

# Erp project oracle vs asap



**ASSIGN  
BUSTER**

Enterprise Resource Planning (ERP) Project Students name: Registration  
number: Course: Date: Table of Contents ABSTRACT3 INTRODUCTION5  
VENDOR OVERVIEW8 INTRODUCTION8 SAP8 ORACLE9 BUSINESS  
FUNCTIONS13 Production14 Sales14 Support services15 External services15  
BUSINESS FUNCTIONS SUPPORTED BY ORACLE AND  
SAP16TECHNOLOGYPLATFORM FROM SAP AND ORACLE19 COST  
COMPARISON BETWEEN SAP AND ORACLE20 EASE OF USE22 ERP  
MODULES23 Oracle’s Financial Management Analytics23 Oracle database  
11g enterprise edition24 VENDOR SELECTION27 ERP DEVELOPMENT LIFE  
CYCLE28 SCOPE AND COMMITMENT STAGE28 ANALYSIS AND DESIGN29  
ACQUISITION AND DEVELOPMENT STAGE30  
IMPLEMENTATION STAGE30 OPERATIONAL STAGE30 Bibliography31

ABSTRACT Enterprise resource planning (ERP) is a system that integrates all the internal and external functional units of an organization, the functional units may be manufacturing, finance, storage, management, transport, customer satisfaction etc. in order to integrate all the organization’s functional unit into a flawless and harmonious system, computer software have been developed by different vendors, these software may be custom made for a particular organization or they may be general for use by any organization (Jerferson, 2010).

ERP systems are put in place to improve on the efficiency of information management of the organization, all the data from the different units of the organization are managed by the software and is usually stored in a central location called a server, the server may be physically located in the

organization or it may be a virtual one on the internet, the virtual server uses a technology called cloud computing.

The ERP system normally contains modules that are specialized sub-systems that are task-oriented, these modules include human resource, production planning, financial planning, quality management, materials management, sales and distribution, maintenance, controlling, asset management, project management and industry solutions. The ERP software are developed and sold by vendors under different levels, the highest level is the large Enterprise ERP tier I which include vendors such as SAP, Oracle and Microsoft, this level is for larger enterprises with complex communication protocols between so many functional units.

The second level is the midmarket ERP tier II which include vendors such as Infor, QAD, Lawson, Sage and IFS, these ERP software are suitable for medium companies that have average complexity in terms of information management. The last level is the small business ERP tier III, vendors of these ERP systems include Exact Globe, Syspro, NetSuite and Visibility, ERP software in this are suitable for small businesses with simple information management systems (Jefferson, 2010).

In this project, a detailed analysis of a hypothetical university's information management system is made, and then an ERP software will be selected from one of the two vendors, SAP or Oracle. The selection will be based on the steps of the ERP development life cycle, the cycle will involve all the standard phases of an ERP development life cycle. The major activities of the university include provision of education, research activities and community service. The functional units of the university include the academics affairs,

inance department, staff administration, medical services, marketing and public relations, central store, catering, students welfare and quality assurance. The project will analyze the software modules that are provided by Oracle and SAP, a detailed investigation on the suitability of the two will also be made, and then one of them will be selected for use as the university's ERP system. This selection will be based on facts and will be as systematic as the ERP development cycle.

INTRODUCTION There are several ERP vendors in the global market, each is fighting to be the dominant brand, and as a result, stiff competition between the vendors is taking place. Each vendor is engineering better ERP software to attract the customer's attention and fulfill their needs, some of the vendors are SAP, Oracle, Microsoft, Lawson, sage and IFS. In this project, the two most dominant vendors in the market will be analyzed, these are SAP and Oracle.

The two vendors had a total market share of 55% between the year 2005 and 2009, and they have developed a wide range of products that are tailored to suit several organizations, be it military, government or industrial (Jerferson, 2010). SAP and Oracle are both in the large enterprise tier I category and they have mainly designed products to suit this segment of the market, however, nowadays they are developing ERP software for midmarket tier II. The project will take a hypothetical university as a case study, the university offers a variety of courses and has a number of campuses distributed all over the country.

As part of the management policy, the university is divided into several departments that represent the business functions of a generalized

organization, the departments are:-

1. Academics affairs This department deals with the core business of the university, which is provision of education, the department organizes the timetables, assigns lecturers to the different units, manages the curriculum, manages the student's results, ensures that all the university policies are adhered to and organizes the tests and exams.
2. Central store

In this department, they receive anything that is supplied by the suppliers. The central store also makes requisitions for general materials such as stationery, staff uniforms, sanitary consumables etc. but they don't make orders for special materials that are specific to a certain department only such as machinery, computers, furniture etc.

3. Finance This department deals with the management and controlling of the university's budgets, it also deals with monitoring and management of the school fees as well as the staff salaries and allowances.

The department relies heavily on computer software to carry out its daily activities, all data is stored in a central server.

4. Students welfare The student's wellbeing is taken care by this department, activities such as sports, festivals, parties, concerts are organized, monitored and financed by this department.
5. Human resource The recruitment of new members of staff, promotions and disciplinary procedure for misconduct of staff are all carried out by this department. The department also carries out training programs for members of staff.

. Catering This department manages the catering services at the students and staff cafeterias, the department also makes orders for all the ingredients they need for preparing the food on the menu for the different days. The sales from the cafeteria are not managed

by the catering department, they are managed by the finance department.

7. Medical services The student's and health needs are met by this department, the staff in this department include doctors, nurses and pharmacists.

They treat any sick student or staff for free, but they use software to keep their data such as medical records, inventory and lab results. 8. Public relations This department deals with uplifting the university's image, maintaining good relations with other stakeholders and promoting the university at different levels of the socioeconomic setup. 9. Other department Other smaller departments include quality assurance office, advertising department and repairs and maintenance, transport and research institute. **VENDOR OVERVIEW INTRODUCTION SAP**

SAP AG is a software company based in Germany that makes enterprise software, the company was founded in June 1972 and was started by former IBM engineers, the company was initially called Systemanalyse und Programmentwicklung (" System Analysis and Program Development") but the name was later changed to Systemanalyse und Programmentwicklung (" System Analysis and Program Development"), in 2005, the name was officially changed to SAP AG, SAP AG was included in the German stock index DAX in 1995 and was included in the Dow Jones STOXX 50 in 2003 (Leakey, 2013).

Currently, SAP is the world leader in the sale of business and database software with a market share of 32%. Some of the main products of SAP are:-

CATEGORY| PACKAGE NAME| Business| Analytics| | Advanced Planner And Optimizer| | Business Information Warehouse| | Portal| | Enterprise Central

Component| | Governance, Risk And Compliance| | Human Resource Management Systems| | Knowledge Warehouse| | Internet Transaction Server| | Catalog Content Management| | Hana| | Supply Chain Performance Management| | Training And Event Management| | Manufacturing | | Master Data Management| | Service And Asset Management|

Industry| Oil And Gas| | Healthcare| | Telecommunication| | Public Sector| | Utilities| | Retail| Small and midsize enterprises| Business One| | Business ByDesign| Other| CCMS| | Sapgui| | eCATT| | Central Process Scheduling| | Solution Manager| ORACLE Oracle is an American database and business management software company that was founded in 1977, its first name was Software Development Laboratories, in 1979 the name was changed to Relational Software Incorporation, the name was changed again in 1982 to Oracle Systems Corporation and lastly it was renamed Oracle Corporation in 1995 (Wikipedia, 2013).

Oracle is ranked as the world's third largest software maker after Microsoft and IBM by revenue, however, it is ranked second in as an ERP software maker by market share after SAP. Oracle had a market share of 23% in ERP software between 2005 and 2009 while SAP had a staggering 32% market share. Some of Oracle's products are listed below

CATEGORY	PACKAGE NAME
Applications	Oracle E-Business Suite
Enterprise performance management	Financial management
Oracle fusion applications	Oracle CRM on demand
Customer relation management	Hyperion
JD Edwards world	JD Edwards enterprise one
Human capital management	Master data management
Primavera	Web commerce
Sustainability	Procurement
Project management	Siebel
Supply chain management	

Database| Oracle database 11g enterprise edition| | Oracle database 11g standard edition| | Oracle database 11g standard edition one| | Active data guard| | Advanced security| | Airline data model| | Database security| | Express edition| | Label security| | MySQL| | OLAP| | Oracle database appliance| | Database vault| NoSQL database| | Secure backup| | Secure enterprise search| Engineered systems| Oracle big data appliance| | Oracle database appliance| | Oracle exadata database machine| | Oracle exalogic elastic cloud| | SPARC superCluster T4-4| | Sun ZFS storage appliance| Enterprise management| Application management| | Application performance management| | Application quality management| | Cloud management| | Database management| | Hardware management| | Lifecycle management| | Middleware management| | Oracle enterprise manager 12c| Java| javaFX| | Oracle JDeveloper| Java platform Micro edition| | Java platform standard edition| | Oracle java SE suite| | Netbeans IDE| | Oracle java SE support| Middleware| Application grid| | Application server| | Collaboration| | Portal| | Linux| | Developer tools| | Weblogic| | Webcenter| | SOA| | Identity management| Others| Solaris| | Servers (hardware)| | Integrated management| | Sun ray clients| | Virtual desktop infrastructure| From the list, it can be seen that Oracle makes more products than SAP, this may explain why their revenue is higher. BUSINESS FUNCTIONS

Business functions are the routine tasks performed in order to achieve the goal of an organization. The figure below shows the business functions (LLC, 2002). These functions are similar for almost all types of organization, but in some organization some functions are totally omitted based on the products or services offered. The figure below shows the most common business



functions of any organization. A brief description of the business functions is given below

**Production Research and development:** in this level, the organization develops new products and new designs for existing products.

Tests, experiments and survey are the characteristic activities of this phase, data collected from tests and experiments is stored, managed and utilized by the organization's decision makers

**Production and quality:** this is a major function and usually represents the biggest part of the organization in terms of human resource, at this level, the production is managed, scheduled and planned. Effective machine and staff utilization is a very important aspect in this function, the quality and production rates are controlled based on the data received from the sales and design team.

**Distribution and Logistics:** this function deals with the supply chain, it manages the raw materials and the final products. The activities that fall under this function include the coordination of storage of raw and finished products, management of transport and staff who directly deal with the supply chain.

**Sales:** under this function, the relationship between the organization and its customer comes in, the sales team presents the products to the customers in a convenient and persuasive manner, the team also makes tenders, proposals, invoices etc. to the customers. The team also gives feedback to the research, development and marketing teams on the status of customer satisfaction.

**Marketing:** the marketing department deals with promoting the products of the organization, marketing will involve managing the packaging, advertising, forecasting, budgeting, pricing and planning. Carrying out market research and survey is also a key role played

under this function Support services Finance: this is a key function in any organization, even for non-profitable organizations.

Management of funds and budgeting are the key activities in this function, the finance department records the incomes and expenditures of the organization and carries out future planning in terms of increasing the income and reducing the expenditure. Computing: the use of computers has become almost mandatory for any business, therefore, having computing support services is very important. In this category, the organization's database, network and software are effectively managed.

Human resource: it deals with recruitment of new members of staff, promotion of staff, formulation of contracts and job descriptions for the staff, training of the staff and carrying out disciplinary tasks concerning the staff.

Materials: under this category, the requirements of the organization are identified and then the potential suppliers are contacted, the prices are negotiated and the purchase orders are prepared. The staffs working in this area have to closely work with the production team as well as other teams in order to ensure that all teams in the organization have the necessary materials.

External services Chartered accountants: the accountants carry out audits to validate the company's accounts, they also give advice on matters relating to tax and other issues related to the finances of the organization.

Management consultants: the consultants carry out surveys on the organization's policies, procedures, methods, governance and administration. Then they use the data from the surveys to recommend changes to the areas that have any flaws or require improvements.

Recruitment agency: they carry out job interviews for recruitment purposes, they look for the necessary skills required by the organization and recommend to the human resource department a list of candidates who can best fit in the job. Advertising: in most organizations, advertising is done by the marketing team, but in large organization, a separate external body is charged with advertising the organization's products and services. The advertisers will propose to the management the best approach to get an edge over the competitors.

Market research: this can also be done by the marketing department or by an external agency, surveys, data analysis, drawing conclusions from the analysis and formulating recommendations are the main tasks in market research. Public relations: this has recently become a very important business function for almost all organization, the public relations department uplifts and maintains the image of the organization, they answer to any inquiries made, carry out exhibitions, attend and organize conferences and also prepare press releases, brochures and newsletters.

**BUSINESS FUNCTIONS SUPPORTED BY ORACLE AND SAP** From the list of business functions and the list of packages of the two vendors, it is easy to see that the two vendors have packages for almost all the business functions, packages such as procurement, Human capital, JD Edwards world, Master data management, Database security, Database management etc. from oracle cover almost all the business functions. SAP also has packages that support business functions these packages included Supply Chain Performance Management, Human Resource Management Systems, Manufacturing, Business One, Central Process Scheduling etc. the table

below compares the two vendors in their ability to support business functions, BUSINESS FUNCTION SUPPORTED| SAP| ORACLE|

Research and development| \* Master Data Management \* Central Process Scheduling \* Analytics \* Solution Manager| \* Project management \* Master data management, Advanced security \* Active data guard \* Application management \* Database management \* Collaboration \* Identity management| Production and quality| \* CCMS \* Business One \* Utilities \* Manufacturing \* Advanced Planner And Optimizer| \* Integrated management \* Hardware management \* Lifecycle management \* Application performance management \* Oracle exalogic elastic cloud \* Database security \* Siebel| Distribution and Logistics| \* Central Process Scheduling \* Service And Asset Management \* Supply Chain Performance \* Management \* Catalog Content Management| \* Central Process Scheduling \* Service And Asset Management \* Supply Chain Performance \* Management \* Catalog Content Management| Sales| \* Business ByDesign \* Retail \* Master Data Management \* Portal \* Internet Transaction Server| \* Business ByDesign \* Retail \* Master Data Management \* Portal \* Internet Transaction Server| Marketing| \* Training And Event Management \* Analytics| \* Application quality management \* Project management \* Enterprise performance management| Finance| \* Enterprise Central Component \* Internet Transaction Server \* Master Data Management \* Service And Asset Management \* Business One \* Business ByDesign| \* JD Edwards world \* Financial management \* Oracle E-Business Suite \* Web commerce \* MySQL \* Oracle database appliance \* Database vault \* Database management| Human resource| \* Human Resource Management Systems \* Training And Event Management| \* Human capital

management| TECHNOLOGY PLATFORM FROM SAP AND ORACLE Technology platform refers to the ability to create or edit a software on an existing or future system, different ERP vendors have platforms that support their range of products and even their rivals products, this helps in allowing the customer to purchase a mixture of products from the same vendor or from two or more vendors. The table below shows the technology platforms of the two vendors SAP| Oracle| Sapgui \* NetWeaver \* Enterprise Workspaces \* Cloud \* SAP StreamWork \* Mobility \* Sybase Unwired Platform \* Sybase Afaia \* Project Gateway \* Duet Enterprise \* In-Memory Computing | \* Virtual desktop infrastructure \* Developer tools \* Linux \* Portal \* Application grid \* Oracle java SE support \* Netbeans IDE \* Java platform standard edition \* Java platform Micro edition \* Oracle JDeveloper \* javaFX \* Application server \* Collaboration| The table below shows the technology platform of the two In terms of the operating systems they support and other platforms. SAP| ORACLE| \* Windows \* Open Source \* Web Based \* Linux| WindowsLinuxUnix| COST COMPARISON BETWEEN SAP AND ORACLE

The total cost of implementing an ERP project is the total amount paid to put the system in place, it involve the purchase of the system, the cost of implementing the changes required for the system to work and the salaries and wages of the personnel who work in the system. In term of the initial cost, SAP has a higher price than Oracle, SAP has maintained their high billing rates because their focus is mainly on larger enterprises, so the price seems unreasonable for small and medium enterprises, and therefore, most customer rank SAP as the most expensive (Jerferson, 2010). However, SAP

has the lowest average cost overrun at about 8% over budget but Oracle had the highest cost overrun at about 15%, which is almost double that of SAP.

The payback period for SAP is 13 months while that of Oracle stands at 11 months (Jerferson, 2010). According to a research conducted by Panorama consulting group, the project cost for the two vendors were as depicted on the graph below It can be seen that the two normally go beyond the anticipated budget (at 53. 6% SAP, 52. 6% Oracle) suggesting that the budgeted cost for ERP projects are likely to be less than the actual budget by an average of 53. 1% (Jerferson, 2010). The tables below were extracted from Nucleus Research and they were comparing the costs of SAP and Oracle (Jerferson, 2010). EASE OF USE The ease of use of an ERP system can be compared by looking at the customer's satisfaction after purchasing the software. 2% of SAP's customers were satisfied while 74% of Oracle's customer were satisfied, this indicates that Oracle's software are easier to use than SAP's software but the margin between the two was very close (Jerferson, 2010). ERP MODULES The two modules were selected from Oracle, and they are Oracle's Financial Management Analytics This module provides the top financial management team with a good insight into the status of the financial department and the financial results, it offers a unified solution that can be deployed quickly and contains packaged dashboards and analytics tools that help give a quick insight into the status of the financial system.

This module supports the financial business function, finance involves a lot of staff and workload, and the staffs carry out routine tasks that can be repeated daily, weekly, semi-annually or annually. These records are often

kept in files and this poses a huge challenge when the top management needs a quick insight or review into the results. Oracle's Financial Management Analytics automates this system and maintains the records in a database system so that they can be accessed easily. The working principle of Analytics is depicted in the figure below (Oracle, 2012). The key features of Analytics are shown in the table below

FEATURE	DESCRIPTION
Executive View	Gross Profit By Region, Income By Region, Net Cash Flow
Process Management	Metrics, Trend Analysis, Overall/Entity Status

Financial Close Schedule Summary	Summary, Graphs, Milestones, Compensation
Performance Indicators	Ratios Year On Year Comparison Table, Ratio Components, Ratio Trend Analysis
Profit And Loss	Summary Income Statement, Variance Analysis, Trend Profit And Loss
Gross Profit	Variance Analysis, Gross Profit By Product, Trend Gross Profit
Balance Sheet	Consolidating Balance Sheet, Metrics, Variance Analysis, Trend Balance Sheet
Cash Flow	Cash Flow Summary, Consolidation, Variance Analysis
Current Analysis	Variance Analysis

This module supports the finance business function, this is a key function in any organization, even for non-profitable organizations.

Management of funds and budgeting are the key activities in this function, the finance department records the incomes and expenditures of the organization and carries out future planning in terms of increasing the income and reducing the expenditure. Oracle database 11g enterprise edition Oracle's database 11g enterprise edition is a database management software that is suitable for small and medium sized enterprises, this module manages all the data in the organization and enables all the business

applications to benefit from the performance, reliability, security and scalability of Oracle's database 11g enterprise edition (Wikipedia, 2013). Oracle's database 11g enterprise edition supports all standard data types such as XML, Text, Documents, Images, Audio, Video and Location data.

Access to data is via standard interfaces such as SQL, JDBC, SQLJ, ODBC . NET, OLE . NET and ODP . NET, SQL/XML and Xquery, and WebDAV. It also has some analytical tools for modeling in SQL-based systems (Wikipedia, 2013). The figure below shows the working principle of Oracle's database 11g enterprise edition. DATA STORE PROCESS DATA STORE USER USER PROCESS DATA STORE PROCESS DATA STORE PROCESS DATA STORE USER USER PROCESS DATA STORE PROCESS This module support several business functions, for example it supports the sales, finance, logistics, human resource management, production etc. by keeping all the relevant data in a secure and organized manner for easy access and retrieval when needed.

The two selected modules can perfectly fit in the university's operation. The university has a finance department which deals with the management and controlling of the university's budgets, it also deals with monitoring and management of the school fees as well as the staff salaries and allowances. The department relies heavily on computer software to carry out its daily activities. Oracle's Financial Management Analytics can be used to manage the finance department of the university. Oracle's database 11g enterprise edition can be used to manage all the university data including the student's results, past and present exams, e-books, financial records, hospital records, timetables etc. **VENDOR SELECTION**



The preferred vendor is Oracle, this is because, they are cheaper compared to SAP, the payback period is shorter than that of SAP and their customers enjoy higher rates of satisfaction. In addition, Oracle has better customer services than SAP and has a wider range of products to choose from than SAP. The domain of the organization under study did affect the choice, the university is a service provider and not a manufacturing organization, hence, some of the modules needed in the manufacturing domain may not be needed by the service providing university. The size also affected the choice of the vendor, the university can be considered as a big enterprise with branches (campuses) in different regions, thus a powerful tier I ERP system would be required to manage the university. A customized version of

ERP will be the most appropriate for use in the university, this is because, the university is a unique enterprise with unique types of data management protocols, some data can be accessed by a few authorized users while other types of data should be available for every user, the levels of authority in the university are different from those in other service providing enterprises. Therefore, a great deal of customization will be required if a successful ERP system is to be implemented, this is nevertheless, an expensive option since customized ERP system cost more and take longer to implement. ERP DEVELOPMENT LIFE CYCLE The ERP development life cycle can be summarized in a flowchart below (Motiwalla, 2010).

SCOPE AND COMMITMENT STAGE This is the first stage of the cycle and it entails carrying out a feasibility study to determine whether the ERP system will actually work and if it works (Motiwalla, 2010), will it benefit the university. In addition to this, the university will develop the scope of the

implementation based on the resources and time requirements. Then the characteristics of the ERP implementation are defined to determine what features should be included in the ERP and the customization it may need, the top management's commitment becomes very important at this stage and the short and long term vision for the new ERP system are formulated.

Once this has been done, the suitable vendor is selected based on criteria such as price, reliability, payback period, customer support etc. The scope and commitments required at this stage include:

- \* Gap analysis: an evaluation of the functions provided by the proposed ERP system is made and a comparison between the functions it can perform and the required functions is also made
- \* Physical scope: the number of users who will use the system, the location where the system will be implemented and the sites that will be addressed are considered at this point
- \* BPR scope: at this level, the users, department and sites affected are identified, the current processes are looked at to see if any changes will be required to implement the system
- \* Technical scope: evaluate the ERP system to establish if there are any modifications to be done on the system
- \* Resource scope: the time and money allocated to the project are determined at this point
- \* Implementation scope: the actual implementation is considered to determine which modules will be implemented and the link with the existing system

ANALYSIS AND DESIGN At this stage, the ERP system is designed by the appointed teams, the user requirements are established, and the differences between the current business process and the ERP are identified and accommodated in the design (Motiwalla, 2010).

Conversion of the data and the system is done at this point so that the new system is linked with the old one, a change in the management plan is also formulated to ensure successful implementation of the ERP system. Training of the staff on how to use the new system is also done at this stage.

**ACQUISITION AND DEVELOPMENT STAGE** The software is purchased from the vendor and the license is paid for as well, tasks identified in the gap analysis are executed at this stage, the changes in the management are also implemented to allow for the proper functionality of the new ERP, the old data is transferred to the new system and finally the security of the new system is configured.

**IMPLEMENTATION STAGE** The purchased software is installed and implemented, the approach used in implementation can be one of the following \* Phased \* Pilot \* Parallel \* Big bang

Each of these approaches has its pros and cons, but for our case, the best approach would either be phased or parallel because these two would give the staff and the students enough time to adapt to the new system.

**OPERATIONAL STAGE** This is the final stage of the cycle, the project team officially hands over the system to the university, the university will own the system and shall be responsible for managing new releases, installation of the patches and upgrades and renewal of contracts and licenses with the vendor.

**Bibliography** Jerferson, D. (2010). Battle of the Titans: SAP vs ORACLE. Denver: Panorama Consulting Group. Leakey, J. (2013, February 21). SAP AG. Retrieved February 22, 2013, from Wikipedia: [http://en.wikipedia.org/wiki/SAP\\_AG](http://en.wikipedia.org/wiki/SAP_AG) LLC, A. P. (2002). Business Etiquette. London: ILT. Mereddy, R. (2011).

SAP basis Administration Handbook. New Dehli: McGraw-Hill. Motiwalla, L. F. (2010). Enterprise System for Management. New Jersey: Pearson Education Incorporation. Oracle. (2012). Oracle Financial Management Analytics Data Sheet. California: Oracle Press. Research, N. (2010). TCO CASE STUDY: SAP VERSUS ORACLE JD EDWARDS. Alabama: Nucleus REsearch Incorporation. SAP. (2013, February 19). SAP Home Page. Retrieved February 22, 2013, from SAP: <http://www.sap.com/index.epx> Wang, J. (2011). Oracle Database 11g. New York: Oracle Press. Wikipedia. (2013, February 22). Oracle corporation. Retrieved February 22, 2013, from Wikipedia: [http://en.wikipedia.org/wiki/Oracle\\_Corporation](http://en.wikipedia.org/wiki/Oracle_Corporation)