

Operational Modeling

Table of Contents

[Cover](#)

The data that are in blue colour are hard-coded and fictitious numbers provided by Corporate Finance Institute (CFI) as a part of learning. The entire model is prepared following the international best practices in operational modelling that I learned during my professional certification from CFI.

Revenue Schedule

All figures in USD thousands unless stated

	2019A	2020A	2021A	2022F	2023F	2024F	2025F	2026F
Days in Period	365	365	365	365	365	365	365	365

OPERATIONS

Sales Volume Growth		2.0%	2.1%	2.0%	1.0%	1.0%	0.5%	0.5%
Sales Volume	(Units/Day)	1,374	1,401	1,430	1,459	1,473	1,488	1,503
Plant Capacity	(Units/Day)	1,500	1,500	1,500	1,500	1,500	1,500	1,500
Operational Efficiency		91.6%	93.4%	95.3%	97.2%	98.2%	99.2%	100.2%

VOLUME

Days in Period		365	365	365	365	365	365	365
Sales Volume	(Units/Day)	1,374	1,401	1,430	1,459	1,473	1,488	1,503
Sales Volume	(Units)	501,510	511,365	521,950	532,389	537,713	543,090	548,534

PRICING

Pricing Increases		1.7%	2.1%	3.0%	1.0%	1.0%	1.0%	0.5%
Unit Price	(USD/Unit)	102.86	104.61	106.81	110.01	111.11	112.23	113.91

REVENUE

Sales Volume	(Units)	501,510	511,365	521,950	532,389	537,713	543,090	548,534
Sales Price	(USD/Unit)	102.86	104.61	106.81	110.01	111.11	112.23	113.91
Revenue		51,585	53,494	55,749	58,570	59,748	60,949	62,486

Capacity Exceeded?	-	-	-	-	-	-	-	Yes
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Cost Schedule

All figures in USD thousands unless stated

	2019A	2020A	2021A	2022F	2023F	2024F	2025F	2026F
Sales Volume	501,510	511,365	521,950	532,389	537,713	543,090	545,805	548,534
Inflation	2.4%	2.2%	2.3%	3.5%	3.0%	3.0%	2.5%	2.5%

VARIABLE COSTS

Materials	(USD/Unit)	9.51	9.72	9.91	10.26	10.56	10.88	11.15	11.43
Packaging	(USD/Unit)	0.82	0.84	0.86	0.89	0.92	0.94	0.97	0.99
Transportation	(USD/Unit)	1.54	1.58	1.62	1.68	1.73	1.78	1.82	1.87
Subtotal		11.87	12.14	12.39	12.82	13.21	13.60	13.94	14.29
Materials		4,769	4,970	5,173	5,461	5,681	5,910	6,088	6,271
Packaging		411	430	449	474	493	513	528	544
Transportation		772	808	846	893	929	966	995	1,025
Subtotal		5,953	6,208	6,467	6,827	7,102	7,389	7,611	7,840

FIXED COSTS

Labour	(USD/Unit)	31.17	31.24	31.31	31.77	32.40	33.04	33.70	34.37
Utilities	(USD/Unit)	7.28	7.30	7.31	7.42	7.57	7.72	7.87	8.03
Insurance	(USD/Unit)	4.91	4.92	4.93	5.01	5.11	5.21	5.31	5.42
Subtotal		43.36	43.45	43.55	44.19	45.07	45.96	46.88	47.81
Labour		15,630	15,973	16,341	16,913	17,420	17,943	18,392	18,851
Utilities		3,651	3,731	3,817	3,951	4,069	4,191	4,296	4,403
Insurance		2,463	2,517	2,575	2,665	2,745	2,827	2,898	2,971
Subtotal		21,744	22,221	22,733	23,529	24,235	24,962	25,586	26,225

SUMMARY

Variable Costs	(USD/Unit)	11.87	12.14	12.39	12.82	13.21	13.60	13.94	14.29
Fixed Costs	(USD/Unit)	43.36	43.45	43.55	44.19	45.07	45.96	46.88	47.81
Total Costs	(USD/Unit)	55.23	55.59	55.94	57.02	58.28	59.57	60.82	62.10
Variable Costs		5,953	6,208	6,467	6,827	7,102	7,389	7,611	7,840
Fixed Costs		21,744	22,221	22,733	23,529	24,235	24,962	25,586	26,225
Total Costs		27,697	28,429	29,200	30,356	31,337	32,350	33,197	34,066

Income Statement

All figures in USD thousands unless stated

	2019A	2020A	2021A	2022F	2023F	2024F	2025F	2026F
Inflation	2.4%	2.2%	2.3%	3.5%	3.0%	3.0%	2.5%	2.5%
Revenue	51,585	53,494	55,749	58,570	59,748	60,949	61,866	62,486
COGS	27,697	28,429	29,200	30,356	31,337	32,350	33,197	34,066
Gross Profit	23,888	25,065	26,550	28,215	28,411	28,599	28,669	28,420
SG&A	5,877	6,006	6,144	6,359	6,550	6,746	6,915	7,088
Other	1,764	1,931	2,026	2,097	2,160	2,225	2,280	2,337
EBITDA	16,247	17,128	18,380	19,759	19,701	19,628	19,474	18,995
Depreciation	2,960	3,196	3,452	4,177	4,408	4,647	4,893	5,147
EBIT	13,287	13,932	14,928	15,582	15,293	14,980	14,581	13,849
Interest	1,488	2,580	2,448	2,520	2,520	2,520	2,520	2,520
EBT	11,799	11,352	12,480	13,062	12,773	12,460	12,061	11,329
Current Tax	-	-	-	-	-	2,348	2,821	2,724
Deferred Tax	3,155	2,861	3,012	3,265	3,193	767	194	108
Total Tax	3,155	2,861	3,012	3,265	3,193	3,115	3,015	2,832
Net Income	8,644	8,491	9,468	9,796	9,580	9,345	9,045	8,497

Working Capital Schedule

All figures in USD thousands unless stated

		2019A	2020A	2021A	2022F	2023F	2024F	2025F	2026F
Days in Period		365	365	365	365	365	365	365	365
Revenue		51,585	53,494	55,749	58,570	59,748	60,949	61,866	62,486
COGS		27,697	28,429	29,200	30,356	31,337	32,350	33,197	34,066
AMOUNTS PER DAY									
Accounts Receivable	(Days)	40	43	43	45	45	45	45	45
Inventory	(Days)	24	25	25	25	25	25	25	25
Accounts Payable	(Days)	40	41	41	40	40	40	40	40
TOTAL AMOUNTS									
Accounts Receivable		5,708	6,333	6,624	7,221	7,366	7,514	7,627	7,704
Inventory		1,792	1,923	2,009	2,079	2,146	2,216	2,274	2,333
Accounts Payable		3,024	3,205	3,319	3,327	3,434	3,545	3,638	3,733
NET WORKING CAPITAL									
Current Assets		7,500	8,256	8,633	9,300	9,513	9,730	9,901	10,037
Current Liabilities		3,024	3,205	3,319	3,327	3,434	3,545	3,638	3,733
Net Working Capital		4,476	5,051	5,314	5,974	6,078	6,185	6,263	6,304
Cash from Working Capital Items									
		(575)	(263)	(660)	(105)	(106)	(78)	(41)	

Depreciation Schedule

All figures in USD thousands unless stated

	2019A	2020A	2021A	2022F	2023F	2024F	2025F	2026F
Capital Expenditure	4,982	5,199	4,400	4,550	4,700	4,850	5,000	5,125

EXISTING ASSET DEPRECIATION

	Years
Useful Life: Existing Assets	16.00
PP&E at End of 2021	65,014

Percent of Full Year				
Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
100%	100%	100%	100%	100%

NEW ASSET DEPRECIATION

	Years
Useful Life: New Assets	20.00
First Year Accounting Depreciation	50%

Percent of Full Year				
Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
50%	100%	100%	100%	100%

		Percent of Full Year				
Year	Life	2022F	2023F	2024F	2025F	2026F
2022F	20.00	50.0%	100.0%	100.0%	100.0%	100.0%
2023F	20.00	-	50.0%	100.0%	100.0%	100.0%
2024F	20.00	-	-	50.0%	100.0%	100.0%
2025F	20.00	-	-	-	50.0%	100.0%
2026F	20.00	-	-	-	-	50.0%

			Amounts for Depreciation				
Year	Capex	Per Yr	2022F	2023F	2024F	2025F	2026F
2022F	4,550	228	114	228	228	228	228
2023F	4,700	235	-	118	235	235	235
2024F	4,850	243	-	-	121	243	243
2025F	5,000	250	-	-	-	125	250
2026F	5,125	256	-	-	-	-	128

TOTAL ASSET DEPRECIATION

Existing Assets	4,063	4,063	4,063	4,063	4,063
New Assets	114	345	584	830	1,083
Total Depreciation	4,177	4,408	4,647	4,893	5,147

This schedule calculates depreciation on a straight-line basis. ⁽¹⁾

This schedule assumes all PP&E is depreciable. ⁽²⁾

Asset Schedule

All figures in USD thousands unless stated

	2020A	2021A	2022F	2023F	2024F	2025F	2026F
Capital Expenditure	5,199	4,400	4,550	4,700	4,850	5,000	5,125
Blended Tax Depreciation Rate			15.0%	15.0%	15.0%	15.0%	15.0%

First Year Tax Depreciation	50%
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Property Plant & Equipment

Beginning		65,014	65,387	65,679	65,881	65,988
Capital Expenditure		4,550	4,700	4,850	5,000	5,125
Accounting Depreciation		(4,177)	(4,408)	(4,647)	(4,893)	(5,147)
Ending	65,014	65,387	65,679	65,881	65,988	65,967

Tax Basis

Beginning		39,211	37,538	36,255	35,303	34,632
Capital Expenditure		4,550	4,700	4,850	5,000	5,125
Tax Depreciation		(6,223)	(5,983)	(5,802)	(5,670)	(5,579)
Ending	39,211	37,538	36,255	35,303	34,632	34,178

This schedule assumes that there are no asset disposals. ⁽¹⁾

Income Tax Schedule

All figures in USD thousands unless stated

	2021A	2022F	2023F	2024F	2025F	2026F
Earnings Before Tax (EBT)		13,062	12,773	12,460	12,061	11,329
Profitable Before Taxes?		Yes	Yes	Yes	Yes	Yes

Tax Rate	25.0%
Losses Remaining at End of 2026?	-

Adjustment for Depreciation

EBT	13,062	12,773	12,460	12,061	11,329
Add: Accounting Depreciation	4,177	4,408	4,647	4,893	5,147
Less: Tax Depreciation	(6,223)	(5,983)	(5,802)	(5,670)	(5,579)
EBT After Adjustment	11,016	11,198	11,306	11,284	10,896

Adjustment for Tax Losses

EBT After Adjustment	11,016	11,198	11,306	11,284	10,896
Less: Use of Tax Losses	(11,016)	(11,198)	(1,914)	-	-
Taxable Income	-	-	9,391	11,284	10,896

Tax Losses

Beginning	24,128	13,112	1,914	-	-
Add: New Losses	-	-	-	-	-
Less: Use of Tax Losses	(11,016)	(11,198)	(1,914)	-	-
Ending	24,128	13,112	1,914	-	-

Taxes

Current Taxes	-	-	2,348	2,821	2,724
Deferred Taxes	3,265	3,193	767	194	108
Total Taxes	3,265	3,193	3,115	3,015	2,832

Model assumes that tax losses can be carried forward indefinitely into the future.⁽¹⁾
 Model assumes losses do not carry back to previous periods to reduce taxable income.⁽²⁾