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# Implementation of Advanced Query Tool in ERP System

**Swati Verma**

Department of Computer Science & Engineering, B.T. Kumaon Institute of Technology, Dwarahat  
(Almora), 263653, Uttarakhand, India

E-mail: [mgsswati@gmail.com](mailto:mgsswati@gmail.com)

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**Abstract**— *In this age of computers, the use of ERP System is spreading very rapidly in every field such as academics, banking, industries etc. as implementation of ERP system in any field can increase their performance in terms of cost, quality, speed and services. But due to some limitations of ERP System there is a continued need to enhance the efficiency of operations in ERP system. One of the major limitations of ERP system is that it can store only the information but has no reporting & analysis capability due to which quickly and accurately accessing business information is vital through which it became very difficult to take correct decision in real time. Here, managers have to dependent upon the programmers for reporting and analysis of information for taking any important decision. The present paper shows how ERP system can retrieve information quickly and accurately by using advanced query tool (AQT) in ERP system as it provides responsiveness to queries beyond the capabilities of ERP system. Advanced Query tool is used to create analyses in real time without any great effort so anyone can use AQT for reporting & analysis as a result that managers will not be dependent upon the programmer and can take decision their selves.*

**Keywords**— *“ERP System, Data, Information, Data warehouse, Data marts, Decision Support System, Query, Query tool”*

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## I. INTRODUCTION

ERP system is a collection of ERP s/w modules, people & hardware which attempt to integrate all organizational current information in one central database and consequently they allow any organizational current information to be made visible [1]. Many organizations had spent huge amounts of money in implementing ERP with the expectation that ERP will solve the information systems problems of the organization. Indeed ERP solved some of the problems of information systems, but ERP hardly solves all of the problems of information systems. Organization after implementation of ERP found that ERP is good for gathering current data, executing transactions, and storing current data but it has no reporting & analysis capability. The best decisions can be made after the accurate analysis of all available data quickly. In this situation, managers are dependent upon the programmer as programmer makes a program for finding a particular result. When the conditions are changed a new program is required every time. It is not a good process to make a good decision because it is very time-consuming process. One of the solution for this problem is to use Query Tool as with the help of Query Tool, decision makers will not be dependent upon the programmer;

they can make a better decision in real time themselves. But the limitation of Query Tool is that it cannot give result in usable and required format [2]. Thus the objective of the present paper is to provide a solution of this problem. For this purpose method is given in section 2, the results are discussed in section 3 and finally the conclusion is given in section 4.

## II. METHOD

Although Query Tool can access information from ERP System by which decision makers can take correct decision in a real time but it cannot give result in required and usable format. Due to inadequacy of Query Tool, Advanced Query Tool (AQT) should be used with ERP system to get the information in required format easily and quickly. Advanced Query Tool (AQT) is a Microsoft Window based Structured Query Language (SQL) query software tool used to execute queries against the most common database management such as MySQL, IBM DB2, Oracle, Microsoft SQL Server etc. It uses Open Database Connectivity (ODBC) to access the data & designed for database administrators and developers. It is a fast and powerful multi-database query tool and its functionalities are:

- (i) Multi-database connection
- (ii) Execute multiple statement
- (iii) The query results can also be exported to various file formats including MS-Excel spreadsheets, CSV files, plain text, insert statements, and HTML tables.
- (iv) Manage authorities
- (v) Compare tables
- (vi) Load data into a table from various sources
- (vii) Compare the structure of two tables

AQT is based upon the SQL, a non-procedural language which directs the computer what to do but not how to do. It's learning & debugging is easy & it requires a few nonprocedural instructions so it can be used by professional and non-technical users also. In our approach, we use SQL queries which will be used to represent the mapping between the source and the target data. Thus, we allow DBMS to play an expanded role as a data transformation engine as well as a data store [3].

ERP Datawarehouse is made up of many data marts (Which are related to a specific area) and stores information needed for executive decision making. Data inside the data marts are not in a standard (same) format so we use ETL (Extract-Transform -Load) s/w for extracting data from data marts, transform it into a standard format & finally put it into a Datawarehouse [4, 5]. It is a very useful source of data for the explorer and data miner. But for accessing data from ERP data warehouse, we need AQT for fetching information that's why AQT technology should be integrated with ERP systems.

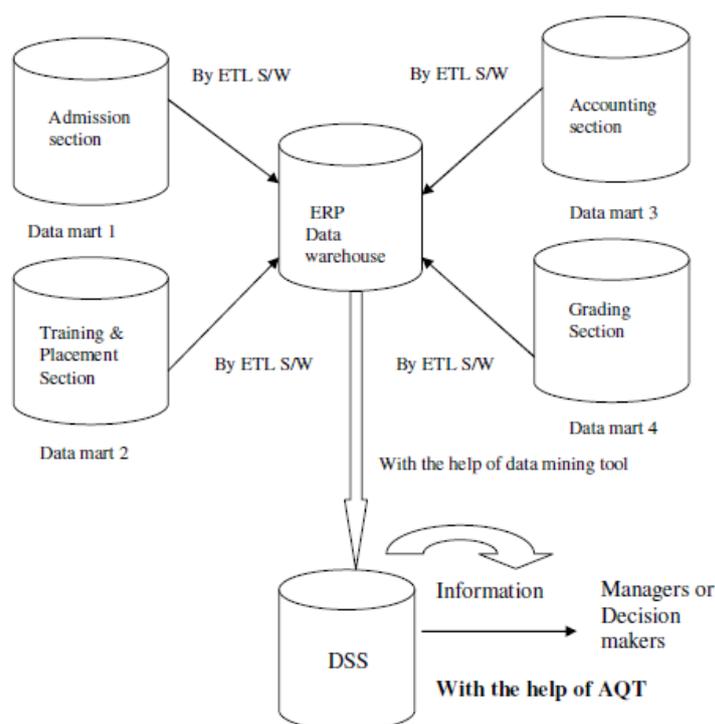


Fig. 1 Creation of ERP Datawarehouse & retrieval of information from it

If AQT is not implemented in ERP system then decision makers have two choices: (i) they have to be dependent upon the programmer to write different programs by using any high level language (such as C/C++/Java etc.) in different situations (ii) decision makers will have to check or analyze the data manually and then can take any decision. Both choices are complicated and time-consuming, neither of which is satisfactory. The point is that we cannot retrieve information in a convenient and efficient manner. More responsive data-retrieval systems are required for general use. So we require AQT for this purpose because by using AQT, we can retrieve information easily without spending time in making a computer program. In this tool, we use query which is an information retrieval statement (Fig 1.) This query directs the computer what to do but not how to do. It's learning & debugging is easy and it can be used by non-technical users also.

ERP Data warehouse is optimized for information retrieval and not for routine transaction processing. Decision Support System (DSS) support organization decision makers to take important decisions and Data mining tool retrieve information from Datawarehouse and put into DSS [6]. From the DSS, information can be retrieved with the help of AQT which is beneficial for decision makers

### III.RESULTS AND DISCUSSION

Data is the assets of any organization which is stored into the ERP data warehouse and AQT provide information about the enterprise from the stored data to the decision makers. AQT will not just access tables and views but also access triggers, procedures, packages, table spaces, security rights and this is the unique feature of AQT. Beside this some of the Benefits of the AQT are:

1. **Multi-database support:** configured individually for over 20 different database types.
2. **Excellent cross-database features:** Load data from one database to another database (e.g. Oracle into DB2) and it Compare tables of different databases (e.g. Sybase and MySQL)
3. **Excellent GUI:** AQT provides a simple, clean and easy-to-use interface. It is fast and responsive. Its wide range of features helps us to do our job quickly and efficiently.
4. **Large Range of Tools:** AQT is packed full of features. One can make several tasks like developing reports, managing our database form, writing stored procedures, loading test data or migrating data between systems easily.
5. **Low Price:** One price covers all databases. It can be freely downloaded from the internet.
6. **Enhanced SQL Editor:** The SQL editor allows multiple statements, which can be run in order through a multiple statements dialog. There is a SQL formatter that makes hard to read SQL easier to read.
7. **Improves organizational intelligence:** by using AQT, decision makers may take correct decision at the correct time without spending time for making a program in any high level language.

Although, AQT is beneficial for any organization, but there are many limitations which are faced when we implement it. Some of them are:

- (i) Query results are restricted to 50 rows
- (ii) Queries will run, but cannot be saved.
- (iii) One can connect to a maximum of 2 databases.
- (iv) Query results cannot be printed using the Print Grid function.
- (v) A maximum of 1000 tables (within a schema) will be shown in the Database Explorer.
- (vi) Only one SQL and one GUI Query Builder window will be opened, simultaneously.
- (vii) It is not supported by various OS such as MAC OS, LINUX etc.

### IV. CONCLUSIONS

This paper not only describes how Advanced Query Tool can improve performance of ERP system but also tells why AQT is better than Query Tool. ERP system is used to integrate all organizational current information of different units (departments) into one central database and make information visible everywhere, so that every individual can take correct decision before taking any important action. But transformation from data into information is a very difficult task. AQT access information conveniently & easily from ERP Datawarehouse that possesses the ability to take correct decision. The benefits of this approach include improved quality information for taking any important decision. Although AQT is better approach, but this paper also describes some limitations of AQT such as evaluation limitations, which may be treated as future research problems.

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