



Applied Financial Analysis within Veterinary Medicine

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Purpose

The direction of Veterinary medicine has been shifting in recent decades with the evolution of the corporate practice. Today many veterinarians come out of school knowing little to no about the industry's business side. Subsequently, they work for someone else or even these large corporate practices. I always knew I was interested in business after watching my father do so growing up in his dental practice. In continuation of receiving a minor in Agribusiness, I wanted to get more hands-on and real-life experience with the financial side of Veterinary Medicine. Next year I will attend Virginia-Maryland College of Veterinary Medicine in the Class of 2027. Therefore, I aim to graduate from veterinary school, gain some experience as an associate veterinarian and eventually manage and run my practice. All hope to shift the direction away from corporate practice and better veterinary medicine long-term.

Introduction

My capstone experience occurred during the spring semester of 2023 with Dr. White. We worked together to find practices across the United States looking for financial advice or advice to give about veterinary medicine. In total, I reached out to five veterinarians from Montana to Massachusetts to locally here in Virginia, interviewing each of them about their experience within the field and lessons learned along the way. I worked closely with two of these veterinarians on two individual ventures. The first veterinarian in Virginia Beach had a project relating to the financial benefit of renovating a supply closet into a dental suite. The second veterinarian in Montana was looking for general advice on increasing cash flow within their practice. I've outlined my experiences with each of these projects throughout this poster.

Dental Renovation Analysis- Inputs/Partial Budget

My first project involved working with a small animal veterinarian in Virginia Beach on whether renovating a supply closet into a dental suite would be financially profitable. The first step required gathering "inputs" (Figure 1.1) and doing small calculations to create a partial budget (Figure 1.2) looks at the profitability of a single aspect or change rather than the whole business. Traditionally split into two, the "good side" and the "bad side." On the good side are factors that will increase money, either added revenue or reduced expenses. On the bad side is the opposite; factors that reduce the money coming in, reduced revenue, and added expenses. Subtracting the "bad side" from the "good side" leads us to decide whether this change will be profitable per unit.

Figure 1.1

Dental Suite Renovation			
Inputs		Staff Wages	
Equipment and Renovations		Veterinarian Salary (year)	\$110,000.00
Patterson Veterinary Estimate (\$)	\$21,253.35	Technician (\$/hour)	\$22.00
Anesthesia Monitor (\$)	\$8,500.00	Assistant (\$/hour)	\$15.00
Anesthesia Machine (\$)	\$5,500.00	Hours worked (hours/day)	8
IV Fluid Pump (\$)	\$1,500.00	Surgery Days (days/year)	260
Bair Hugger (\$)	\$850.00	Tax and Insurance Estimate (%)	3.00%
Salvage Value (\$)	\$0.00	Average Useful Life (years)	10
Produce Cost/Production		Operating Cost	
Average Procedure Cost (\$)	\$750.00	Avg. Dog Weight (lbs)	40
Current Dental Procedures (#/day)	2	Avg. Length of Procedure (min)	50
Current Surgical Procedures (#/day)	3	IV catheter (\$/patient)	\$10.00
Future Dental Procedures (#/day)	4	IV Fluids (\$/patient)	\$15.00
Future Surgical Procedures (#/day)	3	Total Operating Cost (\$/patient)	\$91.67
Miscellaneous Estimated Inputs		Calculations	
Opportunity Interest Rate (%)	6.00%	Hourly Employees Cost (\$/yr.)	\$76,960.00
Average Customers Profit (\$/yr.)	\$300.00	Current Dental Production Level	\$1,500.00
New Clients from More Surgeries (#)	5	Current Surgical Production Level	\$2,250.00
Fudge Factor (%)	10.00%	Future Dental Production Level	\$3,000.00
		Future Surgical Production Level	\$2,250.00

Figure 1.2

Partial Budget			
Proposed Change: Turning Supply Closet into Dental Suite			
Main Assumptions: Enough Clients Need Dental Procedures to Rationalize Expansion			
Units (\$/day)			
Good Side		Bad Side	
Added Revenue		Reduced Revenue	
Additional Dental Procedure	\$1,500.00	Opportunity Cost of Supply Closet	\$0.00
Additional Surgical Procedure	\$0.00	Fudge Factor	\$92.56
New Clients Profit	\$5.77		
Total Added Revenue	\$1,505.77	Total Reduced Revenue	\$92.56
Reduced Expenses		Added Expenses	
		Additional Payroll	\$719.08
		Tax and Insurance	\$4.34
		Depreciation	\$14.46
		Opportunity Interest Rate	\$4.34
		Operating Cost	\$183.33
Total Reduced Expenses	\$0.00	Total Added Expenses	\$925.55
Total Good	\$1,505.77	Total Bad	\$1,018.11
Decision		3 Factors Impacting Decision	
Net Change	\$487.66	1 Number of patients needing dentals	
\$/year	\$126,792.48	2 Additional veterinarian available	
\$/patient	\$69.67	3 Parking lot/Waiting room space	

Dental Renovation Analysis- Cash Flow/Breakevens

The next step involves creating a non-constant cash flow table (Figure 1.3). Using constant cash flow does not account for variable change, as a non-constant does. Based on the partial budget, revenue shall increase each subsequent year with the number of clients growing and additional dental procedures. From here, we can calculate two central values; internal rate of return (IRR) and payback period (Figure 1.4). The last step involved calculating a breakeven analysis (Figure 1.4), one of the most helpful tools. Values of goods and services are constantly changing so understanding how these interact with one another is essential to the success of any business

Figure 1.3

Non-Constant Cash Flow Table			
Year	Net Cash	PV	Payback Period
2023	-\$37,603.35	(\$37,603.35)	0
2024	\$126,792.48	\$115,265.89	\$126,792.48
2025	\$128,292.48	\$106,026.84	\$255,084.95
2026	\$129,792.48	\$97,515.01	\$384,877.43
2027	\$131,292.48	\$89,674.53	\$516,169.91
2028	\$132,792.48	\$82,453.68	\$648,962.39
2029	\$134,292.48	\$75,804.60	\$783,254.86
2030	\$135,792.48	\$69,683.01	\$919,047.34
2031	\$137,292.48	\$64,047.95	\$1,056,339.82
2032	\$138,792.48	\$58,861.56	\$1,195,132.29
2033	\$140,292.48	\$54,088.82	\$1,335,424.77
2034	\$141,792.48	\$49,697.40	\$1,477,217.25
2035	\$143,292.48	\$45,657.40	\$1,620,509.72
2036	\$144,792.48	\$41,941.22	\$1,765,302.20
2037	\$146,292.48	\$38,523.38	\$1,911,594.68

Figure 1.4

IRR			
Inputs		Calculations	
Investment Amount (\$)	\$37,603.35	IRR (%)	338.36%
Desired Real Rate of Return (%)	10.00%	Payback Period (years)	0.42

Breakeven			
Miscellaneous		Wages	
Equipment and Renovations (\$)	\$164,395.83	Veterinarian Salary (year)	\$236,792.48
Operating Cost (\$/day)	\$671.00	Technician (\$/hour)	\$82.96
Number of Patients (#/day)	6.36	Assistant (\$/hour)	\$75.96
Procedure Price (\$/patient)	\$506.17		
Surgery Days (days/year)	92		

Dental Renovation Analysis- Results

Considering all factors, the dental renovation is financially worthwhile as yearly revenue should increase by \$126,792.48. Although this doesn't necessarily mean it's worth it from a business standpoint—two significant factors affect this decision. Whether the clinic has the clientele to sustain this production level long term, without the clinic receiving dental procedures, the revenue does not increase. The second consideration is staffing. An additional veterinarian, technician, and assistant are required to operate the dental suite. Shortages of all these positions within the field can have a significant impact. I recommend handling these concerns and moving forward in the renovation process.

Montana Veterinary Clinic- Balance Sheets

Figure 2.1 Balance Sheet 2022

ASSETS		LIABILITIES & EQUITY	
Current Assets		Current Liabilities	
Checking/Savings	70,292.14	Accounts Payable	28,362.45
Other Current Assets	22,102.85	Total Accounts Payable	28,362.45
	92,395.00	Credit Cards	98.35
		Total Current Liabilities	28,460.80
Fixed Assets		Other Current Liabilities	
Equipment	110,881.90	Other Current Liabilities	27,471.11
Land	20,000.00	Total Current Liabilities	55,931.91
Buildings	25,000.00		
Other Fixed Assets	20,000.00	Total Other Current Liabilities	312,773.45
	175,881.90		
		Total Liabilities	312,773.45
		Equity	
		Retained Earnings	16,848.24
		Net Income	6,455.89
		Total Equity	23,304.13
Total Assets	368,276.90	Total Liabilities & Equity	368,276.90

My second project involved a small animal clinic in Montana struggling to turn a profit. My role was to investigate some of their financial documents and see if changes could be made to increase profit. The first step was looking at profit/loss statements and balance sheets over the past two years. A profit loss statement is a financial document that summarizes the revenues and expenses of a company and together make up the net income, where balance sheets (Figure 2.1 & 2.2) have two parts; assets and liabilities; assets are those of present or future value, whereas liabilities are those owed to another entity.

Montana Veterinary Clinic- Cash Flow

Figure 2.2

Cash Flow Table					
	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Cash Inflow					
Drug Rebate	\$984.99	\$0.00	\$0.00	\$2,001.49	\$7,403.65
Fee for Service Income	\$273,556.32	\$320,805.67	\$293,744.43	\$258,486.60	\$1,146,593.02
Refunds	\$0.00	\$0.00	\$0.00	\$3,742.50	\$3,782.50
Total	\$274,541.31	\$320,805.67	\$293,744.43	\$264,230.59	\$1,157,729.17
Cash Outflow					
Advertising and Promotion	\$215.16	\$100.00	\$99.95	\$145.00	\$560.11
Bank Service Charge	\$4,247.79	\$5,337.35	\$5,027.21	\$4,642.30	\$19,254.65
Care Credit Expense	\$390.23	\$896.90	770.86	719.69	\$2,777.68
Computer and Internet Expense	\$2,119.70	\$2,336.53	\$447.00	\$543.78	\$8,441.01
Disposal Expense	\$429.00	\$535.95	\$340.85	\$288.30	\$1,593.90
Donations	\$1,111.46	\$0.00	\$1,344.30	\$0.00	\$3,055.76
Dues and Subscriptions	\$1,637.37	\$782.00	\$590.00	\$440.00	\$3,509.37
Employee Expenses	\$9,645.50	\$4,773.54	\$2,354.65	\$4,918.21	\$36,891.84
Insurance	\$3,318.38	\$4,788.25	\$2,605.25	\$5,106.10	\$15,817.98
Lab Fees	\$6,102.93	\$7,874.93	\$9,569.68	\$4,194.37	\$27,741.91
Meals and Entertainment	\$608.46	\$866.11	\$826.22	\$757.62	\$3,058.41
Office Supplies	\$254.88	\$655.78	\$670.03	\$1,918.21	\$3,499.10
Payroll Expenses	\$164,447.71	\$152,928.38	\$180,725.94	\$153,829.07	\$651,931.10
Postage	\$0.00	\$0.00	\$0.00	\$387.97	\$1,091.79
Professional Fees	\$8,592.33	\$12,589.09	\$11,305.78	\$10,706.93	\$43,194.13
Rent Expense	\$14,446.92	\$18,488.25	\$4,961.66	\$14,064.00	\$51,960.83
Repairs and Maintenance	\$509.00	\$546.00	\$506.00	\$939.66	\$3,277.13
Supplies	\$10,886.36	\$11,399.02	\$7,051.01	\$8,995.75	\$46,342.77
Telephone Expense	\$429.36	\$543.00	\$940.00	\$1,017.62	\$6,929.98
Utilities	\$1,264.04	\$1,672.16	\$1,218.92	\$1,829.57	\$7,984.69
Vaccine and Medicine	\$52,735.82	\$39,331.90	\$59,785.24	\$48,889.48	\$201,342.44
Licenses and Permits	\$0.00	\$90.00	\$0.00	\$0.00	\$525.00
Interest Expense	\$4,277.01	\$3,550.60	\$4,004.63	\$3,564.46	\$15,396.70
Misc.	\$0.00	\$32.78	\$0.00	\$0.00	\$32.78
Small Medical Equipment	\$0.00	\$0.00	\$0.00	\$51.21	\$3,860.15
Total	\$209,723.04	\$272,718.52	\$301,392.21	\$287,463.09	\$1,162,298.86
Net Ordinary Income	\$68,818.27	\$48,087.15	\$92,352.22	\$76,767.50	\$285,925.14
Net Other Income	-\$749.00	\$0.28	-\$129.63	-\$61.85	\$940.20
Net Income	\$68,069.27	\$48,087.43	\$92,222.59	\$76,705.65	\$286,865.34

Using the profit/loss statement, we can create a cash flow document to explore further the business' revenues and expenses (Figure 2.3). A cash flow document has cash inflow and outflow sections broken down by categories and separated quarterly. Breaking the profit/loss statement by type and quarter makes

the information more manageable and straightforward to find distinctive inflows and outflows. In Figure 2.3, all values highlighted in red make up greater than 40% of the yearly value in that respective category. Lastly, the year's net income was negative; most losses came in quarters one and three and profits in quarter two.

Montana Veterinary Clinic- Financial Ratios

Financial ratios are excellent at seeing how a business compares to others within an industry. The Risk Management Association (RMA) annually sets and updates these benchmark values. Figures 2.3 and 2.4 depict the benchmark ratios and percentages for veterinarian services in 2022-2023. The main financial ratios calculated for the year 2022 are in Figure 2.5. A current ratio is current assets/current liabilities. A quick ratio is similar to the current ratio except for subtracting inventory from current assets.

Figure 2.3

Benchmark Ratios			
	Low	Median	High
Current	1.6	2.9	7.8
Quick	1.4	2.5	6.0
Sales/Working Capital	35.2	11.0	6.9
Fixed/Worth	-2.3	0.7	0.1
Debt/Worth	-2.5	2.3	0.3
Sales/Net Fixed Assets	7.4	31.4	120.6
Sales/Total Assets	1.8	3.3	5.1

Figure 2.5

Ratios		2022
Current		3.45
Quick		1.58
Sales/Working Capital		-0.03
Fixed/Worth		4.69
Debt/Worth		10.61
Sales/Net Fixed Asset		8.38
Sales/Total Assets		3.38
Inventory Turnover		10.34
Solvency		8.61%
Profitability		-1.59%
Financial Efficiency		97.06%

Figure 2.4

Benchmark Percentages	
Assets	
Cash and Equivalents	37.20%
Total Current	48.90%
Total Fixed	22.70%
Liabilities	
Total Current	23.10%
Long-Term	39.00%
Net Worth	34.60%
Income Data	
Operating Expenses	86.30%
Operating Profit	13.70%
All Other Expenses	-0.20%
Profit Before Taxes	13.90%

Montana Veterinary Clinic- Results

After analyzing the veterinary clinic by creating both a cash flow table and calculating numerous financial ratios, I had several recommendations to increase profitability. A fundamental concept of finance is if you want to increase profit, either increase revenue or decrease expenses. A simple way to do this is to raise the prices of services; if the market allows for it. When decreasing expenses, the best option is cutting 3-5% off the top 5. The three expenses I focused on were payroll, vaccines/medicine, and supplies. For payroll, complete a list of daily objections and tasks and if the current staffing amount meets these requirements. With vaccines/medicine and supplies, there is an excess stock on hand; this is apparent by looking at the inventory turnover ratio, which is low comparatively for veterinary medicine. Overall, my recommendation would include the following:

- Raising the price of services.
- Decreasing payroll by either layoffs or the number of hours worked.
- Lowering inventory.

Conclusion

My capstone experience was one of the most valuable courses I have taken as in undergrad. Gaining hands-on experience with finance relating to veterinary medicine has expanded my knowledge and increased my interest in the industry. Furthermore, it has prepared me for my future veterinary career with the hope of one day opening my own practice.