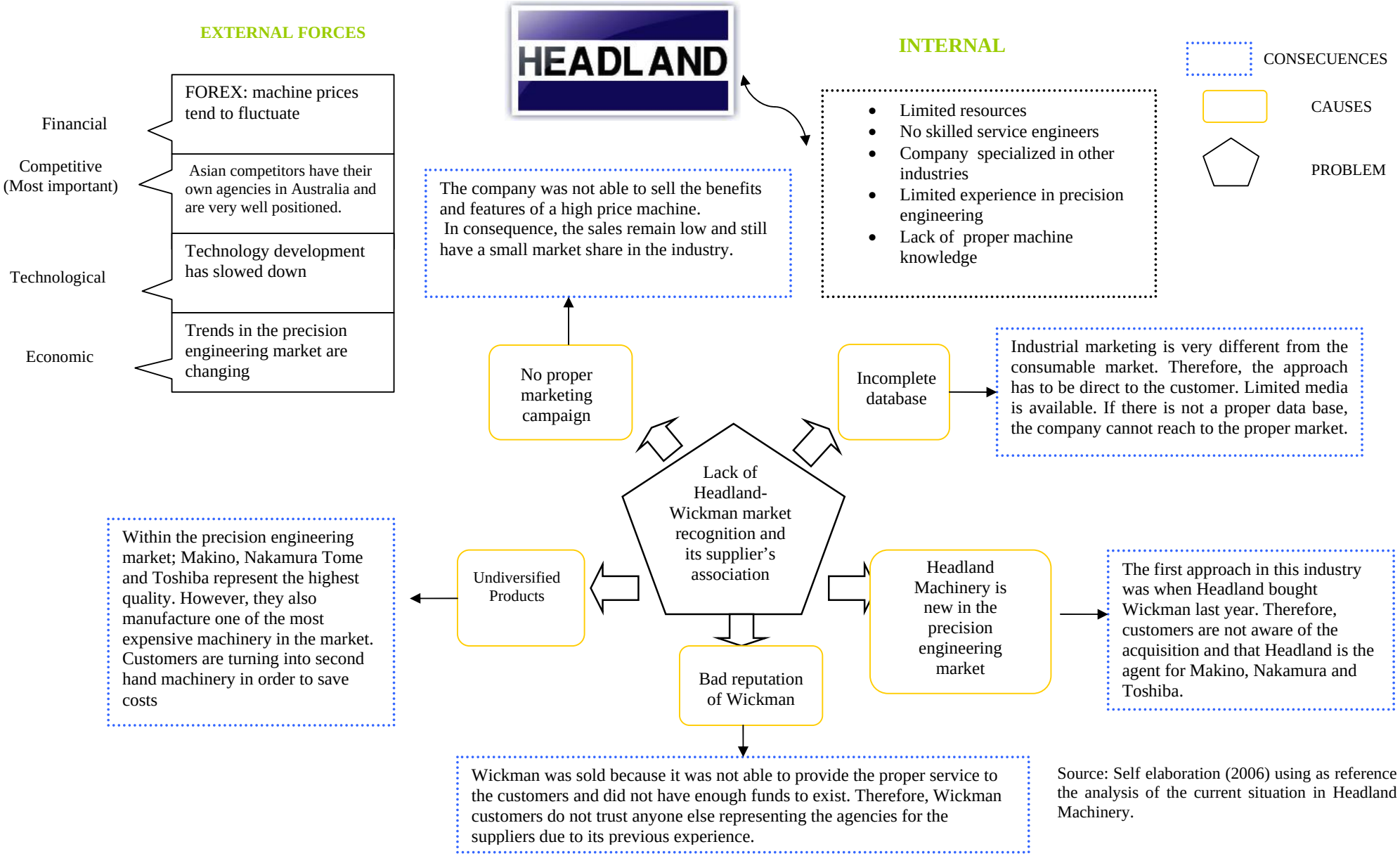
1. Adequate technical documents should be available (manuals, explanations, brochures, etc) plus, the seller should know technical terms and procedures so the client can have a professional company image and a broad knowledge of the product and its capabilities.

2. The seller's income is generally done through commission. The main purpose is to motivate and provide a good service.

The company's image and the one of the seller are a fundamental factor, due to the specialization and type of buyer, and the need for a high level of relationship marketing, required to close high value sales.

In conclusion, marketing plays an essential role in the commercialization of industrial products. It should be able to sell correctly the benefits and features of these products because they belong to a very well segmented market where the buyers have the technical knowledge and high purchasing power to make decisions. Therefore, it is important that the company in charge of distributing the products has a well informed and prepared workforce in order to sell. Advertising using the proper media such as magazines and online sources, can help to reach the adequate market and to increase sales. Finally, it is important to build a customer relationship before and after every sell in order to promote future purchases.

Figure 2.1 Problem Definitions for Headland Machinery



Source: Self elaboration (2006) using as reference the analysis of the current situation in Headland Machinery.

After been reviewed the information provided to compliment the positioning map, I have concluded to keep its original version and make no further changes due to the following reasons:

- It is complete.
- Explains each cause and consequence properly and in detailed version.
- The causes and consequences act in accordance with the actual situation in the industry.
- The positioning map was accomplished with the aid of the service engineers that have first hand experience on the field.
- Through out the entire project I have been supported by my supervisor, therefore, all changes were done at the moment of its review.

Once diagnosed the problem, in the next section several solutions to the problem will be proposed and the adequate ones will be implemented in order to suit the existing situation.

HEADLAND