Chapter 4 :

فكرة عامة:
الهدف من هذا الفصل بصورة عامة هو ادارة التغيير داخل اي مؤسسة...التغيير يكون بمساعدة تقنيات مختلفة والتي هي(مرتبة تصاعديا حسب المرحلة الزمنية)

1. Enterprise-Wide Standards (standard data element definitions / standard, enterprise software)
2. Middleware Integration (using CORBA or DCOM / web service)
3. Additional Components (warehouse /routing)

ولكي يتم معرفة امكانية التغيير يتم استخدام تقنية تحليل تسمى

- Force field analysis

هذه التقنية توضح الامور الداعمة للتغيير والامور المضادة للتغيير

- Driving forces vs • Restraining forces

لذلك سيكون الهدف هو تقليل الامور المضادة للتغيير وهنا ياتي دور

- Wev service & XML & service oriented architecture

SOME IMPORTANT DEFINITION:

1. **Middleware:** system that hides the complexity of the communication between two or more systems or services. This simplifies the development of those systems and services and isolates the complexity of the communication between them. The different systems or services can be on the same hardware or on different hardware. CORBA and DCOM are middleware that provide a means for applications to communicate with each other
2. **enterprise data warehouse (EDW)**: single, central location which provide ways to integrate data from multiple systems by extract that data from existing systems and load it into EDW
3. **extract, transform, and load (ETL)**: software that simplifies the development the data extractions from existing systems, do any semantic translation or transformation, and the loading of the data into the EDW.
4. **data cleansing**: technique which used done by the ETL software to load data could be used to improve the quality of the data
5. **latency:** time of getting data updates distributed to various internal systems
6. **Web Services adapters**: its technique that allow Web Services connections with internally developed systems or packaged software

Q / WHAT IS FORCE FIELD ANALYSIS

Force field analysis a tool that help in know the forces at work when trying to make changes in organization, the purpose of this model is to make all the driving and restraining forces visible so that decisions concerning change can be made with the best available information

It consists of following components:

1. **goal**, which is shown by the large arrow at the top of the figure pointing to the right.
2. **Driving forces** which help achieve the goal or vision,
3. **Restraining forces** which hinder goal achievement,
4. **Status Quo**: point, where driving and restraining forces are in equilibrium

Q / WHAT TYPES OF FORCES IN FORCE FIELD ANALYSIS

forces can be external or internal to an organization, or external or internal to the individuals in the organization. The relative strength of the driving or restraining forces determines whether change occurs.

Q / HOW TO USES FORCE FIELD ANALYSIS MODEL

If you want to make change more likely, you need to either strengthen the driving forces or weaken the restraining forces. Weakening the restraining forces is sometimes the best approach. Strengthening the driving forces can make the restraining forces get stronger

Q / WHAT IS MESSAGE ROUTER

message router: also known as application routers it is system based on Web Services. It knows which of the other internal systems needs to receive a certain type of updates. The individual internal systems would not need to know who receives such updates. As a result, the number of interconnections is reduced, the message router would have connections to Web Services that, in turn, would connect to CORBA and DCOM the and when, in some cases, the identifying tag might need to be changed for the receiver of the data

Q / EXPLAIN SOME EXAMPLE OF MIDDLEWARE

1.**Transaction processing (TP) monitors**. A TP monitor ensures that transactions process completely or the appropriate action is taken if an error occurs. They often employ load balancing because a transaction may be forwarded to any of several servers.

2**. Remote Procedure Call (RPC**). An RPC allows execution of program logic on a remote system by calling a local routine.

3.**Message-Oriented Middleware (MOM).** MOM provides program- to-program data exchange.

4.**Object Request Broker (ORB)**. An ORB allows a system to request a service without knowing anything about what servers are available. The request is forwarded to the appropriate services with the results of the request returned to the requesting system

INTEGRATING TECHNIQUE EXPLANATION

	TECHNIQUE	MOST IMPORTANT DRIVING FORCES	MOST IMPORTANT RESTRAINING FORCES	SOLUTION
1	**Analysis of Adopting Enterprise-Wide Standards (standard data element definitions)**	1. opportunities to exchange data more easily 2. reduce maintenance costs 3. reduce development time	1. cost offset 2. two different systems used different definitions for the same data element	1. use standard data elements based on Web Services and XML so that data can easily be interchanged
2	**1.Analysis of Adopting Enterprise-Wide Standards (standard, enterprise software).**	1. entire organization uses the same data definitions, semantics, and formats for exchanging data	1. mergers and acquisitions 2. integration problems 3. some departments have different software needs.	4. Using web services, you can create plug-compatible software components that can be used in assembling a service-oriented architecture. this will make it easier to “mix and match” vendor products
3	**Middleware (using CORBA or DCOM)**	1. hides the complexity of the communication between two or more systems or services	1. Different semantics in data sources 2. semantic translation 3. lack of industry standard translation 4. Many operational systems have not been designed to receive ad hoc or unexpected processing requests 5. mergers and acquisitions	1. using XML with CORBA or DCOM makes for a more flexible system because of the tagged record structure of XML 2. up-to-the-moment processing is needed

4	**Middleware (Web Services)**	1. Mergers and acquisitions	1. Different semantics in data sources 2. semantic translation	3. Web Services use of both XML and HTTP on the Internet greatly reduces restraining forces
5	**Additional Components Used for Integration (enterprise data warehouse)**	1. easier access to enterprise-wide data using ETL 2. use of business intelligence (BI) software to find patterns or new business opportunities	1. semantics or meaning of the data and the standardization of data definitions 2. data to store in the EDW 3. delay or latency of getting data into the EDW 4. Redundancy of data 5. Data quality issues 6. brittleness of fixed record exchanges the is a maintenance issue	1. A subset of our industry is devoted to the development of ETL(explain ETL) software 2. More industry standards have become available 3. Changes could be made to improve data quality at the time it is entered 4. For existing data, the quality could be improved at the source 5. data cleansing 6. The tagged structure reduces maintenance costs
6	**Additional Components Used for Integration (message router)**	1. Reduce interconnection 2. Message routing disperses data where EDW collects data 3. message routing can also work with existing middleware solutions such as CORBA and DCOM 4. message router “know” what data should be routed (can change tags or types)	1. semantics or meaning of the data and the standardization of data definitions 2. delay or latency of getting data 3. Data quality issues 4. brittleness of fixed record exchanges is a maintenance issue	1. The tagged structure reduces maintenance costs 2. Web Services adapters for packaged software provided by vendors will also reduce costs of development