Blue Topaz
Consulting Firm

The Markley Division

Contributors:

Geneviève Lavigueur
Kenny Somerville
Simon Foucher
Mohamed Shadi
Leo Pérez Saba

AGENDA

- Market Overview
- Problem Definition
- Analysis of Variances (L1, L2 & L3)
- Analysis of the Results
- Qualitative Analysis
- Recommendations
- Conclusion

MARKLEY DIVISION & ITS MARKET

- Manufactures and sells patio chairs:
  - Metal model
  - Plastic model (lesser quality)

- Market **increased by 10%**, but Operating income below budget

PROBLEM DEFINITION

- **Ineffective budgeting & control system:**
  - Unable to understand causes of variances
  - Not able to implement pro-active corrective measures

OVERVIEW OF CURRENT BUDGET STRUCTURE

Static Budget

- Based on one level of output
- Not adjusted once set
- No impact from actual output, revenues or cost drivers

OVERVIEW OF CURRENT BUDGET STRUCTURE

Static Budget

- **Actual input data from past periods**
- **Standards developed internally**

- Inexpensive and Easy to implement
- No real insight to the cause of the variances

STATIC VARIANCES

(In thousands of dollars)	Actual Results	Static Budget Variance	Static Budget
Total Sales	$930	**$55 F**	$875
Total Variable Costs	$735.8	**$(33.3) U**	$702.5
Total Other Costs	$155.8	**$(54.3) U**	$101.5
Divisional operational income	$38.4	**$(32.6) U**	$71

F = Favorable / U = Unfavorable

WHAT IS A FLEXIBLE BUDGET?

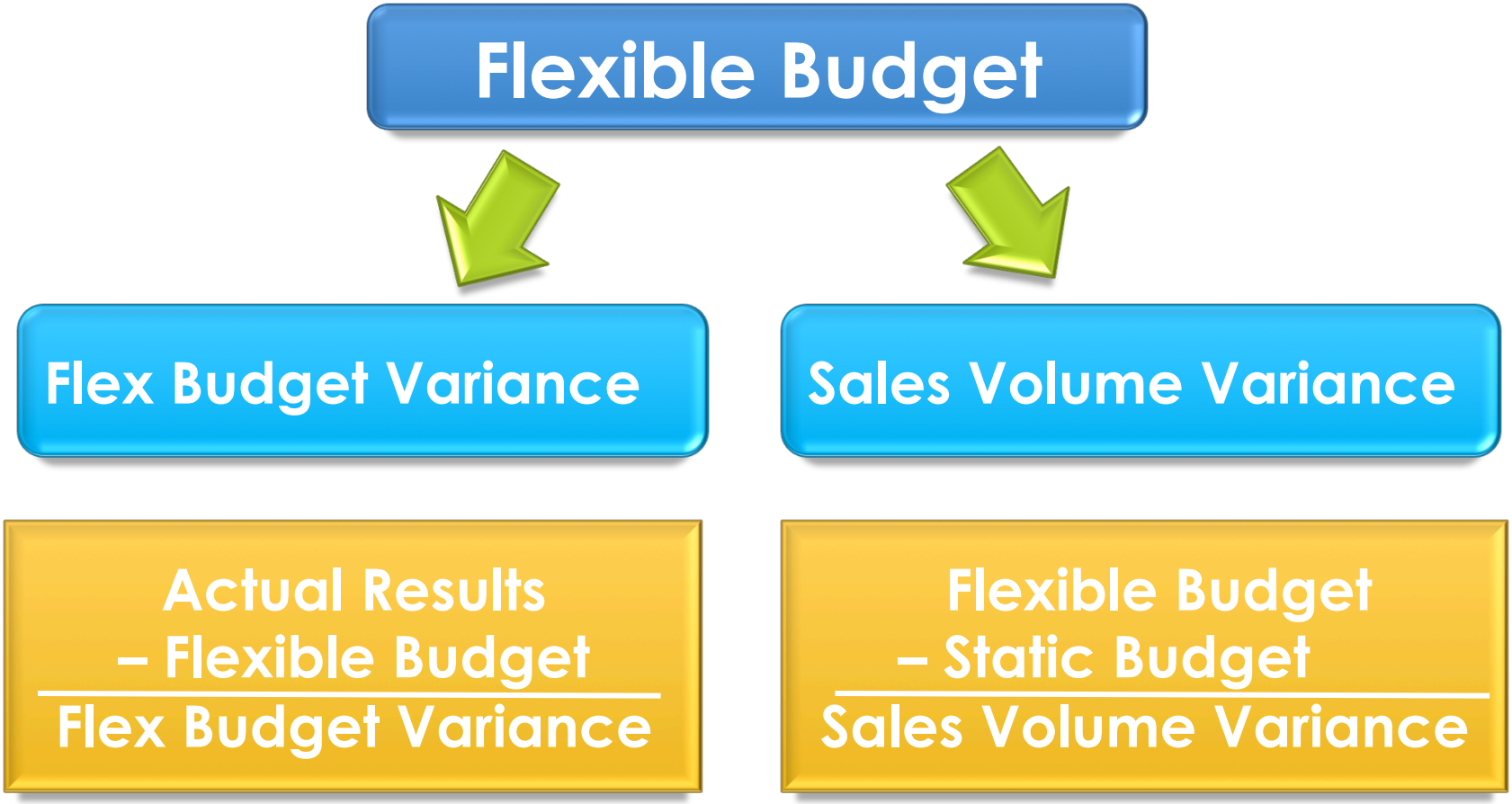
Flexible Budget

- Adjusted for changes in actual output, revenue & cost drivers
- Calculated once actual output is known
- Provides managers with a deeper understanding of the variances

FLEXIBLE BUDGET FOR THE MARKLEY DIVISION

(In thousands of dollars)	Actual Results	Flex Budget	Static Budget
Total Sales	$930	**$900**	$875
Total Variable Costs	$735	**$719**	$702.5
Total Other Costs	$155.8	**$101.5**	$101.5
Divisional Operational Income	$38.4	**$79.5**	$71

WHAT IS A FLEXIBLE BUDGET?



FLEXIBLE BUDGET VARIANCE FOR THE MARKLEY DIVISION

(In thousands of dollars)	Actual Results	Flex Bud Variance	Flex Budget	Volume Variance	Static Budget
Volume (Units)					
Plastic **Metal**	60 20	**0** **0**	60 20	**10** **(5)**	50 25
Sales Rev					
Plastic **Metal**	$630 $300	**$30 F** **0**	$600 $300	**$100 F** **$(75) U**	$500 $373
Total Sales	$930	**$30 F**	$900	**$25 F**	$875

F = Favorable / U = Unfavorable

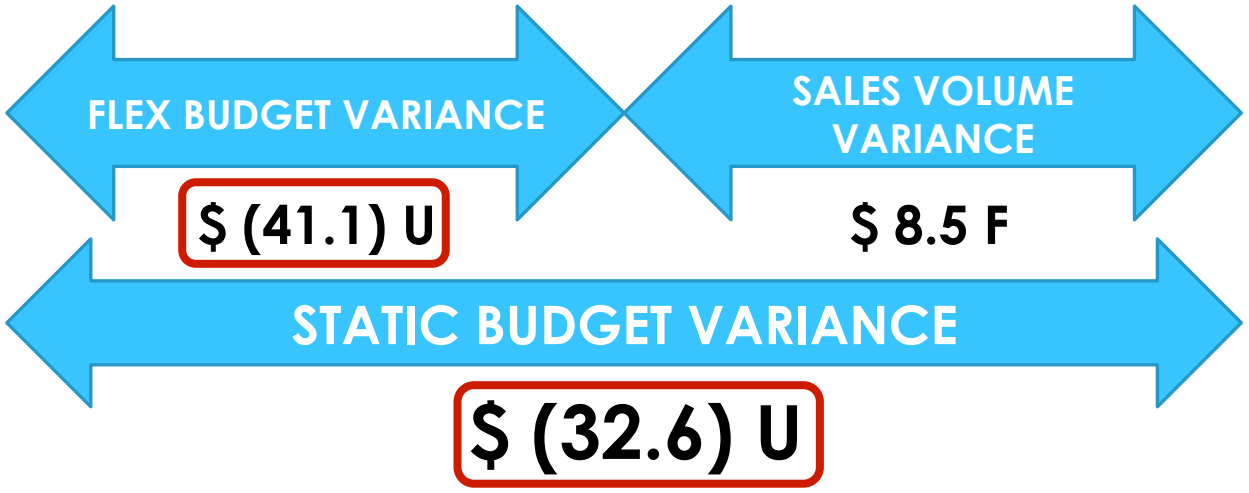
FLEXIBLE BUDGET VARIANCE FOR THE MARKLEY DIVISION

(In thousands of dollars)	Actual Results	Flex Bud Variance	Flex Budget	Volume Variance	Static Budget
Total Sales	$930	**$30 F**	$900	**$25 F**	$875
Total Var. Costs	$735	**$(16.8) U**	$719	**$(16.5) U**	$702.5
Total Other Costs	$155.8	**$(54.3) U**	$101.5	**0**	$101.5
Divisional operational income	$38.4	**$(41.1) U**	$79.5	**$8.5 F**	$71

F = Favorable / U = Unfavorable

FLEXIBLE BUDGET VARIANCES (L2)

(In thousands of dollars)	Actual Results	Flex Bud Variance	Flex Budget	Volume Variance	Static Budget
Divisional op. income	$38.4	**$(41.1) U**	$79.5	**$8.5 F**	$71



FLEXIBLE BUDGET VARIANCES (L2)

(In thousands of dollars)	Actual Results	Flex Bud Variance	Flex Budget	Volume Variance	Static Budget
Var. MFG Cost Variance	$49.6	**$(49.6) U**	-	**-**	-

- Who is responsible?
- What corrective measures can be applied?

MATERIALS PRICE (L3)

Quantity Purchased x (Price – Budget)

60,000 x ($5.65 - $5.00) = $(39,000)

30,000 x ($6 - $6) = $0

MATERIALS EFFICIENCY (L3)

(Quantity Used – Budget) x Cost

(56,000 – 55,000) x $5 = $(5,000)

(23,000 – 22,500) x $6 = $(3,000)

DIRECT LABOUR PRICE (L3)

Hours used x (Price – Budget)

9 300 x ($6 - $6) = $0

5 600 x ($8 - $8) = $0

DIRECT LABOUR EFFICIENCY (L3)

(Hours used – Allowed) x Cost

(9,300 – 55,000/6) x $6 = $(800)

(5 600 – 22,500/4) x $8 = $200

VARIABLE OH SPENDING (L3)

(Total Var. OH/Budgeted DLH – Budget Rate) x DLH Used

(43k + 50k + 19k)/9.3k = $12.04)

($12.04 - $12) x 9 300 = $(400)

(18k + 15k + 12k)/5.6k = $8.04

($8.04 - $8) x 5 600 = $(200)

VARIABLE OH EFFICIENCY (L3)

(Hours used – Budgeted) x Rate

(9,300 – 55,000/6) x $12 = $(1,600)

(5 600 – 22,500/4) x $8 = $200

FIXED OH (Supervision, Tax & Dep.)

(Monthly Budget x 3) – Q1 Actual

($9,100 x 3) – $27,900 = $(600)

($6,900 x 3) – $21,300 = $(600)

FIXED OH
Controllable (Supervision)

(Monthly Budget x 3) – Q1 Actual

($4,500 x 3) – $14,000 = $(500)

($3,500 x 3) – $21,300 = $(500)

EFFICIENCY, SPENDING & PRICE (L3)

	DL	DM	Var. OH	TOTAL
EFFICIENCY				
Metal	200 F	(3,000) U	200 F	(2,600) U
Plastic	(800) U	(5,000) U	(1,600) U	(7,400) U
SPENDING				
Metal			(200) U	(200) U
Plastic			(400) U	(400) U
PRICE				
Metal				
Plastic		(39,000) U		(39,000) U
TOTAL	**(600) U**	**(47,000) U**	**(2,000) U**	**(49,600) U**

EFFECT ON BALANCE SHEET

CHANGES IN FINISHED GOODS INVENTORY

Material	Manufactured	Sold	Unit Cost	Change
Metal	$22,500	$20,000	$10.00	**$25,000 F**
Plastic	$55,000	$60,000	$8.00	**$(40,000) U**

CHANGES IN RAW MATERIALS INVENTORY

Material	REQUIRED	PURCHASED	Unit Cost	Change
Metal	$23,000	$30,000	$6.00	**$42,000 F**
Plastic	$56,000	$60,000	$5.65	**$22,600 F**

ANALYSIS OF RESULTS

- Level 2: Majority of the variances comes from the **flexible budget variance** $(41,100) U
- Level 3: Most of the flexible budget variance comes from the **cost of plastic**: $(39,000) U
  - Efficiency
    - Plastic: $(7,400) U
    - Metal: $(2,600) U
- Most of the unfavourable variance comes from **plastic**

ANALYSIS OF RESULTS

- Fluctuations in inventory due to:
  - Purchasing more materials than required
  - Building inventories for Metal
  - Liquidating inventories for Plastic

QUALITATIVE ANALYSIS

- Major causes of variances:
  - **Purchase prices of raw materials**
  - **Manufacturing Waste**

- Intra Q1 status report without details: Management **was unable to implement corrective actions**.

QUALITATIVE ANALYSIS

- Q1 average price of plastic (10.50$) might be due to raising list price as corrective measure

- **CM of metal (27%) is twice that of plastic (14%):**
  - Pricing Plans
  - Commissions Plans
  - Selling Plans

CRITERIA FOR RECOMMENDATION

- Within Management's Control
- Financial Feasibility
- Highest Organizational Impact

RECOMMENDATION

Short-term

- Implement a **flexible budget**
- Adjust the standard costs of raw materials per unit of plastic chairs ($5.65)

Medium-term

- Change selling prices:
  - Plastic $11
  - Metal $14

Long-term

- Update the **flexible budget** monthly

CONCLUSION

Thank you for your time !

QUESTIONS ?

APPENDICES

APPENDIX 1
PRICE VARIANCES

PRICE VARIANCES

Item	Actual Quantity	Actual Price	Budgeted Price	Difference in price	Price Variance
Raw Materials - Plastic	60,000	$ 5.65	$ 5.00	$ 0.65	$ (39,000.00)
Raw Materials - Metal	30,000	$ 6.00	$ 6.00	$ -	$ -
DL - Price - Plastic	9,300	$ 6.00	$ 6.00	$ -	$ -
DL - Price - Metal	5,600	$ 6.00	$ 6.00	$ -	$ -

APPENDIX 2
EFFICIENCY VARIANCES

EFFICIENCY VARIANCES

Item	Actual Input Used	Budgeted Allowed	Delta in units	Cost per unit	Efficiency Variance
Raw Materials - Plastic	56,000	55,000	1,000	$ 5.00	$ (5,000)
Raw Materials - Metal	23,000	22,500	500	$ 6.00	$ (3,000)
DL - Plastic	9,300	9,167	133	$ 6.00	$ (800)
DL Metal	5,600	5,625	-25	$ 8.00	$ 200
Variable MFG OH - Plast	9,300	9167	133	$ 12.00	$ (1,600)
Variable MFG OH - Meta	5,600	5625	-25	$ 8.00	$ 200

APPENDIX 3
SPENDING (VAR. & FIXED)

VARIABLE OH SPENDING VARIANCE

Item	Total OH Cost	Variable cost per unit	Budgeted Variable cost per unit	Delta in cost per unit	Spending Variance
Plastic	112000	12.04	12	$ (0.04)	$ (400)
Metal	45000	8.04	8	$ (0.04)	$ (200)

FIXED OH SPENDING VARIANCE

Item	Actual	Budgeted	Variance
Plastic Fixed PH	$ 27,900	$ 27,300	$ (600.00)
Metal Fixed OH	$ 21,300	$ 20,700	$ (600.00)

APPENDIX 4

Sales	Actual	(Flex Budget Variance) Efficiency Variance		Flexible Budget	Volume Variance		Budget
Volume (Units)							
Plastic	60,000	0		60,000	10,000	F	50,000
Metal	20,000	0		20,000	(5,000)	U	25,000
Sales Revenues							
Plastic	$ 630,000	$ 30,000	F	$ 600,000	100,000	F	$ 500,000
Metal	$ 300,000	$ -		$ 300,000	(75,000)	U	$ 375,000
Total Sales	$ 930,000	$ 30,000	F	$ 900,000	25,000	F	$ 875,000
Less Manufacturing Variable Costs							
MFG-Plastic	$ 480,000	$ (40,000)	U	$ 440,000	(40,000)	U	$ 400,000
MFG-Metal	$ 200,000	$ 25,000	F	$ 225,000	25,000	F	$ 250,000
Total Manufacturing Variable Cost	$ 680,000	$ (15,000)	U	$ 665,000	$ (15,000)	U	$ 650,000
Selling Variable Costs							
Commissions (5% sales)	$ 46,500	$ (1,500)	U	$ 45,000	(1,250)	U	$ 43,750
AFDA (1% sales)	$ 9,300	$ (300)	U	$ 9,000	(250)	U	$ 8,750
Total Selling Variable Costs	$ 55,800	$ (1,800)	U	$ 54,000	$ (1,500)	U	$ 52,500
Total Variable Cost	$ 735,800	$ (16,800)	U	$ 719,000	$ (16,500)	U	$ 702,500
Contribution Margin	$ 194,200	$ (13,200)	U	$ 181,000	$ 8,500	F	$ 172,500
Other Costs							
Var. MFG Cost variance from Standard	$ 49,600	$ (49,600)	U	$ -	$ -		$ -
Fixed MFG Costs Plastic	$ 27,900	$ (600)	U	$ 27,300	$ -		$ 27,300
Fixed MFG Costs Metal	$ 21,300	$ (600)	U	$ 20,700	$ -		$ 20,700
Fixed SGA	$ 38,500	$ (2,500)	U	$ 36,000	$ -		$ 36,000
Corporate Office Allocation	$ 18,500	$ (1,000)	U	$ 17,500	$ -		$ 17,500
Total Other Costs	$ 155,800	$ (54,300)	U	$ 101,500	$ -		$ 101,500
Division Operating Income	$ 38,400	$ (41,100)	U	$ 79,500	8,500	F	$ 71,000

APPENDIX 5

		PLASTIC		
			Budgeted	Sold
		Volume (Units)	50,000	60,000
Cost Drive	**QTY**			
			Budgeted/Unit	**Flex Budget**
Qty Sold	60,000	Revenues	$ 10.00	$ 600,000
		Less Manufacturing Variable Costs		
Qty Made	55,000	Raw Materials	$5.00	$275,000
Qty Made	55,000	DL	$1.00	$55,000
Qty Made	55,000	Mfg Overhead	$2.00	$110,000
		Total Manufacturing Variable Costs	$8.00	$440,000
		Selling Variable Costs		
$ Sold	600,000	Commissions (0.5% sales)	$0.50	$30,000
$ Sold	600,000	AFDA (1% Sales)	$0.10	$60,000
		Total Selling Variable Costs	$0.60	$90,000
		Total Variable Cost	$8.60	$530,000
		Contribution Margin	$1.40	$70,000
		Other Costs		
Qty Made	55,000	Fixed MFG Costs Plastic	$0.55	$30,030
Qty Sold	60,000	Fixed SGA	$0.36	$21,600
Qty Sold	60,000	Corporate Office Allocation	$0.18	$10,500
		Total Other Costs	$1.08	$62,130
		Division Operating Income	$0.32	$7,870
		CONTRIBUTION MARGING % SALES	**14%**	

APPENDIX 6

		METAL		
			Budgeted	Sold
		Volume (Units)	25,000	20,000
Cost Drive	**QTY**			
			Budgeted/Unit	**Flex Budget**
Qty Sold	20,000	Revenues	$ 15	$ 300,000
		Less Manufacturing Variable Costs		
Qty Made	22,500	Raw Materials	$6.00	$135,000
Qty Made	22,500	DL	$2.00	$45,000
Qty Made	22,500	Mfg Overhead	$2.00	$45,000
		Total Manufacturing Variable Costs	$10.00	$225,000
		Selling Variable Costs		
$ Sold	300,000	Commissions (0.5% sales)	$0.75	$15,000
$ Sold	300,000	AFDA (1% Sales)	$0.15	$45,000
		Total Selling Variable Costs	$0.90	$60,000
		Total Variable Cost	$10.90	$285,000
		Contribution Margin	$4.10	$15,000
		Other Costs		
Qty Made	22,500	Fixed MFG Costs Metal	$0.83	$18,630
Qty Sold	20,000	Fixed SGA	$0.72	$14,400
Qty Sold	20,000	Corporate Office Allocation	$0.35	$7,000
		Total Other Costs	$1.54	$40,030
		Division Operating Income	$2.56	-$25,030
		CONTRIBUTION MARGING % SALES	**27%**	