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The Content of Systems Analysis and Design.

System:

* Created to solve the problem,
* Organizational way of dealing with problems
* Collection of component that work together to achive the same object.

Major Component of system:

Input → Processing → Output

System analysis and design life cycle process:

ⓐ Preliminary study,
ⓑ Feasibility study,
ⓒ Detailed study system,
ⓓ System Analysis,
ⓔ System Design,
ⓕ Coding
ⓖ Testing
ⓗ Implementation and Delivery
ⓘ Maintanance.

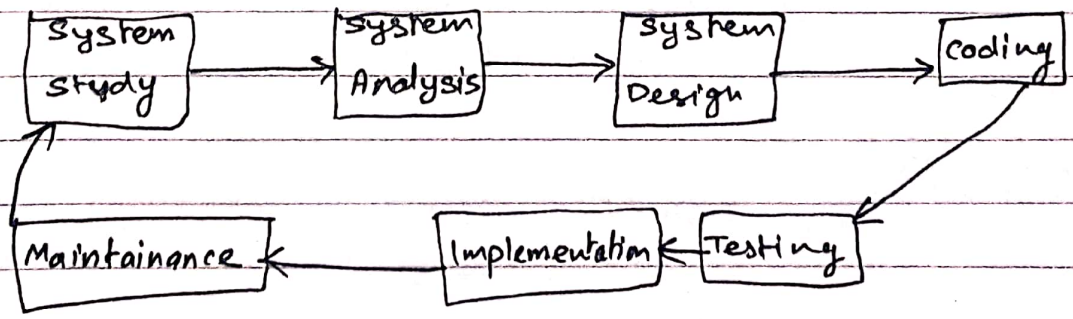

Fig: SAD Life cycle process.

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A framework for system analysis and Design (SAD)

- A main objective of SAD is to create a final design of the Information system.

- Information System can be viewed as tool that capture and manage the data to produce useful information to support its organization and its employee and Partner

- Ultimate objective of SAD is to Analyze the business requirement for the information system that can fullfill the requirement.

Types of Information System.

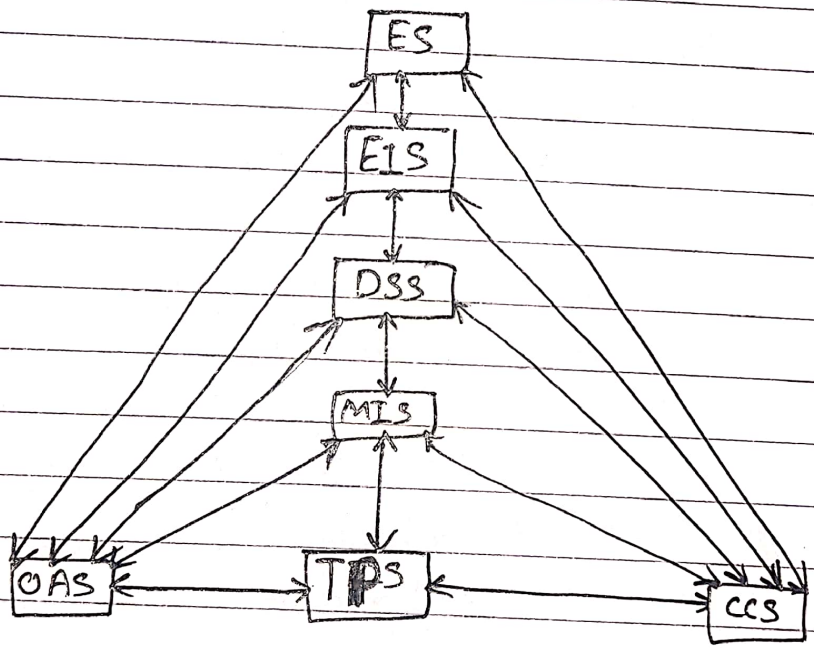

fig: System Type.

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ⓐ Transaction Process System(TPS)

- Process building transaction such as order payment, reservation, cancellation.
- School billing system, Hotel reservation system, OLTP(Online Transaction Processing)

ⓑ Management Information system(MIS)

- Uses data from TPS to produce informations needed to run the business.
- Report generation system OLAP(Online Analytical Processing)

ⓒ Decision support System(DSS)

- Helps in various design methods to identify and choose the options and make appropiate decision.
- Data and knowledge mining rules,

ⓓ Executive Information system(EIS)

- Designed esp for execution and managers for planning the business and analyze performance according to plan.
- Statical Data Analyzer.

ⓔ Expert System(ES):

- Capture and reproduce the knowledge of expert problem solver and decision make and simulate an export decision for the given problem.
- Airlines Navigation system, weather forecasting system, missile lunching etc.

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⑧ Communication and Collaboration system:
- Enhance the communication and collaboration between people and ~~business~~ buisness in an internal and external environment.

eg: Team viewer, zoom, viber.

⑨ Office Automation system(OAS)
- Helps the employee of the organization to create and share documention that supports day to day operation

eg: office pacakage, file sharing.

The player system: Stake holders:
Stake holder: Party that has an intrest in an company and can either affect or be affected by the business.

① System Owner
- Intrested in cost rather than operation,
- Sees values and benifit from business return.

② System user
- Intrested in Operation
- Worry less about cost and benefit

Types: • Internal system user
• External system user.

Internal system User:
- Technical and professional user,
- Superviser
- service worker.
- User inside organization.

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External System User:
- Costumer
- Suppliers
- Partners
- users outside organization but related to organization.

(III) System Designer:
- Technology specalist,
- Makes choices which technology to use.
- Catagorized as:
  - Data base administrator,
  - Network Architecture
  - Web Architecture
  - Graphics Designer,
  - System Expert
  - Technology specalist.

(IV) System Builders:
- Technical specialist who construct system as per system Designer's specification.
- They can be catagorized as: (a) Application Programmer
  (b) System Programmer
  (c) Network Administrative
  (d) Web Master
  (e) Database Programmer
  (f) Security Administrative
  (g) Software Integrators.

(V) System Analysist:
→ Bridge between technical & non-technical users & owners.
- Study data and check how to improve business.

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(VI) External Service Provider

- Consultant from outside who provide valuable suggestions and support for information system.
- Give expertise ideas or share their experience.

eg: (a) Technology Engineer,
(b) System consultants & contract Programmers,

(VII) Project Manager:

- Experienced Professional who plans, monitor & control the project with respect to schedule, budget, & customer satisfaction.
- Leader of system building team and have some project management skills.

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Business Driver for today's Information System:

(i) Globalization of system:-

- Developing nation providing the product of high quality in low price range as a result other nation has to compete with developing country to make maintain and manage the economy of the own country.
- Information should be internationalize.
- Support multiple language, Business culture and so on.

(ii) E-commerce and Business:-

- Buying and selling goods via internet and Electronic device.
- Internet ↑ —— E. Commerce Business

(iii) Security & Privacy:-

- Internet technology ↑ ——→ Risk in Business ↑
- Need to protect digital assets and information,
- Rules and policies are changing → Need to adopt with changing security issue.

(iv) Collaboration and Partnership:-

- Collaboration of various functional team (Engneering, Market Distributer, Sales...) to achive the same goal.
- Collaboration between competitor to create a common solution for mutual benifits
- Eg: Microsoft and Oracal,
  Google and Tesla, etc.

(v) knowledge Assets management:

- Raw data - Info - knowledge
- Storage management of business knowledge for future use.

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(vi) Continuous Improvement and Total Quality Management (TQM)

- Continuous improvement in Businen → continious procen improvement.
- continious procen management ⇒ Cost reduction, Improved effic-ney, Better management, Quality.

(vii) Busines Procen Redesign:

- Analyze and Redesign of fundamental busines procen to reduce cost and improve the value added to Busines.
- Involves making changes to Busines across a larger syste-m and tries to analyze the procen for their timeline cost, strategies.
- ~~Make~~ Max efficency → Lowest Cost.

Technology Driver for Today's Information:

- Rapprid development in Information Technology plays a vital role in development and uses of information system
- If technology gets outdated - Gives problem in Informa-tion system (I.S)
- Technology that are infuencing Information System are:

(i) Network and Internet.

- Most IS works in Networked ~~and Internet~~ environment & most corporate Networks are now a days connected to Internet or they are connected to Internet one way or the other.
- Working on IS, one should be aware of HTML scripting language, web services etc.

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② Mobile & wireless Technology:

- Plays crucial role in bringing significant change in IS development and uses.
- Handheld device - Tablet, Phone, Laptop are commonly used by organization.
- While designing IS, the limitation of screen size must be considered.

③ Enterprise Application

- Most organization require to set an enterprise application like (financial management, HR mgnt ...) to conduct Business.
- ORGs may need application like ERP (Enterprise Resource Planning) and SCM (Supply Chain Mgmt) to operate. Such app should be considered while developing application.

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simple System Development Process:

- Consist of standard set of procen that is followed for developing the procen or system which includes:

① System Initation:

- ~~Estabit~~ Estqblish the project scope, goals, schedule and the budget required to solve the problem.
- Project scope defines the area of bostnen to ~~b~~ be addressed by the project and the goals to be achived.
- Scope and goals - impact on the resource commitment schedule & budgent againest the initial scope & goal.
- We also establish the baseline which all stake holder con accept the realiy that any future changes in scope or ~~got~~ goals ~~matter~~ will impact schedule or budget.

② System Analysis:

- Internet to project team ~~establish~~ with more through understanding of the problems. and the ~~area~~ needs that triggered the project.
- Busines area may be studied and analyzed to know about what works, what doesn't & what's needed

③ System Design:

Explore Alternative technical solution
After technical alternative is chosen & ~~improved~~ approved - Blueprint and technical sagnificabion phase will be developed.

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→ Data base, Programming language, User interface (UI) Network & I.S

- If you choose to purchase software instead of building, ~~Blueprint~~ Blueprint specify how to purchase the software and how the integrate with the business and other Information system (IS)

(4) System Implementation:

- Its system components are constructed and installed, they must be tested individually and ~~installed, they~~ the complete system must be tested to ensure that it works properly and meet the user requirement and expection securly.
- Only whens fully tested → Placed for operations
- Data from previous system have to passed or entered manually to the start up data base.
- System user must be trained properly to use the system.

(5) System Support:

& continuous Improvement:

- Need to improve any IS untill the time it become out dated.
- follows same problem solving approch define for any project
- less budget & less effort required espacily if the original stake holder properly planned & documented the system as initially developed.