



Hazer Group Limited - Business Study Report

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Executive Summary:

This report discusses about Hazer Group Limited, in accordance to a basic micro-economic context such as competition. The environment in which the company operates, how the demand for it corresponds to internal fluctuations consumer income, how it reacts to changes in the prices of related goods, etc. The report analyses the following company's sensitivity to the macro-economic context, the impact of the recent government proposal on taxation long- term sustainability cuts and practices of the company.

The applied methodology is the study of various economic variables using the dynamics and statistics of the economy supported by economic justification. The commercial report shows that the company has a favourable position in Gaeltacht in the long-term. The report is completed, clear and has commercial implications (University of Wollongo , 2000).

1.Introduction to Report:

The main goal of a company is to maximize profits and control costs. This report will take-onto-account the micro-economic factors affecting Hazer Group Limited, which is the country's largest producers. In terms of microeconomic factors, the report provides production cost, their main products and their main competitors. It also provides insight into macroeconomic and economic impacts corporate practice for sustainability. This report also includes the impact of political factor on the group.

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2.Overview of the company:

Hazer Group was established in 2010 to develop technology originally developed in the University of Western Australia, and the company got enlisted on the ASX in December 2015. Before they were listed, they spent more than eight years developing the basic Hazer process, using unprocessed natural gas and iron ore to create “clean” which creates low emissions. These products are key fuel in the transition towards a low carbon economy. In addition to the hydrogen product, the Hazer process produces synthetic graphite, which is used in lithium ion batteries, lubricating and industrial applications. In early 2016, they developed a research partnership with the University of Sydney and established their main development operations within the School of Chemical and Biomolecular Engineering at the University of Sydney. The company is developing demo device design in Sydney and working to expand the Hazer process to more commercial plant (Hazer Group, n.d.).

3.Business Products:

The Hazer process enables the effective conversion of natural gas and similar raw materials into high grade hydrogen and graphite using iron ore as the process catalyst. The goal of the

Hazer process is to achieve savings for the hydrogen producer and provide “clean” hydrogen with significantly lower carbon dioxide emissions so that it can be used in a variety of “clean energy” applications, as well as in large existing chemical process industry. Hazer Group produces three different products, namely:

Industrial Hydrogen

Hydrogen Energy

Synthetic Graphite (Hazer Group, n.d.)

3.1Industrial Hydrogen:

The Hazer process produces “clean” and fully economic hydrogen with a reduction of at least 50% in expected emissions compared to alternative fossil-based hydrogen generation, such as steam methane restoration. With a global market value in excess of \$100 billion, hydrogen is widely used as an industrial chemical, particularly in the oil industry and-also to produce ammonia. Traditionally, the high production costs and high CO₂ emissions resulting from hydrogen production have limited the development of the hydrogen-based energy market (Hazer Group, n.d.).

3.2Hydrogen Energy:

The low emissions associated with the process provide a clean hydrogen gateway for numerous applications in the hydrogen energy market, including vehicles with fuel cells, grid smoothing and power supply. The vehicle market is expected to reach more than \$18 billion in fuel cells by 2023. This technology will strengthen airports, heavy vehicles and passenger cars. The main car manufactures are dedicated to fuel cell technology and the leading

manufactures offer commercially available FCEVs and the construction of an important hydrogen infrastructure worldwide (Hazer Group, n.d.).

3.3Synthetic Graphite:

Hazer process produces high quality synthetic graphite at low cost. Their graphite is very crystalline and goes well with commercial forms of high-end graphite used in lithium-ion batteries. The most important thing is that the environment is less damaged because Hazer does not have to lift large arears to extract natural graphite and does not require the use of harsh chemicals such as petroleum coke to produce up-to-date synthetic graphite. In 2013, the worldwide graphite market was over 2.5 million tons per year and worth over \$ 13.6. In many industrial applications, there is an increasing demand worldwide for graphite. Developments in the energy sector especially in the lithium-ion battery market, are a major drive of the ongoing demand for graphite (Hazer Group, n.d.).

4.Main Customers:

From the products it is apparent that demand of these products would depend on the customer needs. Different organisation requires different products, like main customer for their **Industrial Hydrogen** is Petroleum Industry, as this industry require high hydrogen to take out petroleum from the fossils which can be done through use of industrial hydrogen only. Their **Hydrogen Energy** is mostly consumed by the automobiles industry for the purpose of fuel cell vehicles. At times it is also used in Grid smoothing and stationery power. The manufacturing of hydrogen can also benefit customers such as Perth's Sewerage to take

out clean Hydrogen from wastewater to help the common people. Their product **Synthetic Graphite** is used mostly by the companies producing batteries like the Lithium-ion-batteries.

5.Main Competitors:

The main competitors of Hazer group limited are:

Ceramic Fuel Cell

Fuel cell Energy

ITM Power

Let's look at the different companies and their market shares.

Ceramic Fuel Cell:

This company was founded in 1992 and is located in the Australian Nobel Park. This company has a few numbers of operations. Integration of the Gennex fuel cell module into devices such as condensing boilers, heat pumps and air circulation systems; and mixed oxide powders designed for various functions in fuel cells, thermal barrier coatings, biomedical and dental implant, and high temperature products, including instructions for wires and fibre optic connectors (CISROpedia, 2014).

ITM Power:

ITM power specialises in manufacturing integrated hydrogen energy systems. Established in June 2001, the company went public in the Alternative Investment Market (AIM) in 2004 and became the first UK- Based fuel cell company to publicise it. ITM power operates from

two location in Sheffield, the UK, with more offices in Australia, Germany, France, The United States and Canada (ITM Power, n.d.).

Fuel Cell Energy:

This is a global fuel cell company. It manufactures, operates and maintains direct fuel cell power stations to generate electricity from a range of basic fuels, including natural gas and biogas. It has headquarters in Danbury, Connecticut, United States (fuelcell energy, n.d.).

These all companies are well established and are running business on a day to day basis, while Hazer group limited is on its research stage, it is not earning at this stage so these companies are giving challenge to Hazer Group even before entering the market for sale or purchase of the goods as these companies are all well established and are earning a lot because of high market share.

6. Market Shares of the Hazer Group and its Competitors:

The given data shows the market capital of Hazer Group, Fuel Cell, ITM and Ceramic

<u>Name of the Company</u>	<u>Market Capital</u>
Hazer Group	0.29 Million
Fuel Cell	16.96 Million

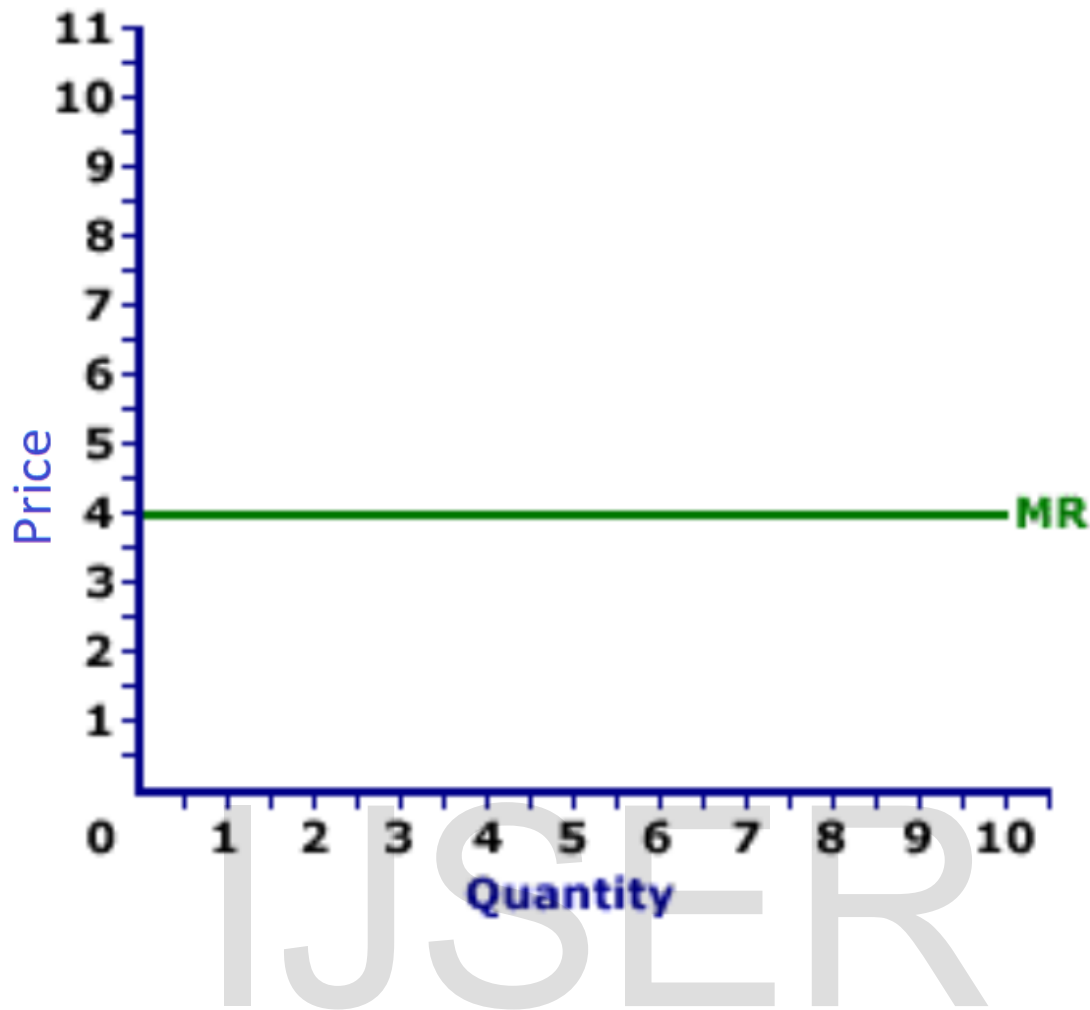
ITM	38.20 Million
Ceramic	30.416 Million

From the table we can conclude that Hazer group has the lowest capital share as compared to its competitors. Hazer group is not yet retailing the products in which they are researching. Moreover, even before they come into market, they have a lot of competition, which they have to deal with. From this it can be easily figured out that the company will have to struggle to market its products and gain a share in the market.

Demand Curve:

From the information above gained and looking at the competitors, we can conclude that there are no close substitutes for the Hazer Group Limited. As the firm can-not make the products by using any other gas/product as its raw material. And the products it produces are also the same as of its competitors, so it operates in perfect competition.

The Demand Curve for the firm will be a Horizontal Straight Line, which can be drawn as:



(Demand Curve Under Perfect Competition, where price does not change with the change in quantity).

As the price and marginal revenue in a perfect competition are equal so there would be no mark ups in the price. With the change in quantity.

7.Production Cost and Scale:

Since Hazer group limited is a company which is in the production of Hydrogen Fuel, Industrial Hydrogen and Synthetic Graphite, the main factors for its production which can't be changed with the change in the level of output are the technologies that is used to produce the products, the plant and machinery which is involved in the production of these

products and the availability of fixed labour are the main that are responsible for the production of these products during a fixed time period. This is the fixed cost to produce goods, which is unlikely to change (Hazer Group Limited, 2019).

The variable factors in production of goods is the raw material to make the goods and the amount spent on the research of good quality hydrogen products. It is dependent on the raw materials and research studies that are used in the production of different goods. The different goods require different raw materials for their production like Industrial Hydrogen needs the Hydrogen gas for its production and the Synthetic Graphite needs Graphite for its production. These goods which are required in the production can vary with the change in the production or research may also vary. If the sale increases for their product then the demand for the raw material will increase and their suppliers may charge higher cost (Hazer Group Limited, 2019). Moreover, research also demands money for the production and development of goods. From this it-is-clear that cost for the Hazer Group Limited is OPTIMAL.

8.Political Stability:

Australian political stability, its transparent regulatory system and strong government frameworks support its economic flexibility. Ranked in five of the largest areas of the economic freedom index, effective governance in Australia provides a safe business environment for multinational companies. Australia offers:

- . A business environment in 15th place among 190 economies to facilitate business
- . A robust regulatory system that stands out from its stable institutional frameworks and strong financial and banking regulations.

. Competitive rates for offices and compensation for professionals.

. Classify the quality of life as the seventh highest in the world (Business , n.d.) (ABS, 2017).

9.Effect of Unemployment, Inflation and average rate of

Interest:

Unemployment:

One of the key economic goal for any country is to achieve elevated level of employment. In Nov'2017, Australia reported 5.4% rate of unemployment. The Australian government has been able to fight unemployment by increasing its overall employment, by opening new vacancies in the economy(ABS, 2017).

Hazer Group Limited is still in the process of research, so Hazer group limited is not able to help the economy to grow as it is not able to give employment to the people of Australia. So, it is not able to provide much employment opportunities.

Inflation:

A general increase in the prices and fall in the purchasing of value of money is known as inflation. With the reference to Customer Price Index given by ABS (Australian Bureau of Statistics) (Customer Price Index, Australia, Jun , 2019) CPI rose to 0.6 in the June quarter of 2019.

Inflation mainly impacts people's income, wealth and purchasing power. The effect of current low and stable

Rate of inflation on Hazer Group Limited:

1. The people don't demand wage growth and it doesn't severely impact the purchasing power of the consumer either.
2. Less drop in real interest rates facilitating the Hazer Group to borrow at an ease.
3. Enables Hazer Group to make judgements of relative rates of return more efficiently inviting more investment.

Interest Rate:

Economic Growth in Australia has been continuously supported by factually low interest rates with Reserve Bank of Australia, cash rate at 1.5 percent. Current monetary policy is supporting the economy by ensuring low borrowing costs for businesses and households (Economic Outlook, 2017-18) (Budget 2017-2018, n.d.). Hazer Group is exposed to risks associated with interest rates as they borrow funds at both fixed and floating interest rates. But with continued interest rate risks management, the group has access to financing facilities and at the same time their own investments are secured (ASX,2017).

Exchange Rate:

Exchange rates are the most important Macro Factor for Hazer Group limited. As the financial statements of the Hazer group limited states that it has given shares to two sources outside Australia and one within Australia. Hazer group has given share to Structural Health Monitoring Systems Canada Corp (SMSCC) and to Anodyne Electronics Manufacturing Corp (AEM). On these shares they are liable to give 100% interest to the company and that to in Canadian Dollars. From the exchange rates it- is- clear that the AUD is less than the CAD which can be disadvantage to Hazer group. And if the difference keeps on rising, they would have to pay the companies at higher rate to which they have given shares. Moreover, this

may cause a damage to the financial stats of the company as they are not in business right now. Even before starting the business they must pay the share which is dis-advantage to the company (Hazer Group , n.d.). Figure below shows the rate of exchange



(Figure shows the price of exchange between AUD and Cad)

10.Normal/ Inferior Goods:

The goods which Hazer Group Limited produces or are indulged in research of are **Normal Goods**. Normal goods are defined as such goods whose demand increases with level of increase in income of customers. Such's goods demand increases only when there is continuous flow of money in the economy, as theses goods are costly to buy. Hazer group produces all goods that are Normal goods. If there is a period of recession in the economy, then the demand for the goods would decrease as customers/ buyers won't be able to pay such high prices for these goods.

If there is recession in the market the demand for these goods would decrease and there would be poor economic climate in the economy, as consumers won't pay for any products which hazer group sales. Thus, resulting in lesser demand and poor economy would be

present in the society. And there would be poor sales for the goods of Hazer Limited and would result in the lesser quantity demanded for the goods it produces.

11.Key Factors of Production in Future:

The goods which Hazer group limited produces or are indulged in the research of are, those goods which needs highly skilled labour. With the growth of business, the demand for goods will grow and so will the cost because, it needs skill labour to produce it. This would mostly affect the group's variable cost of production as they would have to hire highly skilled hourly labour workforce which is costly and can't be available easily which can affect the group's financial status.

12.Effect on export and Imports:

As we know, Hazer group Limited is still in its development stage or we can say it is still in processing stage. It mostly imports services or new technologies from foreign land and if there is high ups and downs in exchange rate between the countries then it can affect the business of Hazer group which is worthwhile important to look for the people of management in the company. As it can be disaster for the company to bear the financial loss even before it comes into business where its competitors are already earning a big share.

13.Sustainability:

Production Externality

Hydrogen production leads to negative external factors, such as waste of resources. Hazer Group Limited is a manufacturer and not a retailer, so there is direct production of goods and services. However, as a manufacturing company, there are a-number-of positive externalities that create the economic activities of the company.

1. Training: Periodical Industrial training can help the employees that can have a significant impact on labour productivity. With the increase in labour productivity will also boost production to a certain amount as the efficiency of labour will increase. Thus transferring production possibilities frontier to the right.
2. Research: Research and manufacturing on the progress of innovative technologies can be disseminated for use by other producers. The effect of these technologies helps reduce the costs of other manufactures and, ultimately, provides savings to consumers in the form of reduced prices (Markets- Why they fail?, n.d.).

Externalities of consumption:

With consumption, there are negative and positive externalities associated with Hazer Group Limited products. It produces positive immense such as the use of Hazer group products, which creates less pollutants as a result helping the society. Therefore, not only the consumers derive benefit, but manufactures also have the advantage of manufacturing quality products. The Hazer Group at times can be partial with the society, as their products require highly qualified labour and sometimes, their production may take longer, which

could affect the company's reputation. To alleviate these problems, the company began training for unskilled workers.

Long Term Business viability:

The macro and manufacturing environment can continue to be challenging, but the cost and hard-work and research, it puts in, will help the company to sustain in the long run in the following ways

1. Introduction of a range of innovative products such as "Industrial Hydrogen" and support for sales growth.
2. Reasonable training of employees for better production.
3. Renew the incentive framework to support the achievement of team production, productivity, targets and individual customers.
4. Improve worker efficiency and effectiveness in order to contribute to increased production.

14.Conclusion:

From the above analysis, it can be concluded that Hazer group limited is a newly set up company and has limited operations with no retail business in the real world because it is at its infancy stage. The company develops three products which are widely used by different consumers to manufacture their products out of the given products of the Hazer group. Moreover, company has the lowest share capital with it, while its competitors do have a bigger share. Its production cost is likely to rise as the development of its product will be done. Moreover, the company's macroeconomic might help it to sustain to be sustainable in the long run. The company may not be able to help the government in mitigating unemployment.

The financial health can get damaged due to the rise in the exchange rate. And if there is inflation the cost of its product will also rise. Talking about sustainability it can run its business in the longer run due the company's training and research programmes for its employees. Moreover, the company has enough techniques to make its business ongoing in the era of technological change.

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