Ba411: capsim and 7 deadly sins

Goals for analytical writing (3)1. The reader should recognize your conclusion or recommendation2. The reader should be able to judge the quality of the underlying analysis3. The document should be an effective tool for the readerThe Seven Deadly Sins of Analytical Writing1. Extravagance- too many words2. Gluttony- too much information3. Sloth- making the reader do your job/ write clearly4. Confusion- Lack of clarity or purpose5. Anger- Vague or emotional language6. Pride- style over function7. Arrogance- Disregarding instructionsThe Executive SummaryIdentifies critical support for the recommendation. Also the identification of one important constraint, as opposed to an extensive listing, illustrate the writes ability to make judgementRatios can be classified as : Leverage, Liquidity, activity, and profitabilityWorking CapitalCurrent assets- current liabilitiesROS: Return on salesNet Income (before interest and tax) /salesROANet Income /Total assetsEPSNet Income/average common shares outstandingLiquidity Ratios (cash to pay debt on time)– Acid Test Ratio– Current Ratio– Working Capital Ratio– Quick RatioCurrent RatioCurrent Assets/Current Liabilitiesa. Ability to pay short & long term debt obligations (next 12 months)Quick Ratio= Cash+ Marketable securities + Receivables / Current Liabilitiesa. Ability to meet short-term obligationsOperating Cash Flows: Flows= Op Cash Flows/ Current Liabilitiesa. Amount of cash a company generates from the revenues it brings inInventory to Net Working Capital= Inv/ (Current Assets- Current Liabilities)a.% of the firms capability to finance its inventories from available cashProfitability Ratios1. ROE- return on equity2. ROA – return on assets3. Profit MarginActivity RatiosDays Accounts receivable outstandingSales ForecastSegment demand X (1+ growth rate) X (Market Share % next year)Production Next YearSales forecast + (Desired ending inventory)-

(beginning inventory)DuPont Analysis1. ROE= ROS x TAT x Leverage2. Leverage= Assets/ equity3. Leverage Increases as ROE increases ROA remains constantCash Conversion CycleDIO+DSO- DPO >>>>– Days Inventory Held+ Days Accounts receivable outstanding= Operating cycle- Days Accounts Payable Outstanding= CC– Measures management effectiveness, the lower the CC cycle the better. Good to compare to competitorsInventory Turnover= Sales/ Average Inventorya. How many times a company's inventory is sold and replaced over a periodb. Amazon has a high IT while Boeing has a low ITDays Inventory Held= 365/Inv Turnovera. raw materials into cashAccounts Receivable Turnover= Net Credit Sales / Average ARa.# of times per year a business collects its avg. accounts receivableDays AR Outstanding (DSO)= 365/AR Turnovera. Avg. # of days company takes to collect revenue after a saleAccounts Payable Turnover= Inventory Purchases/ Average APa. How many times per year company pays its suppliersDays AP Outstanding365/AP turnovera. Average number of days a company takes to pay its suppliersLeverage (mix of equity and Debt)1. Debt to Asset= total debt/ total assetsa. Indicates a company's financial strength2. Interest coverage= EBIT/ Interest Expensea. Company's ability to meet its interest paymentsi. Leverage= total assets/ equityii. Times interest Earning= EBIT/ Total Interest payable on debtiii. Operating cash flows to total liabilitiesProfitability (earning achieved)1. contribution Margin= (Sales- Variable costs)/ Salesa. per unit measure of a products gross operating margin2,. Return on Assets= Net income/ Assetsa. How efficient a company is using its assets to generate earnings3. Return of Equity= net income/ total equitya. How efficient a company is using its equity to generate earingDupont AnalysisProvides a basis6 Basic Strategies1. Broad

Differentiator (Presence in every segment)2. Niche Differentiator (High End, Performance, Size)3. Broad Cost Leader (Presence in every segment)4. Niche Cost Leader (Traditional, Low End)5. Cost Leader with Product Lifecycle Focus (High End, Traditional, Low End)6. Differentiator with Product Lifecycle Focus (High End)Capstone Courier includes:– Public Financial Records– Product Positioning– Customer Buying PatternsCustomer survey scorescan be found in the Courier's segment analysisR and D controls: Changes in performance, size and MTBFCompletely new products: Generate 25% awareness without spending any moneyMTFBis measured in hoursCustomer Buying Criteria– Positioning and price criteria change every year– Age and MTFB criteria remain constantSegment prices fallat a rate of $50 per yearPerformas and Reports are:– Projections for the upcoming year– results from the previous year4 department/ functional areas1. R&D2. Marketing3. Production4. FinanceCustomer Segments– High end– Performance– Size– Traditional– Low end4 Buying criteria of Customers– Price: inexpensive or advanced technology for higher price?– Age: brand new tech or proven tech that has been around for years?– MTFB (mean time before failure): reliably measured in hours– Positioning: Size and Performance (speed/sensitivity with which they respond to change in physical conditions)Over time customers expect: Product that are smaller and fasterPerceptual maps can be used: to plot any 2 product characteristicsCustomer Survey score:– Drives product demand (higher the score, higher the demand)– Calculate 12 times a yearCustomers prefer products: within the fine cut circle, but will buy products within the rough cut circle as wellPrice ranges in all products segments: drop $. 50 per yearR&D– Invention projects take 1 year to complete– Each 1, 000 hours of reliability (MTFB) ads $. 30 to the material

cost– Segment circles on the perceptual map move between . 7 and 1. 3 units each year– Project lengths can be as short as 3 months or as long as 3 years– Changing the MTFB alone will not effect a products age– Re positioning the product cuts the products age in halfMarketing– Promotion and Sales budgets– From one year to the next 33% of people who knew about the product last year forget about it– Promotion determines awareness– sales budget determines acceptability– You must have 2 or more products in the segment fine cut to achieve 100% accessibilityProduction– Capacity– each new unit of capacity costs $6 for the floor space and $4 x (automation rating)– can be sold for $. 65/ unit– If you sell all the capacity on a sensor, capstone will interpret this as a product liquidation and will sell your inventory for half the cost of production– Labor costs increase each year– Automation costs $4/ unitFinance4 ways to acquire capital needs1. Current Debt2. Stock Issues3. Bond Issues (Long term Debt)4. ProfitsPositioning ScoreMust understand both what customers want and their boundaries in terms of products size and performance1. Rough Cut Circle2. Fine Cut Circle3. Ideal SpotRough Cut Circle– Dashed outer circle defines the outer limit of the segment, customers WILL NOT purchase a product outside this boundary, radium of 4. 0 units– In the rough cut, products are poorly positioning and have reduced customer survey scores-Just beyond the fine cut score drops 1%, half way through the rough score drops 50%, and almost at the dashed line scores drops 99%Fine Cut Circle– Solid inner circle defines the heart of the segment, customers prefer products within the circle, " make the fine cut", radius of 2. 5 units– For inexpensive tech, the idea spot is to the upper left of the segment, where material costs are lower– For cutting-edge tech, idea spots is the lower right of the segment, where material costs

are higherIdeal SpotPoint is the hear of the segment. All other things being equal, demand is highestPrice ScoreEvery segment has a 10 dollar price range. Customers prefer products towards the bottom of the range. Price ranges in all segments drop 50 cents per year.– Segments that demand higher performance and smaller sizes will be willing to pay a higher ricePrice rough cutsensors riced $5 above or below the segment guidelines will not be considered for purchase. products fail the price rough cut– sensors priced a dollar above or below guidelines will lose about 2% of their customer survey score for each dollar above or below, up to 4. 99Price Fine CutPrices follow a clasic economic demand curve, as price goes down, the price score goes upMTBF– Each segment sets a 5, 00 hour range for Mean Time before failure– the number of hours a project is expected to operate before it malfunctions, customer prefer products towards the top of the range– as MTFB increases, the score increases. Customers are indifferent to MTFB above the segment rangeMTFB rough cutProducts with MTFB 1000 hours below the segment guideline lost 20% of their customer survey score, for every 1, 000 hours below the guideline, on down to 4, 999– At 5, 000 hours below this range, demand for the product falls to zeroMTFB fine cutthe customer survey score improves as mtfb increases, however material cost increase . 30 cents for every additional 1, 000 hours of reliability. customers ignore reliability above the expected rangeAge Score– criteria does not have a rough cut, product cannot be too young or too old to be considered for purchase-Cutting edge tech- prefer newer tech (1. 5 years or less)– Proven tech- seek older designs (2 or more years)Customer survey scoreyour score/ (sum of your score+ competitors scores)R&D