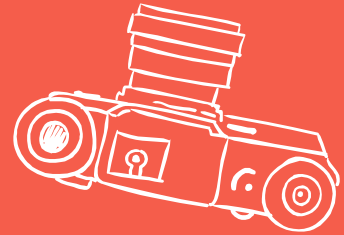







TPS & ERP systems



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Define integrated system

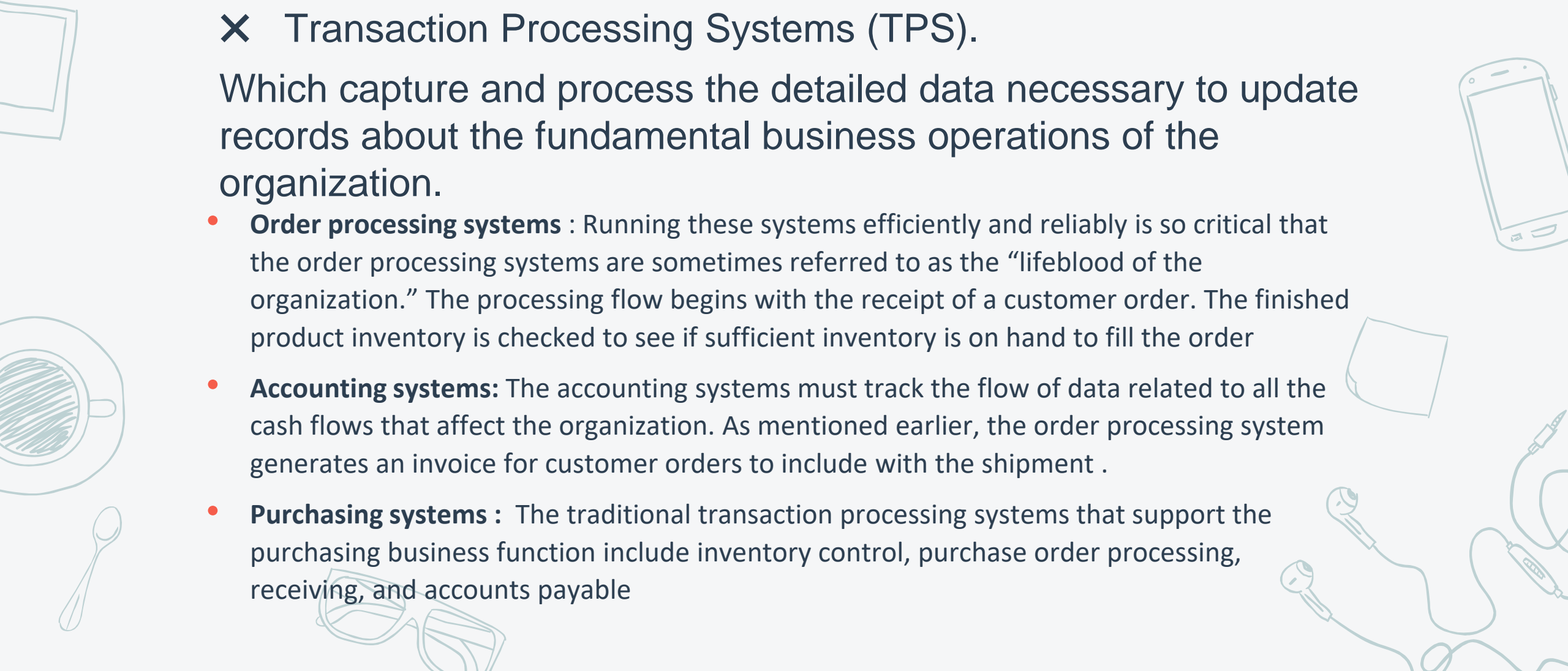
- ✗ “A combination of Computer-Based Systems (CBS) which are interconnected in order to allow centralized access to sensor information and/or command/control”
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Define TPS, Identify there types





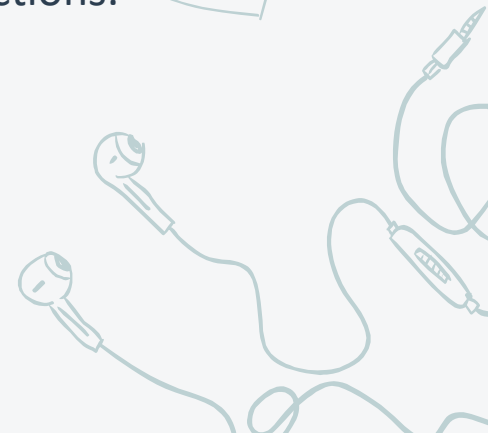
✘ Transaction Processing Systems (TPS).

Which capture and process the detailed data necessary to update records about the fundamental business operations of the organization.

- **Order processing systems** : Running these systems efficiently and reliably is so critical that the order processing systems are sometimes referred to as the “lifeblood of the organization.” The processing flow begins with the receipt of a customer order. The finished product inventory is checked to see if sufficient inventory is on hand to fill the order
 - **Accounting systems**: The accounting systems must track the flow of data related to all the cash flows that affect the organization. As mentioned earlier, the order processing system generates an invoice for customer orders to include with the shipment .
 - **Purchasing systems** : The traditional transaction processing systems that support the purchasing business function include inventory control, purchase order processing, receiving, and accounts payable
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Identify the major activate of TPS

- 1. Data Collection** Capturing and gathering all data necessary to complete the processing of transactions
 - 2. Data Editing** An important step in processing transaction data is to check data for validity and completeness to detect any problems.
 - 3. Data Correction** It is not enough simply to reject invalid data. The system should also provide error messages that alert those responsible for editing the data.
 - 4. Data Processing** Another major activity of a TPS is data processing, performing calculations and other data transformations related to business transactions
 - 5. Data Storage** Data storage involves updating one or more databases with new transactions.
 - 6. Document Production and Reports** *Document production* involves generating output records, documents, and reports
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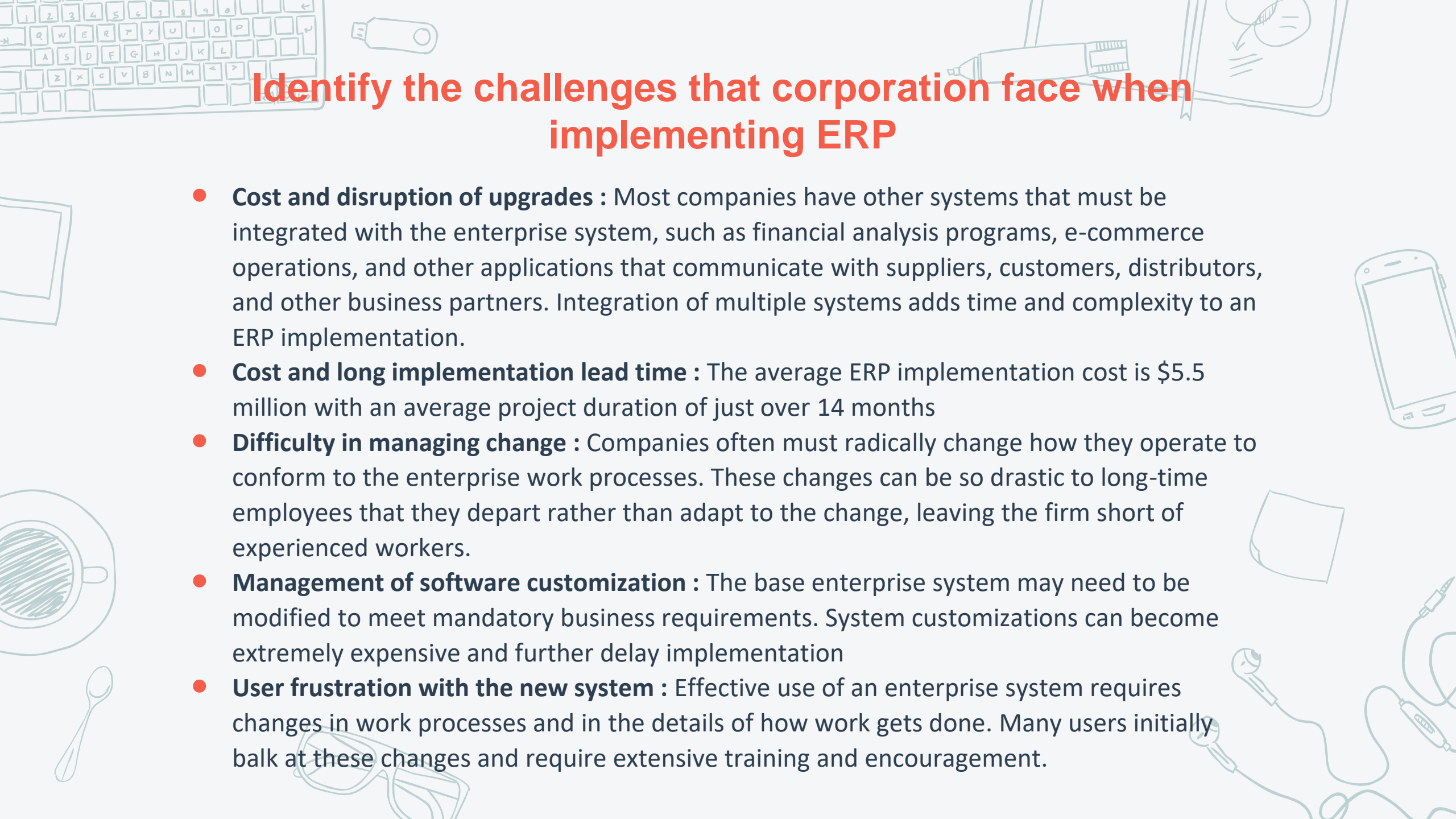
Identify two methods of data collection in TPS

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- ✗ **1. batch processing systems**, business transactions are accumulated over a period of time and prepared for processing as a single unit or batch . The essential characteristic of a batch processing system is that there is some delay between an event and the eventual processing of the related transaction to update the organization's records.
 - ✗ **2. online transaction processing (OLTP)**, each transaction is processed immediately, at any time, the data in an online system reflects the current status. This type of processing is essential for businesses that require access to current data such as airlines, ticket agencies, and stock investment firms.
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Define ERP and identify different modules in ERP

- ×** *is a set of integrated programs that manage a company's vital business operations for an entire multisite, global organization. a business process is a set of coordinated and related activities that takes one or more types of input and creates an output of value to the customer of that process.*
- 1. Production and Supply Chain Management :** *ERP systems follow a systematic process for developing a production plan that draws on the information available in the ERP system database.*
 - 2. Customer Relationship Management and Sales Ordering :** *helps a company manage all aspects of customer encounters, including marketing and advertising, sales, customer service after the sale, and programs to keep and retain loyal customers*
 - 3. Financial and Managerial Accounting :** *The general ledger is the main accounting record of a business. It is often divided into different categories, including assets, liabilities, revenue, expenses, and equity. These categories, in turn, are subdivided into subledgers to capture details such as cash, accounts payable, accounts receivable, and so on .*



Identify the challenges that corporation face when implementing ERP

- **Cost and disruption of upgrades** : Most companies have other systems that must be integrated with the enterprise system, such as financial analysis programs, e-commerce operations, and other applications that communicate with suppliers, customers, distributors, and other business partners. Integration of multiple systems adds time and complexity to an ERP implementation.
- **Cost and long implementation lead time** : The average ERP implementation cost is \$5.5 million with an average project duration of just over 14 months
- **Difficulty in managing change** : Companies often must radically change how they operate to conform to the enterprise work processes. These changes can be so drastic to long-time employees that they depart rather than adapt to the change, leaving the firm short of experienced workers.
- **Management of software customization** : The base enterprise system may need to be modified to meet mandatory business requirements. System customizations can become extremely expensive and further delay implementation
- **User frustration with the new system** : Effective use of an enterprise system requires changes in work processes and in the details of how work gets done. Many users initially balk at these changes and require extensive training and encouragement.



Identify advantage and disadvantage of using ERP

× *Advantages of ERP*

1. **Improved Access** to Data for Operational Decision Making ERP systems operate via an integrated database, using one set of data to support all business functions.
2. **Elimination of Costly, Inflexible Legacy Systems** Adoption of an ERP system enables an organization to eliminate dozens or even hundreds of separate systems and replace them with a single, integrated set of applications for the entire enterprise.
3. **Improvement of Work Processes** Competition requires companies to structure their business processes to be as effective and customer oriented as possible. ERP vendors do considerable research to define the best business processes.
4. **Upgrade of Technology Infrastructure** When implementing an ERP system, an organization has an opportunity to upgrade the information technology (hardware, operating systems, databases, etc.) that it uses.



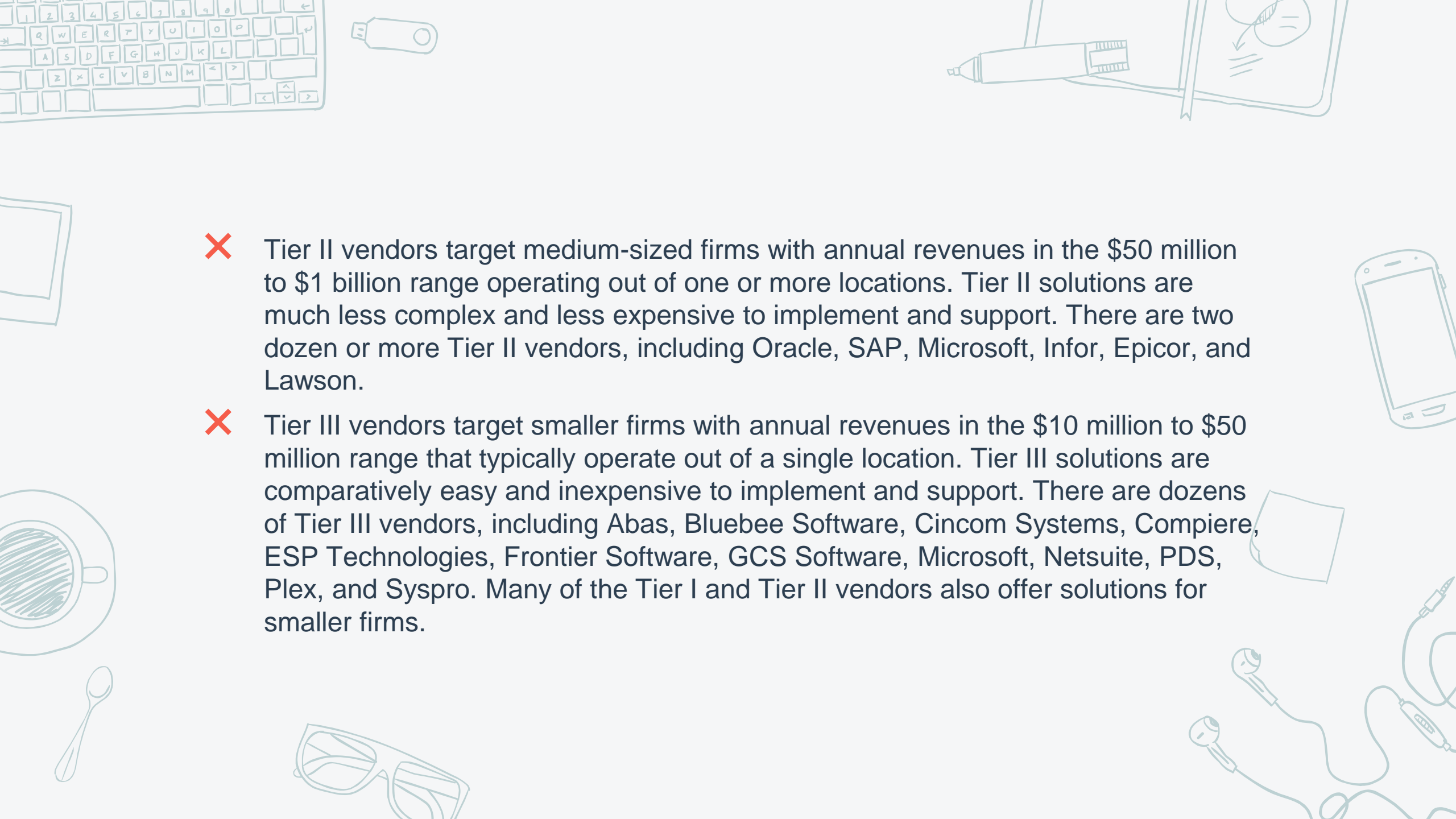
✗ Disadvantages of ERP

- 1. Expense and Time in Implementation** Getting the full benefits of ERP takes time and money. Although ERP offers many strategic advantages by streamlining a company's TPSs, large firms typically need three to five years and spend tens of millions of dollars to implement a successful ERP system
- 2. Difficulty Implementing Change** In some cases, a company has to radically change how it operates to conform to the ERP's work processes—its best practices
- 3. Difficulty Integrating with Other Systems** Most companies have other systems that must be integrated with the ERP system, such as financial analysis programs, e-commerce operations, and other applications. Many companies have experienced difficulties making these other systems operate with their ERP system.
- 4. Risks in Using One Vendor** The high cost to switch to another vendor's ERP system makes it extremely unlikely that a firm will do so. After a company has adopted an ERP system, the vendor has less incentive to listen and respond to customer concerns
- 5. Risk of Implementation Failure** Implementing an ERP system for a large organization is extremely challenging and requires tremendous amounts of resources, the best IS and business people, and plenty of management support. Unfortunately, large ERP installations occasionally fail, and problems with an ERP implementation can require expensive solutions



Identify ERP solution and providers

- ✗ the needs of a large multinational organization are far different from the needs of a small, local organization. Thus, no one ERP software solution from a single vendor is “best” for all organizations.
- ✗ ERP vendors are classified as Tier I, II, or III according to the type of customers they target
- ✗ Tier I vendors target large multinational firms with multiple geographic locations and annual revenues in excess of \$1 billion. Tier I ERP system solutions are highly complex and expensive to implement and support. Implementation across multiple locations can take years. The primary Tier I vendors are Oracle and SAP.

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- ✗ Tier II vendors target medium-sized firms with annual revenues in the \$50 million to \$1 billion range operating out of one or more locations. Tier II solutions are much less complex and less expensive to implement and support. There are two dozen or more Tier II vendors, including Oracle, SAP, Microsoft, Infor, Epicor, and Lawson.
 - ✗ Tier III vendors target smaller firms with annual revenues in the \$10 million to \$50 million range that typically operate out of a single location. Tier III solutions are comparatively easy and inexpensive to implement and support. There are dozens of Tier III vendors, including Abas, Bluebee Software, Cincom Systems, Compiere, ESP Technologies, Frontier Software, GCS Software, Microsoft, Netsuite, PDS, Plex, and Syspro. Many of the Tier I and Tier II vendors also offer solutions for smaller firms.



Reference



✘ principles of information systems 13th

