INTEGRATED SYSTEM

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INTEGRATED SYSTEM

- Integrated system in applied engineering:- is the bringing together of the components of a system into one system and ensuring that the subsystems work together as one system. In information technology, systems installation is the process of linking different computer systems with each other and software applications, physically or functionally, to work together as one coordinated unit.

TPS AND THERE TYPES

- A transaction process system (TPS):-is an information processing system for business transactions involving the collection, modification and retrieval of all transaction data. Characteristics of a TPS include performance, reliability and consistency.

  - TYPES

- Order processing systems: Running these systems efficiently and reliably is so critical that sometimes order processing systems are called "the lifeline of the organization". The processing flow begins with the receipt of the customer's order. Check the inventory of the finished product to see if there is enough stock available to fill the order

- Accounting Systems: Accounting systems should track the flow of data related to all cash flows affecting the organization. As mentioned above, the order processing system generates an invoice to include customer orders with the shipment.

- Acquisition Systems: Traditional transaction processing systems that support the commercial purchasing function include inventory control, purchase order processing, receipt, and accounts payable.

THE MAJOR ACTIVATE OF TPS

- **Data Collection** Capturing and gathering all data necessary to complete the processing of transactions is called data collection

- **Data Editing** An important step in processing transaction data is to check data for validity and completeness to detect any problems, a task called data editing

- **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.

- **Data Processing Another major activity of a TPS** is data processing, performing calculations and other data transformations related to business transactions

- **Data Storage** Data storage involves updating one or more databases with new transactions.

- **Document Production and Reports Document** production involves generating output records, documents, and reports

TWO METHODS OF DATA COLLECTION IN TPS

- **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.

- **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.

ERP AND DIFFERENT MODULES IN ERP

- **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.*

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.

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

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 .

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 longtime 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.

ADVANTAGE AND DIS ADVANTAGE OF USING ERP

Advantages of ERP

- 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.

- 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.

- 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.

- 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

- 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

- 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

- 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.

- 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

- 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 businesspeople, and plenty of management support. Unfortunately, large ERP installations occasionally fail, and problems with an ERP implementation can require expensive solutions

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.

- 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

- https://searchcio.techtarget.com/definition/e-commerce

- https://squareup.com/us/en/townsquare/what-is-mobile-commerce

- https://www.ecommerceceo.com/types-of-ecommerce-business-models/#major-ecommerce-business-classifications

- https://bcomitnotes.wordpress.com/2017/12/22/what-is-e-commerce-explain-its-applications/

- https://services.amazon.in/seller-blog/advantages-of-ecommerce.html