



STRATEGIC REPORT TO
THE BOARD

DONE BY:**Maxine Vosloo****Munyaradzi Mike Ruchaka****Bryan Currie****Xolani Ncube****INTRODUCTION:
AMANGO BACKGROUND**

“Amango Group Mining is a multinational Mining and Metals producer. The group collaborates with other mining groups in each country of operation in their respective activities as well as some industry bodies such as governments with mutual interest. Mining operations usually create a negative environmental impact this is why governments have passed regulations to decrease the environmental impact by the mines. This aligns with our restructuring program to rescue carbon dioxide emissions.

There are many challenges in the mining industry however Amango strive to eliminate the negative connotations of mining and push forward with a more sustainable and supported forward thinking program. The group’s mission is working with key stakeholders to create sustainable value that makes a difference; guided by the core values of safety, innovation, accountability, care and respect, integrity and collaboration.



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Prioritisation of issues

Issue	Strategic decision	SWOT analysis
Strategic disposal in Brazil.	<ul style="list-style-type: none"> - Accept or decline of offer - Evaluation of the reconstruction issue 	Strength - Security of mineral reserve Opportunity - Achieve targeted level Threat - Ratings downgrade Weakness - Timing of sale
Strategic joint venture decision in Canada	<ul style="list-style-type: none"> - There is need to decide on the best configuration for the mining infrastructure - Best option to distinguish the mining disputes from a native group 	Strength - No. 1 potash producer Opportunity - Joint Venture of law Co Threat - Protest movement
Reconstruction and reorganisation	<ul style="list-style-type: none"> - long-term strategy of the group - impacting on the decision as to which businesses to sell and which ones to keep 	Opportunity - Support specific companies Threat - Recession
Manager divisional performance	<ul style="list-style-type: none"> -Performance bonus - Major ethical and safety issues 	Weakness - cutting back costs Threat - Using outside competitors

Strategic disposal in Brazil

Amango has had an offer of \$1500 million (BRL 1452 million to pay of its intra group debts and the remainder for its 100% equity stake) for its AMA-NP mine in Brazil by CMOC one of its competitors. The CEO said the proceeds - AMANGO will achieve its target net debt of less than \$ 10 billion.

Recommendations:

- We believe that Amango should sell its share in AMA-NP. The offer that has been received from CMOC is fair and the gain as calculated using free cash flow method yields a positive contribution and will bring the group's net debt to boarder line of \$10 billion. Please refer to Appendix 1

- The factors described in the PESTEL analysis will prove to be positively eliminated. The sale would also align the entity with its 3-year viability statement as it would be appropriately meet the Radical portfolio restructuring strategy, drive operational discipline and protect the balance sheet policies.
- According to the SWOT analysis, Amango has greater opportunities and strengths if used opfiminally through the recommendations provided. This analysis helps to identify what factors of Amango to optimise and will be most beneficial to the company and its financial standings.
- We recommend AMANGO entering a hedging contract with CMOG in order to secure the purchase price, proceeds that will be used to pay off the intra group debt, proposed by CMOG(see IFRS9 bellow). Placing AMA-PLC in Non-current assets held for sale, disposal group, as it has meet the requirements of IFRS5.

Financial standards applied

- **IFRS5**
 - o Requirements
 - Management is committed to a plan of sale (this is a non-core and was due for disposal back in 2012/2013, the plan would be by entering into a hedging contract)
 - Available for immediate sale.
 - Highly probable within 12 months (AMANGO has 7 days to respond and if AMANGO accepts our recommendations it meets this criteria)
 - Represents either a separate major line of business or a geological areal of operation (being in Brazil this meets the requirement)
- **IFRS9**
 - o Is defined as a designated derivative if as a financial instrument or hedge transaction if it meets the following criteria.
 - Its value changes in response to the change in a specific exchange rate.
 - It requires no initial net investment of contracts or an net investment that is smaller than would be required for other types of contracts that would be expected to have a similar response to changes in market factors.
 - It is settled at a future date

Strategic joint venture (JV) decision in Canada

The issues within Canada are not only a design decision but a social threat. There is social unrest in Canada that has brought serious threats for Amango's reputation and mine within. As a result Amango has decided to establish a Joint Venture with Cephas in order to mitigate the risk done by the protest and to take advantage of the resurgence in coal prices. However, the political instability from the civil unrest is a threat to the acquiring of operating mining rights as this is one of the factors which determines if mining rights should be granted.

Costing system	Definition
Traditional costing	Uses one cost driver to departments for a predetermined rate.
Modern Costing	ABC uses more than one cost driver to enhance accuracy. Using cost pools of activities to allocate to each activity.

Recommendations:

- Quinta should include locals, through their local city councils and representative leaders of "Idle No More", in its economic development agenda planning. This should help the locals feel empowered and the result Amango will see itself being moved off the list of targeted mines. This has a high possibility of helping Quinta have an advantage in obtaining mining rights combined with the experience of Cephas. Including locals we will be also in line with Amango's mission through Pillar C of the principles of corporate governance and integrated reporting.

- Based upon our analyse design 2 should be pursued as it gives a higher expected net profit of \$91450000. The dispersion of the probability, design 2 provides a much better security regarding the expected demand. This is supported by a lower standard deviation of 1.25 million (Please refer to appendix 2)

Reconstruction and reorganisation

The AMANGO Group faces another distress of choosing between two opposing view-points. The view-points are summed up as follows: Please refer to Appendix 3 as well

View Point 1-Focus the portfolio on global leadership positions in diamonds and PGM's and the world class position in Copper. With this view-point, the CEO proposes that non-core assets should be disposed.

View Point 2-The Board Chair-Job Panter, argued that assets should not be disposed as Donald Trump's election slogan is all about infrastructure improvement

AMANGO can apply different techniques in order to determine which segments are profitable and to choose the best alternative between the CEO and the Board Chair's viewpoints which are in contrary. The following techniques have been analysed in order to come up with a reasonable decision;

1. Return on Investment
2. Product lifecycle
3. General electric product screen
4. Boston consulting group matrix
5. Shell directional policy matrix
6. Ashridge portfolio display

Recommendations for AMANGO

- AMANGO may close the "Nickel" and "Corporate and Other" segments as they are currently running losses.

- AMANGO must enter those segments where it has the opportunity to succeed. It may succeed in segments such as Nobium Phosphates and Iron Ore and Manganese as they yield a high return on invested capital and their estimated 10 year annual growth rate is high.
- The Group must invest in products which have reached the growth stage of the product life cycle as it is facing financial difficulties. This stages is characterised by a strong growth in sales and profits. It must invest wisely in any marketing it undertakes as well.
- AMANGO should strive to invest in Star segments(segments with high share value and high growth) so as to generate high income.

Managing divisional performance group wide

Financial & Performance Management

Recommendations:

Residual income method will be used because it encourages the managers to make investments that are profitable for the entire company. Good investments will increase the residual income of the company and therefore good performance return. Although RI is a major advantage to use - we would need to implement quality measures as the RI does not take into account quality and % changes from period to period.

- Staff turnover ratio - Measures staff satisfaction of working in AMANGO
- Days lost to injury ratio - amount employees take time off due to injuries in the mine
- Safety certificate proof of passed twice yearly
- Training quality inspections balance scorecards
- Productivity and output measures
- Sustainability projects involving the community

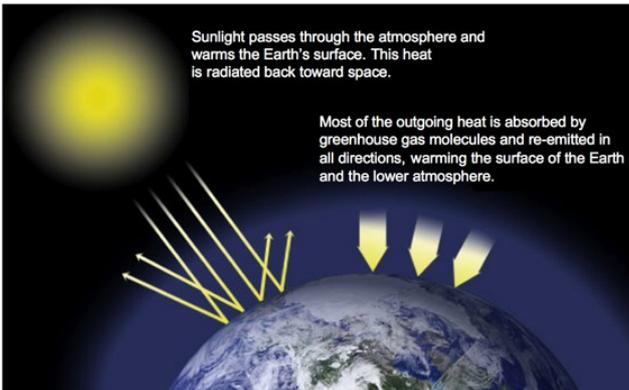
Performance method	Advantages	Disadvantages
Transfer pricing	Managers motivation increase as they heave more control over results	Lack of goal congruence
Return on investment	Goal congruence Better measure of profitability	Influence manager to select only investments with high rates of return
Economic Valued added	Takes into consideration all costs including cost of equity.	Not suitable for all companies
Residual income	Managers will make better decisions on profitable investments. Flexible with cost of capital	Not suitable for comparative between different division sizes

- Bonuses are based upon the above per division and vary by grade of role

Cost and Management Accounting

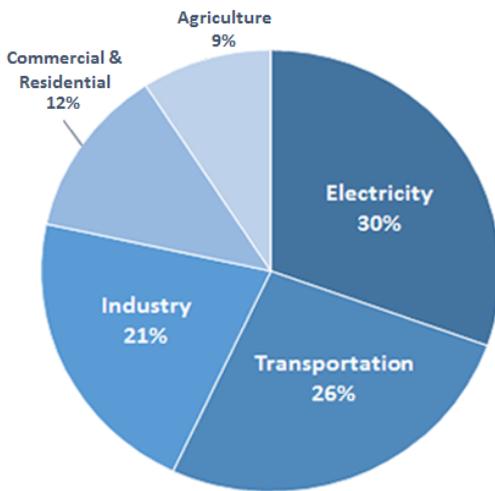
- Marginal costing system will be used in our costing method
- Under marginal costing system the production cost does not get affected by the difference in magnitude between the opening and closing stock. This in our opinion will eliminate the need for management to ramp up production on closing stock for better bonuses as closing stock will not be accounted for based on the bonus scheme.

Energy sustainability initiative

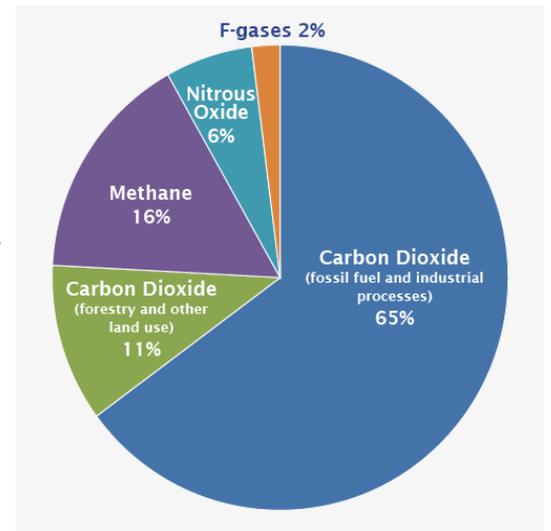


Carbon emissions raise global temperatures by trapping solar energy in the atmosphere. The key is that by controlling the release of Carbon Dioxide into the atmosphere, we can drastically control climate change.

education.seattlepi.com/consequences-carbon-emissions-humans-4138.html



Economic growth and sustainability relies on a consistent supply of energy without which, economic growth will cease and the world economy will collapse. Energy supply is predominantly made up of the burning of fossil fuels. This is no different in the mining industry, which contributes approximately 21% of greenhouse gases per year.



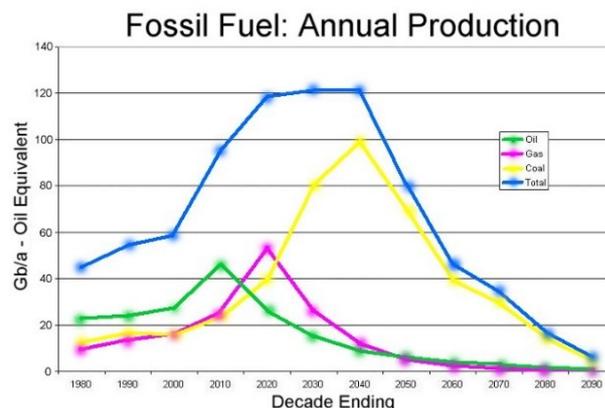
65% of greenhouse gas emissions are made up of Carbon Dioxide. This creates a significant threat to our environment and the future of the mining industry as a whole. As a result,

the emission of Carbon Dioxide must drastically decrease in order to ensure sustainability in the mining sector, as well as industry as a whole.

education.seattlepi.com/consequences-carbon-emissions-humans-4138.html

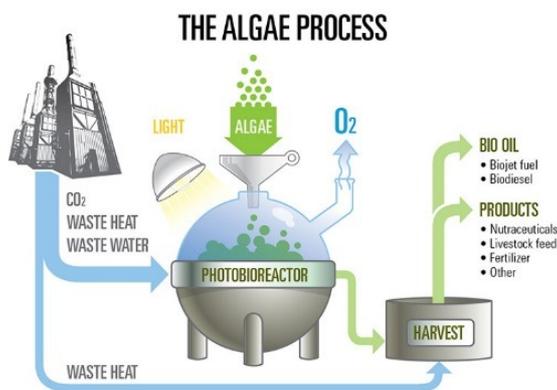
The Issue...

Meet demand whilst reducing carbon footprint. This is the core focus of innovation in the mining sector. It is evident from the graph aside, that projections show an increase in annual production of fossil fuels at least until 2025. With an ever growing mining industry, pressure is being placed on larger mining corporations to meet global demand, whilst maintaining very low levels of greenhouse gas emissions. This poses a major strategic dilemma – How do we meet demand, whilst not only maintaining, but reducing our carbon footprint?



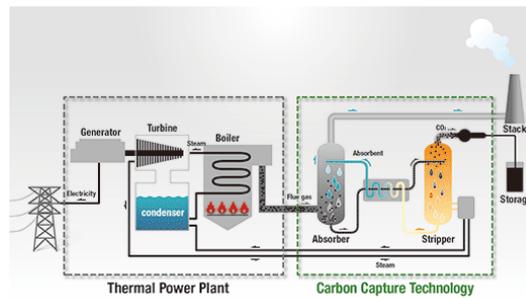
An innovative and cost effective solution...

- A fully integrated, self-sustaining CO2 storage and utilization plant:
 - o A system that can be split into three phases:
 - The Capture
 - Storage
 - Use of CO2
- How does it work?
 - The Capture of CO2 - The capture process utilizes an element called Amine. Amine is used to absorb the CO2, which is then contained. The CO2 is then separated from the Amine and highly pressurized. This process converts the CO2 into liquid form.
 - The storage of CO2 - The Liquid CO2 is then transported by pipeline and then stored in wells. At this point, the CO2 is used in various different ways to create a fully self-sustaining, carbon neutral system.
 - The use of CO2:
 - Convert into Bio-mass - The CO2 will feed an algae farm. The harvested algae will be converted to bio-fuel. This biofuel will be used to run the machinery and also the trucks of the mine. The only bi-product being Oxygen. <http://www.cosia.ca/the-algae-project>



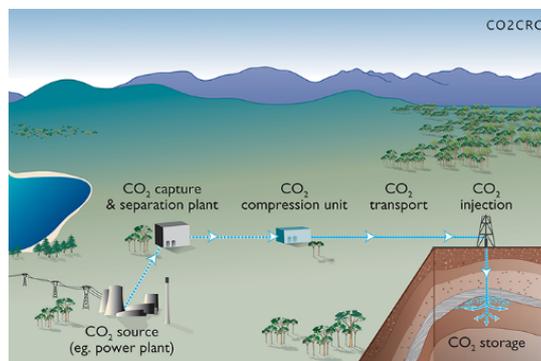
- Power a thermal power plant - CO2 fluid is heated, and then sent through a steam turbine where the thermal energy (heat) is converted to electricity with a generator through a phenomenon called electromagnetic

induction. This will produce sufficient electricity to power the plant, as



well as the surrounding towns and cities. <http://www.toshiba.com>

- Store excess CO₂ deep underground - The excess CO₂ will be injected more than 2km underground into a layer of watertight rock. Here, the CO₂ will be monitored to ensure it cannot escape into the atmosphere. http://www.bigskyco2.org/image-gallery?field_mm_type_value=All&field_mm_style_value=Al



- **Benefits:**

- o *Power generation – Consistent, uninterrupted power supply.* Greater efficiency means lower prices, less emissions and more reliable power. It is often noted, these energy sources are intermittent in nature, producing energy when the sun is shining and the wind is blowing. Frequency regulation, allows companies to produce power when it is cheapest and most efficient, and provide an uninterrupted source of power for critical infrastructure and services. <http://energystorage.org/energy-storage/applications-energy-storage-technology>
- o *Corporate Social Responsibility –* The introduction of this innovative and sustainable solution will create jobs. Also, the production of electricity from our thermal power plant will provide free electricity to the surrounding towns.
- o *Reduction in pollution –* More than 100,000 tonnes of CO₂ is converted, stored or farmed per year per plant. This provides a significant decrease in the amount of CO₂ being released into the atmosphere.
- o *Sustainability –* None of Amango's trucks, machinery or any other, will utilize fossil fuels as a means of power provision. The mine will be completely off the grid, with its own perpetual power supply. The environment will be preserved as a result.
- o *Increase efficiency and cost reduction –* Amango will no longer have to spend millions on power on an annual basis. Also, with the impending introduction of CO₂ tax, Amango will not be liable. Amango will see the potential to expand rapidly, without harming the environment.

- **Proposal:**

- o Estimated cost of \$1.28billion which will be funded \$1billion by the government in the country of operation, \$120million from the clean energy funds and remaining \$80million by Amango by way of issue of convertible preference shares (Debt and equity characteristics)

Ethics

Ethics is the difference between what is right and is wrong, it is the next step organisations rely on when the law fails. Ethics has many benefits to the organisation and employees, consumers, society and environmental factors. Good ethical decisions shows good leadership which is very important internally and externally of Amango.

- Based upon the bonus scheme presented for divisional managers this will result in the divisions not cutting on costs and training and therefore implement an increase or balance of safety and training as those build the employees up as well as Amango. Showing good decision making and ethical processes.
- Production is ramped up to build closing stock towards year-end to declare better results - this does not reflect a fair representation of the production during the year and therefore needs to be eliminated. This is unethical as the main gain is to increase the bonuses received at the end of the year for the managers.
- a sustainable business having a high set of ethics is critical, and there can be serious consequences if poor ethical decisions are made. Example of Mike, The CEO, making decisions without consulting the board and being seen as an aggressive approach to the issues at hand.
- A higher moral within your employees and the organisation presented by ethical leadership and decisions.
- Ethics help to attract investors, government loans, sponsorship and engagement of community groups
- It reduces the risk of negative press or backlash caused by doing “the wrong” things.
- It helps to make a positive impact on the community.
- AMANGO should have a clearly defined Code of Ethics and Standards for Professional Conduct and the disciplinary procedures following unethical managerial or senior personal decision making and procedures.

Excluded: Not strategic issues

On the issue of deleverage or share buy back of the mine. Due to the location of the mine, the permitting requirements and/or delays, third-party legal challenges to individual mining projects and broader social or political opposition to mining may increase the cost, timing and complexity of mine development and construction. These regulations are continually changing and generally require progressively higher payments to governments, notably in the form of royalties and taxes. We therefore see fit that the board should note on the regulation implements, the issue of possibly selling the mine and the costs involved, we have decided to research more into the options for more certainty in our recommendation.

Operational risk in Australia has a controlled shut down has been hurriedly effected in one of the group’s mines in Australia with 560 personnel evacuated due to safety concerns -6 are reported dead and 80 miners trapped in deep underground mines have been rescued. This in our opinion is an operational issue and should be noted. On the issue of resuming production or closing the mine - due to the huge impact and lack of safety regulations we advise that the mine should be closed for now. if divisional managers fail to control the situation in Australia then this issue should be taken further, to the board for better corrective measures from a strategic point of view.

Based upon our recommendations and proposal where applicably stated, we are more than confident that our recommendations will bring probable inflows in the future and grow the company into a more sustainable source, with higher benefits than before. Not only will these decisions bring financial gain but as well as socio-political gain in the eyes of the public and of government.

APPENDIXES: ALL amounts below are expressed in millions**APPENDIX 1****Earnings approach to valuation****Sustainable earnings x P/E ratio of comparison entity**

- P/E ratio 13 - 1 = 12

- BRL 106.28 x 12 = BRL 1275.36

$$\text{BRL } 1275.36 \times ((\$0.9155 + \$0.6122)/2) = \$974$$

- Proceeds \$1500 - (BRL1452 x \$0.3100) = \$1049.88

- Gain \$1049.88 - \$974 = **\$75.88**

Free Cash flows valuation

Details	Value	WAC of capital		Contribution
		Weighting	Cost	
Equity	(500 x \$5.8) = \$2900	65.8%	Ke = (3 + 1.84x5) = 12.2%	8.0276%
Preference shares	(200 x \$1.35) = \$270	6.1%	(270 - ((\$200 x 8%)/Kd) Kd = 5.93%	0.6173%
Bond	(1200/100) x 103 = \$1236	28.1%	Kd = 3.48% N = 3 years Pv = \$1236 Fv = -\$1200 Pmt = 1200 x (6% X (1 - 0.31) = -\$49.68	0.9744%
TOTAL	\$4406	100%		9.6193%

$$V_0 = \frac{((\$159.75 + \$3.95 - \$49.51 \times (1+6\%)) - \$103.23)}{9.6193\% - 6\%}$$

$$V_0 = \$492$$

$$\text{Gain} = \$1500 - \$492 \\ = \$1007.88$$

Net asset value

NAV = Non-current assets + Net-current assets – Non-current liabilities

$$\text{BRL } 3719 + \text{BRL } 806 = \text{BRL } 4525$$

$\text{BRL } 4525 \times (\$0.3100) = \$1402.75$

$\text{Loss} = \$1049.88 - \1402.75
 $= \$352.87$

Net Debt of Amango

= \$1649 short term debt
 = \$16318 medium debt
 = \$ 6895 cash and cash equivalents - \$1049.88 proceeds

NET DEBT = \$10 BILLION

Swot Analysis

Strengths

- Amango has been in existence for 100 years and therefore have a loyal following and proof of a well established successful business.
- Listed on the London stock exchange and Johannesburg stock exchange therefore hedged against foreign currency risk and has potentially a large capital based in the form of foreign investment.
- Amanago has operations in 45 countries and therefore exposed to multiple target markets and geographically diversified.
- One of the world's top mining companies and therefore ha`s a good reputation and competitor in the industry and the public eye.
- Ability to enter into futures contracts in order to sell at predetermined prices.

Threats

- Massive capital expenditure cuts due to Chinas change from an investment lead economy to a service based economy.
- Plunge in commodity prices would effect the trading and purchasing of mining outputs.
- 37% decrease in the top 40 mining company market capitalisation would have a negative effect on Amanago's financial decisions.
- Credit down grade to below investment grade would have a negative effect on Amango's ability to have debt increase.
- Single largest shareholder holds 15% and is threatening to pull out if their demands are not met.

Weaknesses

- Much of Amangos risks are at the boards limit.
- Employees around the world are highly unionised and often collaborate globally and therefore could effect Amango's operations globally and employee morale.
- Management ethics in divisions is at risk due to certain decisions made by the CEO as presented and could effect financially and non-financial factors of the company and its reputation.

Opportunities

- Sale of non-core mines could bring the credit rating back to positive.
- Suspension of dividends will enable a better cash flow of the entity, allowing less need for the use of debt to fund economic short falls.

PESTEL ANALYSIS – Brazil

Political

- Junk status of AMANGO by S&P negative effect of not only the country but the company within South Africa.
- Moody's doesn't describe any value to the companies planned disposal programme.
- Possible ejection from London's blue-chip equity index at the next reshuffle in April 2017.
- Worst performer in the UK's FTSE 100 index last year by declining by 75%.
- Strict laws by governments due to negative environmental impacts.

Economic

- 6% increase in expected free cash flows per annum with the support of commodity prices.
- Possible policies conflict with the new Brazilian government due to a change in government.

Social

- If the mine is sold, employees from other mines may down tools and argue.
- GO is not acting in best interests of the employees and the people of Brazil by selling them out to foreign entities.

Technological

- For the mine to be kept income producing at its current production level it would need a cash inflow of 103.23 million, this could indicate that the current equipment is at its end of its life cycle.

Legal

DESIGN 1

Coal Demand	Probability	Weighted amount
5	85%	4.25
7.5	10%	0.75
10	5%	0.5
Total expected Value		5.5

- Legal consequences would be the possible capital gains tax that would have to be paid on the sale of the mine.

Environmental

- Brazil has mineral rich ground that other countries don't and the backing by the government could have AMANGO obtaining an indefinite supply of commodities.

APPENDIX 2

Expected values for Design 1, Design 2 and Design 3

DESIGN 2

Coal Demand	Probability	Weighted amount
5	25%	1.25
7.5	50%	3.75
10	25%	2.5
Total expected Value		7.5

DESIGN 3

Coal Demand	Probability	Weighted amount
5	20%	1
7.5	50%	3.75
10	30%	3
Total expected Value		7.75

Estimated income statement per Design

	Design 1	Design 2	Design 3
Selling Price per unit	50.24	50.24	50.24
Less Variable costs per unit	(26.38)	(26.38)	(26.38)
Contribution per unit	23.86	23.86	23.86
Expected Demand	5.5	7.5	7.75
Total contribution	131.23	178.95	184.92
Less Fixed costs	(75)	(87.5)	(100)
Net profit	56.23	91.45	84.92

APPENDIX 3

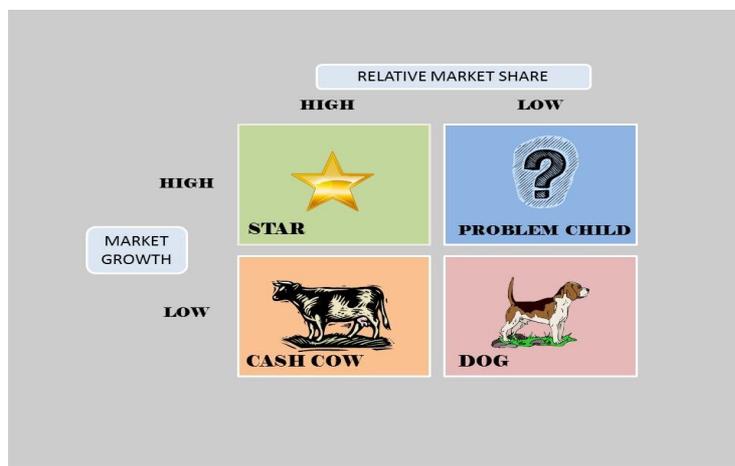
ROI Calc (IIS millions)

Segment	Average earnings before interest and tax	Average earnings after tax of 31%	ROI calculations= (annual average earnings/average investments)	Return on investment (ROI) Percentage (%)
Platinum	$(263+32)/2=134$	$(134 \times 69\%)=92.46$	$92.46/((4392+7010)/2)$	1.62%

ROI Calc (US millions)

Segment	Average earnings before interest and tax	Average earnings after tax of 31%	ROI calculations= (annual average earnings/average investments)	Return on investment (ROI) Percentage (%)
Diamonds	$(571+1\ 363)/2 = 967$	$(967 \times 69\%) = 667.23$	$667.23 / ((8642 + 10058) / 2)$	7.14%
Copper	$(228 + 1\ 193) / 2 = 710.5$	$(710.5 \times 69\%) = 490.25$	$490.25 / ((6332 + 70620) / 2)$	13.93%
Nickel	$((22) - 21) / 2 = -0.5$	$(-0.5 \times 69\%) = -0.35$	$0.35 / ((1968 + 1931) / 2)$	0%
Nobium and Phosphates	$(119 + 124) / 2 = 121.5$	$(121.5 \times 69\%) = 83.84$	$83.84 / ((834 + 896) / 2)$	9.62%
Iron Ore and Manganese	$(671 + 1\ 957) / 2 = 1\ 314$	$(1314 \times 69\%) = 906.66$	$906.66 / ((6666 + 9837) / 2)$	10.98%
Coal	$(457 + 458) / 2 = 457.5$	$(457.5 \times 69\%) = 315.68$	$315.68 / ((4079 + 5575) / 2)$	6.54%
Corporate and other	$(-64 + (-251)) / 2 = -139.5$	$(139.5 \times 69\%) = -96.26$	$-96.26 / ((-71 + 1413) / 2)$	0%

Overview of Boston Consulting Group Matrix



Product Life Cycle Stages

Product Life Cycle Stages



