Voodoo love case

[Business](#)

Executive Summary The “ Voodoo Love” project is the potential commercialization of a new fragrance by Bourbon French Parfums CEO Mary Behlar to U. S outlets over the next five years. This report determines the economic feasibility of “ Voodoo Love” based on the net present value (NPV) of its cash flows and the internal rate of return (IRR) over the 5 year period. We have made certain assumptions to calculate the final numbers which are outlined below.

The “ Appendix” contains the detailed calculations. Based on our calculations the project is economically feasible. The NPV of the project is $130, 961. A positive NPV implies that the present values of the cash outflows outweigh the present values of the cash inflows thereby adding value to the firm. The IRR of 13.

8% is also higher than the estimated cost of funds of 12% that can be invested in capital markets implying that the rate of return for this project is higher than the required rate of financing. Table 1 and Chart 1 summarise the present cash flow present values and the relationship between the NPV and the applied discount rates. Table 1: Net Present Value & IRR ($) Total cash flow present values Cumulative present values NPV IRR 0 1 371, 429 2 $ 606, 665 $ -1, 521, 907 3 $ 541, 665 $ -980, 242 4 $ 483, 629 $ -496, 613 5 $ $ 627, 574 130, 961 $ -2, 500, 000 $ $ 130, 961 13. 8% $ -2, 500, 000 $ -2, 128, 571 Chart 1: Net Present Value vs discount rate applied $1, 400, 000 $1, 200, 000 $1, 000, 000 Net Present Value ($) $800, 000 $600, 000 $400, 000 $200, 000 $0 -$200, 000 -$400, 000 0. 0% 2.

0% 4. 0% 6. 0% 8. 0% 10. 0% 12. 0% 14.

0% 16. 0% 18. 0% 20. 0% IRR = 13. 8% Discount rate (%) 1 Assumptions We have made the following assumptions in deriving the NPV and IRR for the " Voodoo Love" project: Revenue and costs 1.

2. 3. 4. 1 ounce of flacon is considered as 1 unit of fragrance Assume BFP will cease sales and production of " Voodoo Love" by the end of Year 5 Preliminary product design and marketing studies ($50, 000) is considered as a sunk cost The cost of product space is assumed to be $5, 000 (opportunity cost of rent currently charged for facility owned by BFP which can be used for production) 5. Pro-rate share of general and administrative expenses of $75, 000 are excluded from cost of goods sold 6.

The pro-rate share of general and administrative expenses of $75, 000 reflects the opportunity cost for using the general and administrative resources for " Voodoo Love" project Working capital requirement 7. Collection and payment period of 90 days for accounts receivable and payable is assumed to be 3 months 8. The residual working capital will be recovered fully by the end of the project (Year 5) 9. Assume the production continuously requires one month raw material inventory for smooth production over the 5-year period except for the last month in Year 5 due to the expected termination of the project 10. Inventory buffer required for the start of the production in Year 1 is assumed to be purchased at the end of Year 0 on credit 02 Appendix Appendix 1: Voodoo Love – NPV analysisData Inputs 1 2 3 4 5 6 7 8 9 10 11 Unit sales price Unit raw materials cost Direct labor costs (monthly) Energy costs (monthly) Sales volume (monthly) Product life (years) Production space (monthly) New equipment cost Equipment residual value General overhead expenses (yearly) Depreciation life (years) Revenue and Costs 12 13 14 15 16 17 18 19 20 21 Unit sales price Sales volume Sales Revenue Unit raw materials cost Raw materials cost Direct labor costs Energy costs Opportunity of prod. pace General overhead expenses Cost of goods sold Depreciation and WCR 22 23 24 25 26 27 28 29 Net capital expenditures Property, plant & equipment Depreciation Inventory raw materials Accounts receivable Accounts payable Working capital requirement Increase in WCR Free cash flow 30 31 32 33 34 35 36 37 Net operating profit NOP Cash taxes on NOP NOPLAT Depreciation Net capital expenditures Increase n WCR Residual WCR FCF $ -2, 500, 000 $ 416, 000 $ 761, 000 $ 761, 000 $ 761, 000 $ 2, 500, 000 $ $ 345, 000 $ $ $ $ $ 345, 000 $ $ $ $ $ $ 30, 000 30, 000 0 $ $ $ $ 0 $ 2, 500, 000 $ 2, 500, 000 $ $ $ $ $ $ $ 500, 000 30, 000 405, 000 90, 000 345, 000 345, 000 1 435, 000 174, 000 261, 000 500, 000 $ $ $ $ $45 10 $12, 000 $3, 000 $3, 000 5 $5, 000 $2, 500, 000 $0 $85, 000 5 0 $ 1 45 $ 36, 000 $ 1, 620, 000 $ $ $ $ $ $ $ 10 360, 000 144, 000 36, 000 60, 000 85, 000 610, 000 1 $ $ $ $ $ $ $ 500, 000 30, 000 405, 000 90, 000 345, 000 2 435, 000 174, 000 261, 000 500, 000 $ $ $ $ $ 2, 000, 000 Opportunity cost of capital (%) Corporate income tax rate (%) 2 45 36, 000 $ 1, 620, 000 $ $ $ $ $ $ $ 10 360, 000 144, 000 36, 000 60, 000 85, 000 610, 000 2 $ $ $ $ $ $ $ 500, 000 30, 000 405, 000 90, 000 345, 000 3 435, 000 174, 000 261, 000 500, 000 $ $ $ $ $ 1, 500, 000 $ 3 45 36, 000 $ 1, 620, 000 $ $ $ $ $ $ $ 10 360, 000 144, 000 36, 000 60, 000 85, 000 610, 000 3 $ $ $ $ $ $ $ $ 500, 000 500, 000 30, 000 405, 000 90, 000 345, 000 4 435, 000 174, 000 261, 000 500, 000 $ $ $ $ $ 1, 000, 000 $ 4 45 36, 000 $ 1, 620, 000 $ $ $ $ $ $ $ 10 360, 000 144, 000 36, 000 60, 000 85, 000 610, 000 4 $ $ $ $ $ $ $ $ 500, 000 405, 000 60, 000 315, 000 5 435, 000 174, 000 261, 000 500, 000 $ 12% 40% 5 45

36, 000 $ 1, 620, 000 $ $ $ $ $ $ $ 10 360, 000 144, 000 36, 000 60, 000 85, 000 610, 000 5 Collection period (months) Payment period (months) 3 3 Production capacity (monthly) Equipment life (years) Inventory raw materials (monthly) 3, 000 5 $30, 000 $ 1, 106, 000 03 Appendix 1: Voodoo Love – NPV analysis (cont) Net Present Value 38 39 40 41 42 Discount factor Total cash flow present values Cumulative present values NPV IRR 0 1.

0000 $ -2, 500, 000 $ -2, 500, 000 $ 130, 961 13. 8% 1 0. 8929 $ 371, 429 2 0. 7972 $ 606, 665 3 0. 7118 $ 541, 665 4 0. 6355 $ 483, 629 5 0.

5674 $ $ 627, 574 130, 961 $ -2, 128, 571 $ -1, 521, 907 $ -980, 242 $ -496, 613 Appendix 2: Voodoo Love NPV Solution CheckAlternative Capital Investment (r = 12%) 0 FCF Cap Inv Y 1 2 3 4 5 CF $ 300, 000 $ 300, 000 $ 300, 000 $ 300, 000 $ 2, 800, 000 $ -2, 500, 000 $ 1 300, 000 $ 2 300, 000 $ 3 300, 000 $ 4 300, 000 5 $ 2, 800, 000 Future Value Capital Expenditure $ $ 300, 000 636, 000 $ 1, 012, 320 $ 1, 433, 798 $ 4, 405, 854 Future Value Alternative Capital Investment (r = 12%) Project Voodoo Love 0 FCF Voodoo Love Y 1 2 3 4 5 CF $ 416, 000 $ 761, 000 $ 761, 000 $ 761, 000 $ 1, 106, 000 Net Future Value Net Present Value $ -2, 500, 000 Future Value $ 416,. 000 $ 1, 226, 920 $ 2, 135, 150 $ 3, 152, 368 $ 4, 636, 653 Future Value Voodoo Love (r = 12%) $ $ 230, 798 Diff. in $ 130, 961 $0 Diff. in % 0% $ 1 416, 000 $ 2 761, 000 $ 3 761, 000 $ 4 761, 000 5 $ 1, 106, 000 04