

Design Issues Pertaining to ERP Data Warehousing

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Abstract: Nowadays as the organization becoming vast and hence the database for that organization is also becoming vast, so we have to create warehouse for that. As many organizations using ERP (Enterprise Resource System) so there increase of the report generating and analysis report due to vast databases, to make this analyzing and generation of reports easier and easy to do so for that we have to make design better and easy to use and understandable. This paper will discuss design issues of data warehouse for the ERP system and also proposed the solution for resolving that issues. The analyzed issues and solution for that will help people who have basic knowledge of data warehouse and as well as ERP system so that they can keep track of various report in their organization perfectly.

Key words- Data Warehouse, Data Extraction, Data Transformation, ERP, ERP Framework, SAS

1. Introduction

Many of the organizations created boom in this application market which is termed as ERP. These organization systems made a research in creation of unique data warehouses. They can be easier or harder for analyzing them. Within organizations, the way of processing, and its initialization of the process and make them available for working.

Now as the organization having system which are created with different sources, so there is always data integration problem in warehouse. But with the use of ERP systems the problem of integrating the data will resolved and make design of warehouse for that ERP also a problem. They make data consistence and make level of generality for all business activities. This dynamic functioning of process for issues with designing data-warehouse for ERP system. To make efficient and effective in terms of delivering the products and services in less span of time. For this reason many of the organization move their business processes from functional to process-based system-ERP. ERP systems make integration of all information and information based process across all functional areas of an organization. ERP systems used by organization for managing the activities of all cross-functional process. For all processes

requirement there is need of having system should provide key performance which is required for fulfilling purposes. ERP system is used by many of the IT organizations and as well as in various other sectors apart from IT, and also by many of the large and small enterprise. ERP systems used by various enterprises for tracking inventories of products, for proper planning, dealing with suppliers and buyers in the market, purchasing or selling products in market, providing good customer services, and tracking the status of order placed. The benefits provided by ERP systems include the effective decision making, cost cutting on various products, proper control on operations and also manage time properly and make working speed effectively. Slightly different, characterizes it as an exhaustive bundle programming arrangements try to incorporate the complete scope of a business procedures and capacities keeping in mind the end goal to exhibit a comprehensive perspective of the business from a solitary data and IT design'. ERP framework execution procedure is comprising of six stages: start, reception, adjustment, acknowledgment, routinization, and mixture and organizations have distinctive approach and purpose behind actualizing it.

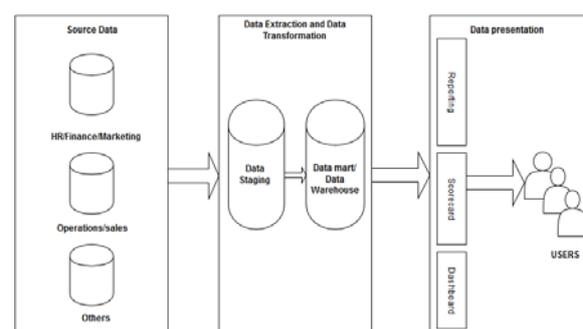


FIGURE I

2. Methodology and Objective

2.1. Methodology

The aim of this research is to study the issues and problems faced by organization research practices. This is a historical research and has been adopted to investigate the issues and problems related to research practice.

2.2. Objective

- Improving the functioning of data-warehouse in ERP.
- Studying the issues and problems faced by organization while designing their data-warehouse.

3. Trend Analysis

As we have analysis that various organizations are using this ERP system and this system is having lots of data which needs to designed properly so that those data can be analyzed properly and be represent able properly to the users. In future this ERP system will be used by all sectors and all industries, organizations, etc. in the market and the key drivers for using ERP system are market rate, government, organizations, growth, capital.

3.1. Various sector which will use ERP system

- Banking
- Retailers
- IT Organization
- Educational Institutions
- Stock Market
- Health Care
- Environment etc.

3.2. Areas where technology can make growth in ERP

3.2.1. Financials

Make consistency of business process execution so organization can make a more profound monetary decision fix control of accounts. They computerize money related decision and bookkeeping and monetary production.

3.2.2. Human Resource Management

Optimize human asset forms with a complete, incorporated, and worldwide human capital administration arrangement. Associations can boost the capability of workforce, while supporting development, development, and adaptability. They can mechanize ability administration, center HR procedures, and workforce organization – empowering expanded proficiency and better consistence with evolving worldwide and neighborhood regulations.

3.2.3. Operations

Manage end-to-end acquisition and logistics business forms for complete business cycles including Bill of Materials, Order Management, Rough Cut Capacity Planning, Material Requirements, Planning, Capacity Requirements Arranging, Purchasing, Inventory Management, Shop Floor Control, Forecasting,

Request Management, Master Production Scheduling, and Product Costing.

3.2.4. Corporate Services

Helps associations deal with their most cost-escalated corporate capacities by supporting and streamlining managerial procedures in the zones of genuine domain; venture resources; venture portfolios; corporate travel; environment, wellbeing, and wellbeing consistence; quality; and worldwide exchange administrations.

3.2.5. Students

It stores the data of all students for analyzing their education qualification details, accordingly take further action.

3.2.6. Transportation

It store the details regarding their timing of their departure and arriving and also analyze their feedback provided by their passenger. It also make changes according to feedback provided to them and make their services effective and efficient.

3.2.7. Predictive Analysis

Used when there is need of predicting the future which depends on past and present data like weather forecasting. It is used for make predictions about unknown future events and analyze data to make predictions about future.

3.2.8. Decision Making

Used for taking concise decision appropriately and analysis past data for future prediction.

3.2.9. Mobile Services

To provide the required information to mobile users and storing the data related to mobile apps which can only specially used by mobile devices.

3.2.10. Others

Depending on the ERP programming, usefulness goes into various modules. However regular usefulness is Product Configuration, Distribution Requirements Arranging, Quality Assurance/Management, Customer Service Management, Flexible Report Writer, Multi-site and Multi-National, Sales and Operations Planning, Finite Booking, Maintenance Management, Warehouse Management, Transportation Administration, Supply Chain Execution Management, Manufacturing Execution Frameworks, and so forth.

4. Issues and problems in design of Data Warehousing in ERP

These are various issues and problems faced in organization while designing data-warehouse for storing their data related to ERP:

4.1. Data Mismatching

In every organization there exist ERP system for managing all cross functionality of the organization. In this ERP system data stored is very huge so there will be mismatching the format or pattern of data so for there will be issue in designing the data warehouse for this ERP system.

4.2. Report Generating Mismatching

While presenting all data statistics from data warehouse related to ERP will be difficult to present to managers for analyzing the functionality of the organization. As while showing the reports will not match what they want to show due to not having proper skills for generating reports and statistics.

4.3. Data Organizing

If there is some changes in business cross functionality process across organization, there will be some resisting force which stops of not using data warehouse related to ERP which is not having proper design for warehouse due to which data in ERP does not connects properly with warehouse.

4.4. Data Storing

For storing the huge data need to have proper warehouse design and also the proper format for data. But due to having issues in designing warehouse will create problem in storing data in it.

4.5. Historical Data Representation

For presenting historical data from warehouse related to ERP, system should have proper resource for fetching and maintain consistency in data but it is not happening of not having proper design in warehouse.

4.6. Planning of Data

In designing the warehouse there is no planning of how to design and what to design when to design and there is no proper meeting before designing warehouse for ERP system. Organizations need to have serious actions for planning of managing data.

4.7. Using Features of ERP Badly

Organizations are implementing this ERP system to offer best practices to their employees and clients. Organizations not able implementing ERP system. Organizations are using internal resources for that but to design warehouse organizations need to have external resources for proper implementation of all features of ERP properly while designing the warehouse for that. To analysis the right skills set for implementing features of ERP system will help in making growth of organizations.

4.8. Not assigning Proper Team for designing Data Warehouse of ERP

It is very difficult for management and employees to design properly warehouse for ERP for performing communications and proper integration among the processes. There is some lack in delivering the knowledge regarding minimizing the risks and maintain consistency among data, due to this lacking there is decrease in customer satisfaction.

4.9. Data Arrangement

It is the issue when the understanding of data processes, strategies, and structure of data is not proper delivered to the employees. As team plays a very important role in managing and arranging data in warehouse by designing the proper and required format of data.

4.10. Cost

In many organizations due to not having proper plan of cost, schedule estimation will can include more investment in designing the warehouse for ERP. This issue is there because of not plan of proper scope of project.

5. Data Analysis

As we are considering the case study of transportation in which we see the various problem related to designing the data-warehouse for transportation details as ERP is:-

Let's consider the case study of transportation in that for travelling the passengers need to have all the details of either flight, train or buses any medium of transportation. Passengers need to know ratings particular agencies of transportation which provide the services which are good for passengers. They also need to know all the details of timing and stay hold timing etc. for that these agencies or organization to have proper design of their data warehouse so that they can fulfil the demands of

their passengers and able to make their effective growth of their organization. They need to store all the historical data related to their medium provided for transportation so that they can make changes in their provided services to passengers. In case of flight they have to provide the current status of their flight and all the environmental conditions to their passengers. This same condition is with trains and buses also. These agencies have to have their data warehouse which provide proper transaction of data to their passengers and also converting the information provided by the passengers to their data-warehouse keywords so that they can store the data properly in their warehouse. For fulfilling all these demands they have to use a proper working framework which is not complex and also not costly. But as of now these frameworks more complex and costly and also effective as they don't have specialized and experienced team for designing their required data warehouse also having all the problems while providing information to passengers.

6. Conclusion

ERP frameworks used are complex and not able to use by freshers or less experienced team which cause a problem of arrangement and execution of designing of data-warehouse. As they don't have proper working frameworks for designing the data-warehouse for that they need to have to uses various languages-XML, SQL, PL/SQL, SQS, Ms-access, spreadsheets, etc. which help to make their business effective use their data-warehouse properly. The issues can be resolved by using the statistics hypothesis concepts for analyzing the data the making data compatible data with their data in data-warehouse. Another solution can be applied to the issues is reengineering those process in data-warehouse of ERP and making proper analyzing of the processes and assigning the proper are specialized teams for designing the data-warehouse for ERP. Proper specialized and experienced team should be assigned for exploring the frameworks of designing the data-warehouse for ERP and should assigned responsibilities in the hierarchical approach of experience.

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