

Required

- Create a data flow diagram of the current system.
- Create a system flowchart of the existing system.
- Analyze the physical internal control weaknesses in the system.
- (Optional) Prepare a system flowchart of a redesigned computer-based system that resolves the control weaknesses that you identified. Explain your solution.

7. CUSTOM FABRICATIONS INC. (STAND-ALONE PC-BASED ACCOUNTING SYSTEM)

(Prepared by Will Richens and Michael Catchpole, Lehigh University)

CUSTOM FABRICATIONS Inc. is a bicycle manufacturing firm founded in 2000 that currently employs 126 people. The company produces custom bicycles in its factory located near Los Angeles, CA. Each bicycle is tailored to a rider based on a number of different measurements, including height, weight, inseam, and arm length. These measurements are taken at 30 professional bicycle shops around Southern California, which are certified to size CUSTOM FABRICATIONS cycles. By accepting orders only through licensed dealers, CUSTOM FABRICATIONS ensures that each bike matches its rider precisely. CUSTOM FABRICATIONS' custom bikes are considered extremely high quality and the company takes pride in using only the best components sourced from around the world. Accordingly, CUSTOM FABRICATIONS purchases from a cast of hundreds of suppliers, chosen for their commitment to quality and reliability.

Demand for CUSTOM FABRICATIONS' cycles has grown exponentially in recent years. The surge in demand was somewhat unexpected and the company's factory has been operating at capacity for over a year. As a result, current orders face a production backlog of approximately 5–6 weeks. The company's operations have been further hampered by severe inefficiencies and control weaknesses attributed to its legacy accounting system. Your firm has been hired as an outside consultant to suggest improvements in the company's accounting procedures. The following paragraphs describe the company's expenditure cycle.

Purchases System

All purchases of raw materials are initiated in the CUSTOM FABRICATIONS' purchasing department.

A clerk in the department monitors inventory levels from his PC, which is linked to the inventory subsidiary ledger. Once a part needs to be replenished, he creates a hard-copy purchase order. One copy is mailed to the vendor, a blind copy of the purchase order is sent to the warehouse, and the third copy is filed in the purchasing department.

Typically within 3–5 business days, the warehouse receives the ordered parts and the packing slip from the vendor, which the warehouse clerk reconciles with the blind copy of the purchase order. Once the reconciliation is complete, the warehouse clerk prepares a three-part hard-copy receiving report stating the quantity and condition of the items received. One copy of the receiving report is sent to the general ledger department to update the digital inventory control account. The second copy is sent to the accounts payable department, and the third is sent to the purchasing department to update the inventory subsidiary ledger.

Within a week, the mail room receives the supplier's invoice, which is immediately sent to the accounts payable department. The AP clerk reconciles the invoice with the receiving report and then records a liability in the AP subsidiary ledger from the department PC. Finally, the clerk prints an AP summary from the terminal and sends it to the general ledger clerk.

Cash Disbursements System

The accounts payable clerk regularly checks the accounts payable subsidiary account at his terminal to ensure timely payment to vendors. For those items due for payment, he sends approval in the form of a payment voucher to the cash disbursements department.

For control purposes, cash disbursements are processed manually. The details of the check are recorded in the hard-copy cash disbursements journal, and the check is mailed to the vendor. The clerk then prepares a journal voucher and sends it to the general ledger.

Once the general ledger clerk receives the journal voucher, the AP summary, and the receiving report, she updates the affected general ledger accounts from the department PC.

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- d. Describe the risks associated with these control weaknesses.
- e. (Optional) Prepare a system flowchart of a redesigned computer-based system that resolves the control weaknesses that you identified. Explain your solution.

8. PERFORMANCE WATER PUMPS (CENTRALIZED SYSTEM WITH DISTRIBUTED TERMINALS)

Performance Water Pumps (PWP) is a leading manufacturer of water pumps with high capacity capability. These pumps are used in both civil and private disaster situations. PWP's primary market is disaster recovery companies that assist home owners following basement flooding. They also sell to building contractors, municipalities, and rental companies. The company publishes an industry catalog of pumps and other auxiliary equipment, which it distributes to customers and prospective customers. PWP's headquarters and manufacturing facilities are in Leesville, Louisiana where they employ 125 manufacturing and clerical staff.

PWP employs a centralized computer system with distributed terminals in the departments. Recently they have been having operational problems with it. PWP has hired your auditing firm to assess its operations and internal control procedures.

Purchasing System

When an inventory item falls to the reorder point, a purchase requisition is automatically created and printed on the terminal in the purchasing department. The clerk in the department selects suppliers and prepares a purchase order. A copy of the PO is sent to the vendor, and a copy is sent to the receiving department. Then, the clerk adds a record to the open/closed purchase order file through an update program in the data processing department.

When the receiving clerk receives the inventories, he reconciles the goods with the packing slip and the

purchase order. After the reconciliation, the receiving clerk prepares a hard-copy receiving report recording the quantity and quality of the goods received. A copy of the receiving report accompanies the goods to the warehouse, and a copy is filed in the receiving department. Using the department terminal, the receiving clerk adds a record to the digital receiving report file. The system then automatically closes the purchase order. Upon receiving the inventories, the warehouse clerk updates the inventory subsidiary ledger through the terminal in the warehouse.

When the supplier's invoice arrives, the accounts payable clerk adds a record to the supplier invoice file, which triggers the system to automatically set up a liability in the AP subsidiary ledger based on the financial information contained in the invoice. The system then automatically updates all affected general ledger accounts.

Cash Disbursements System

Each day the system scans the AP ledger for items due to be paid and prints the checks. The check is sent to the vendor, and a copy is sent to cash disbursements, where it is filed. Next, the system adds a record to the check register file and removes the liability in the AP subsidiary ledger. Finally, the system automatically updates the general ledger accounts.

Required

- a. Create a data flow diagram of the current system.
- b. Create a system flowchart of the existing system.
- c. Analyze the physical internal control weaknesses in the system.
- d. Describe the IT controls that should be in place in this system.
- e. (Optional) Prepare a system flowchart of a redesigned computer-based system that resolves the control weaknesses that you identified. Explain your solution.