

# **BEST PRACTICES FOR VALIDATION FOR AN UPGRADE OR NEW ERP SYSTEM**

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## **ABSTRACT**

*This paper discusses best practices for validation for an upgrade or new Enterprise Resource Planning (ERP) system. Topics covered include Introduction to ERP Systems, Upgrading ERP Systems, Implementation ERP Systems, ERP Financial and System Document Reports, SQL Command Scripts and Database Design.*

**JEL:** C88, G0, L86, M15, M40, M41

**KEYWORDS:** Enterprise Resource Planning, Structured Query Language, Microsoft Access, Pass-Through Query, ODBC, Databases, Implementation, Financial Reports, Finance

## **INTRODUCTION**

In this paper, the discussion will be based on best practices for validation for an upgrade or new Enterprise Resource Planning (ERP) system. I have completed numerous upgrades and implementations and have used these techniques to validate the data. Herein, I discuss the importance of upgrading and/or implementing an ERP system. The topic described in detail is the best approach to confirm that all data has been converted successfully. It is important to recognize that the worldwide ERP Software Market grew by 3.8%, from \$24.4 billion in 2012 to \$25.4 billion in 2013 (Columbus, 2014). The Global ERP Software Market is expected to garner \$41.69 billion by 2020, registering a Compound Annual Growth Rate (CAGR) of 7.2% during the forecast period 2014 to 2020 (Chaudhari & Ghone, 2015). In the past, there have been many papers with discussion around upgrading and implementation an ERP system. Other discussions have detailed whether the upgrade or implementation of the ERP system was successful or if it failed and why. The purpose of this paper is to contribute information on the necessary steps to validate the upgrade or new ERP system and ensure it will be successful.

The majority of organizations use large accounting or Enterprise Resource Planning (ERP) systems to manage the needs of their organization. I have been responsible for planning, implementing and testing the functionality before allowing users to access the upgraded or new system (also known as going “Live”). There are certain steps that you need to take before you go “Live” with the system. All companies share a common goal when it comes to ERP implementation: they would like a quick and smooth process that does not disrupt business with network or system issues. The literature review provides more detail about the innovation of the system as well as why organizations upgrade and/or implement an ERP system. This paper will give guidance on ERP financial and system reports and SQL Command Scripts to run. This will enable you to confirm the data has not changed. As well, it is a good idea to have a Microsoft Access database for storing the scripts to run a comparison between systems.

## **LITERATURE REVIEW**

One of the most important IT-enabled business innovations during the past decade has been the emergence of Enterprise Resource Planning (ERP) systems. Lured by guarantees of improved business productivity,

streamlined business operations, and increased cost savings, organizations worldwide have launched initiatives to integrate ERP systems into their existing business environments (Beatty & Williams, 2006). An Enterprise Resource Planning (ERP) system is a packaged business software system that allows a company to automate & integrate the majority of its business processes, and share common data and practices across the entire enterprise (Seddon, Shanks & Wilcocks, 2003). This allows a company to manage their integration solution and resources across finance, supply chain, manufacturing, order processing, project management, customer relationship management and human resources. The majority of large-scale organizations have implemented their ERP systems for the following reasons: to overcome the millennium date problem (often known as the Y2K initiative). To resolve issues of disparate systems within the organization. To resolve poor quality/visibility of information. To resolve a lack of business processes and/or systems that were not integrated. To replace obsolete systems. To assist in integrating acquisitions and to resolve issues stemming from a lack of support for organizational growth. (Deloitte Consulting, 1999). Why upgrade? This is necessary to stay within the ERP vendor's window of preferred release. Vendors prefer their clients to stay current in order to support the organization's ERP system. By staying current, the ERP Vendor is able to offer new features and updates to their system. An ERP upgrade is deceptively complex and can be daunting, especially for organizations ignorant of the massive effort required to perform it correctly (Beatty & Williams, 2006).

### ERP Implementation

The accuracy of the data is an important part of doing an upgrade or implementing a new ERP system. The ERP system is only as good as the data that is in it. (Schiff, 2012) Below are some recommendations for reports and SQL Command Scripts to run. These will assist you with verifying that the data has not changed. In the ERP system, run the following reports before going "Live" and after the update has been installed:

- Trial Balance
- Balance Sheet
- Income Statement
- Accounts Payable Aged Report
- Open Purchase Order Report
- Accounts Receivable Aged Report
- Open Order Entry Report
- Item Master Listing
- Inventory Transaction History

Confirm these reports match and balance. If there is a difference, you need to investigate why they are out of balance. The upgrade process may have caused the out of balance. If there were transactions that were completed after the validation reports were run, this may also have caused a discrepancy. I would also recommend confirming that the reports print and export (if applicable) successfully. After running the reports, run the SQL queries before the system is upgraded. Run the SQL queries again to verify all data has been converted successfully, once the system is back up after the upgrade. You can run the SQL queries on many different modules including, but not limited to Asset Management: compare total count and total assets by company. Accounts Payable (Receivable): compare total batch invoice count & amount (if applicable) and invoice count & amount by the company. Postings to General Ledger: compare system counts by Fiscal Year for each module that was posted to the General Ledger. You can modify the script for each Fiscal Year and save it as a new script (for each year that you run). The SQL scripts, I will be discussing are based on Infor Lawson ERP System Tables. The same script can be used for other ERP systems; keep in mind, each system has its own file layouts and structure. GLTRANS is the General Ledger Transaction file that contains the journal entry details. APINVOICE is the Accounts Payable Invoice file that contains the invoice records. AMASSET is the Asset file that contains all asset records.

*General Ledger Transactions Count by Fiscal Year, Company, and System:* select company, system, count(company) as count from gltrans where fiscal\_year = 2016 and company = 1000 group by company, system

*Accounts Payable Invoice Count by Company:* select company, count(company) as count from apinvoice group by company

*Asset Management Total Summary Count with Company Totals that are active:* select company, count(asset) as count, sum(it\_tot\_cstran) as total from amasset where status = 2 group by company

In the past, I have created a Microsoft Access database in order to run my SQL queries to compare the data. There are many reasons for creating a database: Verification: compare counts and totals (these must match before the system is ready to go “Live”). Audit: In case, the CPA firm asks if there have been any significant changes to the ERP system. You can confidently say that the data has been converted successfully. The database is proof! Organizations should upgrade their system at least once a year to keep current. The database can be used repeatedly when there are significant patches or upgrades; it makes your job less stressful by making it a smooth process because the SQL scripts have already been written and the Access queries have been created. Upgrading an ERP system is an ongoing process. Here are a few important steps to follow when creating a Microsoft Access SQL Upgrade Database: Make sure that you have an ODBC connection to the old and new server. In Access, you can either link the tables from the ERP System or use Pass-Through ODBC Connection String to create your SQL queries. Create a Query Type: Make a Table with using your SQL queries. Once the data has been upgraded, append the data to the table with a different field name. Create a query comparing the two fields. See Table 1 below. The General Ledger query will have the Company, System, Before Count and New Count and Differences. The Differences should be zero.

Table 1: General Ledger Query Results

Company	System	Before Count	New Count	Difference BC - NC
1000	AM			
1000	AP			
1000	AR			
1000	GL			
1000	IC			
1000	PO			
1000	PR			
1000	RJ			

**CONCLUDING COMMENTS**

As the person responsible for validation the data, there will be numerous verification scripts that you will need to run. It is important the data has been updated successfully. Otherwise, this can lead to misleading financial statements. As well, (Umble, E. and Umble, 2002) mention: Data entered into an ERP system may be used throughout the organization. Because of the integrated nature of ERP, if inaccurate data is entered into the common database, the erroneous data may have a negative domino effect throughout the enterprise. Inaccurate data can lead to errors in market planning, production planning, material procurement, capacity acquisition, and the like. If a company with inaccurate data just forges ahead under the assumption that data errors will be corrected when they are spotted, the ERP will lose credibility. This encourages people to ignore the new system and continue to run the company under the old system. The intent of this paper to help identify which reports and SQL scripts need to be run when validating an ERP system. This paper also discusses the importance of creating a Microsoft Access database to run and compare the SQL scripts. After the successful completion of the upgrade or implementation of the new

system, remember, the users will need time to adjust. Patience is key! They are looking to you, the expert, for assistance.

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## BIOGRAPHY

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