ERP Implementation-Using Business and Data Model

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Abstract

In this paper, we implement the ERP system with the help of Business and Data Model. Firstly we discuss the about the ERP (Enterprises Resource Planning).These three words describe itself. ERP means the techniques and integrated management of businesses as a whole from the viewpoint of the effective use of management resources to improve the efficiency of enterprise management. ERP parcels are incorporated software parcels that hold the ERP concepts.ERP software is a reflect icon of the main company process of an organization, such as client arrange completion and manufacturing. ERP integrates all company function into a particular incorporated software plan that runs on a particular database so that the variety of departments can more simply share information and exchange a few words with each other.

1. Introduction

Business modelling or creating a business model is one of the first tricks in any ERP project. ERP systems should reflect the company processes. A business form is an image of the business as one great system presentation. In this all processes connected and depended with each other. Based on the organization's goal, objectives and tactical plans, a group representation consisting of the group process is developed.

Integrated Database will reduce data redundancy and give all employees access to the updated and up-to-the minute information about the entire organization. The data model should reflect the entire organization and should successfully depict and integrate the data structures of the entire organization.

2. Literature Review

ERP implementation using BM and DM has got a lot of contributions from various researchers. Some of techniques or modelling is described in this paper by data flow diagram. These GAP analyses are very important role in ERP implementation. GAP analyses are process gap analyses, data gap analyses and functions gap analysis. In this paper basically describe how ERP implementation using BM and DM approach.

3. ERP overview
3.1 Description of ERP

It is a set of paraphernalia and processes that combine departments and functions across a company into one computer system. ERP run rotten a particular database enabling a variety of department to allocate information and communicate with each other. ERP is an enterprise reengineering that uses new business computing paradigms to integrate IT processes across a company's division and departments. ERP offers a means of effectively increasing and managing the required resources. For each resource ERP can identify what is required, when it is needed and how much is needed, thus making the operation of the organization efficient and effective. ERP is most important to companies because of their improvement in the company takes it customer order and processes it into invoice and revenue. ERP system makes the business process automated and streamlined, make the organization agile and competitive so that it can respond to the changing customer needs and opposition quickly and efficiently

3.2 Characteristics of ERP

It effects almost all organization. It forces the competition to change their business strategic and process. It influences business partners to become more competitive and agile. It enforces best practice business process in an organization. It improves the profit of the organization. It helps business process reengineering. It fully utilizes the potential of client/server computing and other latest technology.

4. Business Modelling

It is a representation of the business as one large system showing the interconnection and interdependencies of the various sub- system and business process. Business modelling is an integrated system. In order is a very essential resource. Based on the business modelling ERP system is developed. Business modelling represented in graphical form using flow charts and diagrams

Business modelling basically depend on :

1. Data flow diagram.

2. Interconnections and interdependencies.

4.1 DFD (Data Flow Diagram)

In this we take entity in square, relationship in triangle etc. Business modelling prepare for ERP represent in data flow diagram. Business modelling is very important approach for ERP implementation. It is based on the organization's goals, objectives and tactical plans.

5. Approaches to Gap Analysis

This approach used for business modelling to implement the ERP system. Traditionally gap analysis for COTS ERP modernization has been focused on function/feature, and data matching. We recommend adding in the business process and operational performance gap analysis as well. COTS packages can surely be mapped from a clean data and IT perception, but it is the equipped presentation that is most dangerous to a group. Traditional technical gap analysis (function/feature and data mapping) is essential. But the operational performance of an organization must be considered when migrating critical information systems to COTS products in order to QUANTIFY the outcome. The military simply cannot afford to cause significant operational performance impacts while focusing only on the technology solutions. In general business presentation improvement are the spirit of renovation justification. The actual swear of these models, repositories, descriptions, and representation is that of a self-motivated symbol of the business and IT systems as they evolve. An input side-effect of responsibility the process, function/feature, and data gap analysis, as described in this paper, is a position of gap/relationship matrix that suit the indigo feature and design records of the how the ERP result is configured and implemented.

Since ERP product implementations don't have formal detail design documentation that the DOD is familiar with from ritual software growth projects, these matrix are worthless as an existing document of configuration. The resistant of theory on the jumbo jet repairs project show the subsequent documents that would be used as a pattern organization device for the existence of the product:

• Procedure, occupation and data gaps are recognized as well as the implementation decisions made that trace from the customer's requirements to the configuration choices in the ERP product.

• Gaps that manuscript the area where customization or plug-ins is necessary to bounce the capacity, segregate and offer traceability to those requirements.

• A tool for tracing from the customer's requirements to the ERP product configurations that will be useful when customers need to change/improve their processes in the future and determine the impact to the ERP product configuration. Likewise, if the COTS ERP product changes/improves the embedded processes, then traceability to how and where the product modules were gapped and configured, will be used to determine the impact of product upgrades and backward traceability from requirements to product configuration is essential for maintenance of the product implementation.

5.1 Process gap analyses

The business process model require to be developed to deal with a exacting organization's production workflows, counting income, choice point, business entity, organizational role, round moment, action base cost metrics, and input point where the in order system is required to maintain the business process. It is critical to have these production presentation based models to make sure each repair and each part within each repair is having its job critical processes support by the information technology solutions.

The process models fulfil the DODAF OV-5 and OV6a&b content, in addition to laying the foundation for business performance analysis through the simulation tools. The stakeholders will be able to visually recognize the process flow, control flow, process sequence, process dependency, and inputs/outputs by screening the stagnant process flow diagrams.

The simulation of the process models will provide an additional dimension of analysis between the static "As Is" And "To Be" models, consequential in a size of perfection from the heritage processes to the industry best practices processes implemented through the COTS ERP. These size meeting point on the business presentation, and not on organization presentation, although there can be a straight connection in some instance.

The following is a screen shot of a simulation example in the aircraft maintenance project that shows the customer's "To Be" process compared to a gap analysis and mapping to the Oracle HR product for maintenance training. The reproduction provides a business-based

size (Individual Training Plan cycle time graph) that spaces the right centre on the process change.

This loom also provides a premature and vital foundation to change management activities since it is used to communicate to the end users how the COTS-based process will work compared to their legacy process.
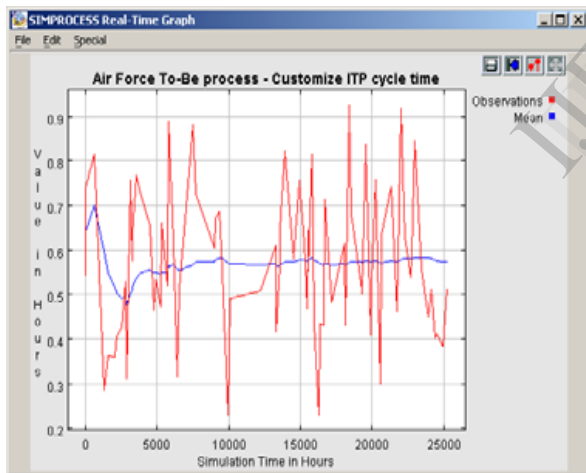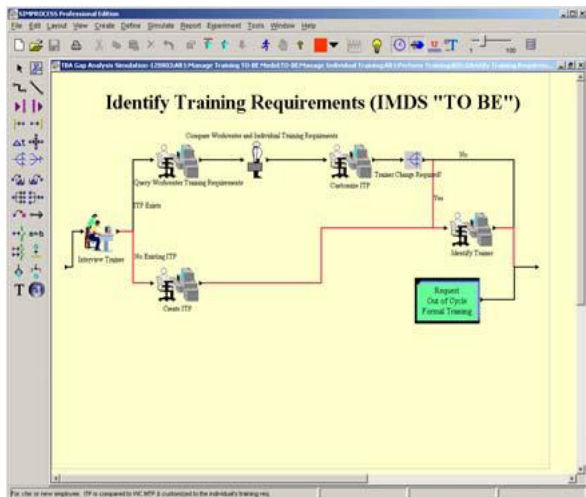
5.2 Data Gap Analyses

The data gap analysis is performed by extracting the legacy data definitions and associated business rules from the existing systems and modelling the analysis in a C4ISR OV-7 Logical Data Model. The OV-7 data model is then used as the "As Is" baseline and compared to the "To Be" COTS ERP data model to determine the gaps in data. The OV-7 should be developed in parallel to the development of the OV-5 and OV-6 process models so that a better understanding of how the data is used in the business processes is gained. This understanding will be needed when mapping and reconciling the "As Is" data to the "To

Be" data, since semantic differences can often camouflage data mappings.

The data mappings are then used to determine the gaps by comparing the differences between the "As Is" and "To Be" models. The differences are used to prepare conversion and/or conversion tactics to eliminate as many differences as likely when stirring to COTS ERP. It is essential to eliminate as a lot of differences as likely since this can reason or lead to needless customization of the COTS result.

5.3 Function Gap Analyses

The function gap analysis is performing the essential purposeful necessities for the system must gather to hold the Users work. The task chuck is best done in union with the production process models, and tie frankly from the process diagrams to a proper chuck methodology such as UML Use Cases.

At a lowest, the function chuck can be stated in customary requirement statements (a.k.a. shall statements in a Software Requirement Specification) on the other hand some of the in general business situation is lost as different to the incorporated process models and Use Case models.

The requirements must focus on "what" the system functions should be and not "how" to do them. If you get into the definition of "how" functions are to be carried out, this can be counterproductive to COTS gap analysis and lead to unnecessary customization of the COTS.

The integration of the Use Cases with the process model activities helps to keep a business perspective on what the system needs to do to support the business work steps and helps to alleviate the problem of specifying "how" in the functional requirements.

6. Data Modelling

The mainly dangerous tread in the ERP implementation is the creation of an integrated data model as all the employees from the different department get access to the integrated data and this will help in better decision making.

Achievement of ERP systems all the facts will be from the incorporated database. Integrated database will reduced data redundancy and give all employees access to the updated and up to minute information.

When designing the data model for ERP system the most important thing that should be kept in mind is information integration and process automation. Data model should reflect the entire organization.

Without data modelling we do not implement the ERP system.

1. **Real world**

2. **Business modelling**

3. **Data modelling**

1. **Real world:** In real word all peoples, machines we can say that all important types of resources are present which are used for implementation of ERP.

2. **Business modelling:** In this modelling interconnection and interdependencies are present between processes. Without business modelling we do not implement ERP system.

3. **Data modelling:** In this modelling we retrieve the data from the integrated database. Maintain and running the incorporated data. When designing the data model for ERP system the most important thing that should be kept in mind is information integration and process automation.

7. Conclusion

The use of simulation models is a strategic capability that spans the scheduling, selecting, gap analysis, performance transform organization and business presentation monitoring farm duties in an ERP program. The subsequent graph shows how the jumbo jet protection models are being designed to hold each of the COTS ERP tasks:

1. SIM process mode

2. Business analysis

3. System analysis

4. Business management

5. COTS Gap analysis

6. Implementation

7. Development or configuration

The use of a modelling technology that supports static models but can be simulated to provide additional key insight to business decisions is critical in reducing risk in all phases of gap analysis, modify organization and business presentation management.

The DOD cannot afford to have a failure with COTS ERP, and techniques such as the ones described in this paper will remove significant risk in all aspects and phases of the ERP projects. Additionally, the SIMPROCESS models used in the aircraft maintenance project are directly implement-able as a web service that is plugged directly into the BSC or BAM dashboard technology (such as Business Object, Hyperion, or the actual ERP-based dashboards) and can be called on-demand to simulate the processes to predict performance. This is a powerful capability in that traditional BSC and BAM dashboards provide metrics up to the current date/time but don't predict into the future. The good looks of using the simulation models is that they are the similar validate models for the client that were used to do the gap analysis and ERP configuration. For that reason they predict business presentation is within position of the customer's processes. An Example of the use of this would be the prediction of the cost, cycle time, or resource utilization to meet a weapon systems availability schedule that may be dependent on deliver cuffs, protection employees and equipment.

SIMPROCESS Model
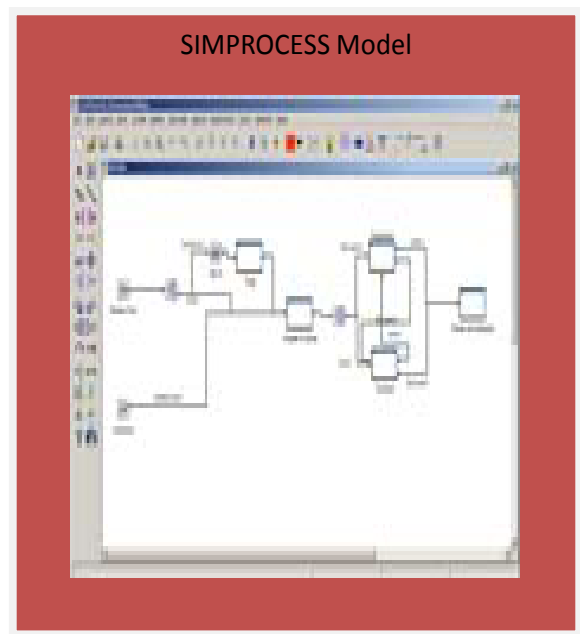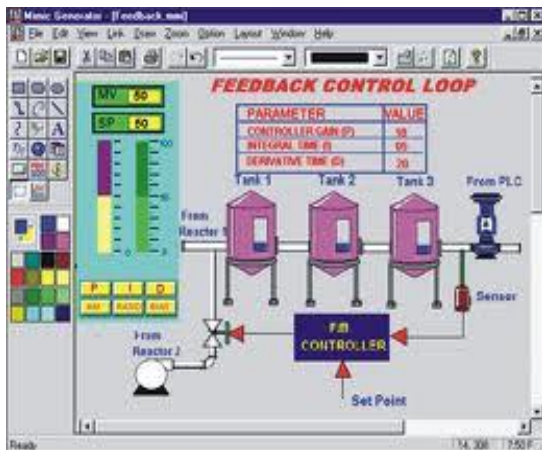
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