

Chapter 1 – Weygandt Managerial 8e Challenge Exercises Solutions

Solution CE 1-1

- (a) Option A:
- (a) Direct materials used = $\$175,575 - 46,500 - 47,000 = \$82,075$
 - (b) Work in process 1/1/20 = $\$197,075 - 175,575 = \$21,500$
 - (c) Work in process 12/31/20 = $\$197,075 - 162,844 = \$34,231$
- Option B:
- (d) Total manufacturing costs = $\$85,500 + 46,000 + 45,500 = \$177,000$
 - (e) Total cost of work in process = $\$177,000 + 21,500 = \$198,500$
 - (f) Cost of goods manufactured = $\$198,500 - 35,231 = \$163,269$
- Option C:
- (g) Direct labor = $\$178,375 - 78,050 - 47,750 = \$52,575$
 - (h) Work in process 1/1/20 = $\$199,875 - 178,375 = \$21,500$
 - (i) Cost of goods manufactured = $\$199,875 - 35,751 = \$164,124$
- (b) Option A results in the lowest cost of goods manufactured by using moderately priced materials and reasonable labor and manufacturing overhead charges. However, the materials' supplier does not guarantee that the materials will always be available in the quantities needed by Banta Company. This could result in slowdowns in production and missed deadlines nullifying any savings.

Option B has the highest quality materials but incurs some savings in labor and manufacturing overhead charges due to fewer quality related problems. While the cost of goods manufactured is slightly higher than Option A, the materials can be purchased locally and are readily available. This will help to ensure that there will not be production slowdowns or any missed deadlines.

Option C has the highest cost of goods manufactured. It does have significantly lower materials costs but the savings is more than negated by the significantly higher labor and slightly higher manufacturing overhead costs. Materials are available locally but the questionable quality could cause problems.

Based on the information, Option B is the best choice. While incurring a slightly higher cost of goods manufactured, the company ensures good quality products and timely production. These benefits more than overcome the slightly higher costs.

CE 1-2

Part a:

Williams Co.
Cost of Goods Manufacturing Schedule
For Month Ending September 30, 2020

Work in Process 9/1/20			\$7,500
Direct Materials			
Raw Materials Inventory 9/1/20	\$12,000		
Add: Raw Materials purchases	<u>62,500</u>		
Total Raw materials available for use	74,500		
Less: Raw materials inventory 9/30/20	<u>11,300</u>		
Direct Materials Used		\$63,200	
Direct Labor		51,000	
Manufacturing Overhead			
Indirect Labor	6,500		
Factory Insurance	5,000		
Machine Depreciation	6,000		
Machine Repairs	2,800		
Factory Utilities	3,600		
Miscellaneous Factory Costs	<u>1,750</u>		
Total Overhead		<u>25,650</u>	
Total Manufacturing Overhead			<u>139,850</u>
Total Cost of Work in Process			147,350
Less: Work in Process 9/30/20			<u>5,000</u>
Cost of Goods Manufactured			<u>\$142,350</u>

Part b:

Williams Co.
Balance Sheet Presentation (partial)
September 30, 2020

Inventories:		
Finished Goods	\$ 12,000	
Work in Process	5,000	
Raw Materials	<u>11,300</u>	
Total Inventories		<u>\$28,300</u>

CE 1-2 (cont.)
Part c:

Williams Co.
Cost of Goods Manufacturing Schedule
For Month Ending September 30, 2020

Work in Process 9/1/20			\$7,500
Direct Materials			
Raw Materials Inventory 9/1/20	\$12,000		
Add: Raw Materials purchases	<u>62,500</u>		
Total Raw materials available for use	74,500		
Less: Raw materials inventory 9/30/20	<u>11,300</u>		
Direct Materials Used		\$63,200	
Direct Labor		30,600	
Manufacturing Overhead			
Indirect Labor	3,900		
Factory Insurance	8,000		
Machine Depreciation	12,000		
Machine Repairs	500		
Factory Utilities	2,500		
Miscellaneous Factory Costs	<u>1,850</u>		
Total Overhead		<u>28,750</u>	
Total Manufacturing Overhead			<u>122,550</u>
Total Cost of Work in Process			130,050
Less: Work in Process 9/30/20			<u>5,000</u>
Cost of Goods Manufactured			<u>\$125,050</u>

Direct labor = $51,000 \times 60\% = 30,600$

Indirect labor = $6,500 \times 60\% = 3,900$

The purchase of the new automated assembly line lowers cost of goods manufactured by \$17,300. The purchase appears to be worth the investment based on the cost of goods manufactured statement, however there are other factors that should be considered. These include (but are not limited to): overall cost savings to the company, possible expansion of production due to the new equipment, morale of employees due to the decrease in labor, potential alternative jobs for displaced employees either inside of or outside of the company, community considerations due to possible unemployment and environmental considerations. All of these should be carefully reviewed prior to making this decision.