

IndianOil Project MANTHAN

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India's No.1 Downstream Oil Company

	(Rs./bn)
Turnover	1198
Net Profit	61
Net Worth	189
Assets	499
Market Cap	519
Exchequer Contribution	330

- Indian Oil is India's largest downstream oil company
- 19th largest oil company in the world- Fortune Global 500



Changing Business Trends

➤ Knowledge management

- World economy is shifting from traditional assets to intellectual assets

➤ The internet

- Great opportunity for companies that change
- Customers are empowered by technology

➤ E-business

- Changing conventional concepts
- Enabling businesses to anticipate and satisfy individual needs
- Challenging every business to reinvent



Industry Challenges

- ↗ **Deregulation**
- ↗ **Economies of Scale**
- ↗ **Lower Profit Margin**
- ↗ **Lower Productivity per Employee**



Steps to Gear up

- **Develop integrated value chain**
- **Improve infrastructure**
- **Customer orientation**
- **Self sufficiency in refining**
- **Become low cost provider**
- **Human resource empowerment**
- **Provide Quality**
- **Treat IT a strategic initiative**



Business Priorities to meet vision

- **Optimize SCM**
- **Improve bulk customer management**
- **Improve crude selection process**
- **Project management: Concept to Commissioning**
- **Improve yield, efficiency and reduce loss in refineries**
- **Define IT infrastructure needed for DSS**



IT Re-engineering

Objectives

- To provide a corporate wide IT solution
- To incorporate global best practices
- To increase profitability and productivity
- To provide value added customer service
- To build a globally competitive business industry in petroleum sector



Pre-SAP IT status

- **Islands of information: Poor integration**
- **Multiple/heterogeneous operating systems, databases – hence multiple entries**
- **Lack of standardized and concurrently updated data**
- **Data transfer through diskettes/modems**
- **Negligible use of extranet/intranet/internet**
- **Mailing/Messaging being implemented**



Manthan – The Motto

"Project Manthan is a strategic decision to meet the growing IT driven business challenges in Indian Oil"

Platform is ERP



Project Scope

- ERP
- Add-on Software Packages
- Hardware procurement
- Communication network
- Transition management



Why ERP?

- **Software solution for complete integration of systems across departments as well as the enterprise**
- **Better customer service**
- **Introduction of latest technology**
- **Expert databases for more informed management decision making**
- **Unified accounting for refining, pipeline and marketing**
- **Focus on improving customer related processes**
- **Corporate-wide knowledge sharing**
- **Need for robust communication connectivity across IOCL**



ERP selected by IndianOil

SAP R/3 Release 4.0B

SAP R/3 (4.0B), IS-OIL(4.0)

CIN (2.2B)



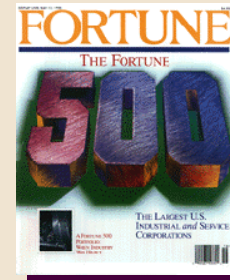
SAP Overview

- **SAP stands for Systems, Applications and Products for Data Processing**
- **An online real time system**
- **SAP is an industry-leading software application company (Headquarters in Waldorf, Germany) providing Enterprise Resources Planning (ERP) Systems solutions**
- **3rd largest software vendor in the world with 34 years of business experience**
- **30,000+ business installations in 100+ countries**



Who is using SAP?

- 6 out of the top 10 companies use SAP software
- 7 of the 10 most profitable companies use SAP software
- 9 of the 10 companies with the highest market value use SAP software
- 7 of the top 10 petroleum companies use SAP software

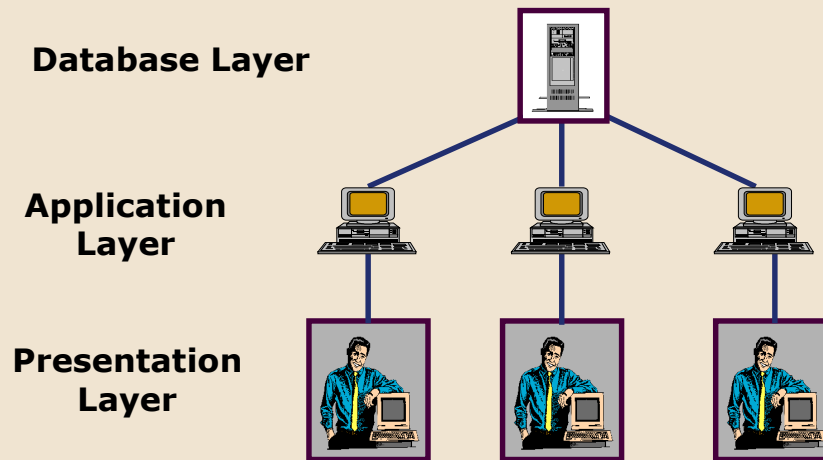


SAP Benefits

- **SAP offers Best Practices for oil and gas industry**
- **Standardized business processes and approach across companies**
- **Long term strategy for business systems**
- **Global systems environment: multi-currency, multi- language and country specific support for government reporting and taxation**
- **Integration of application, processes and data**
- **Dramatic increase in business information**

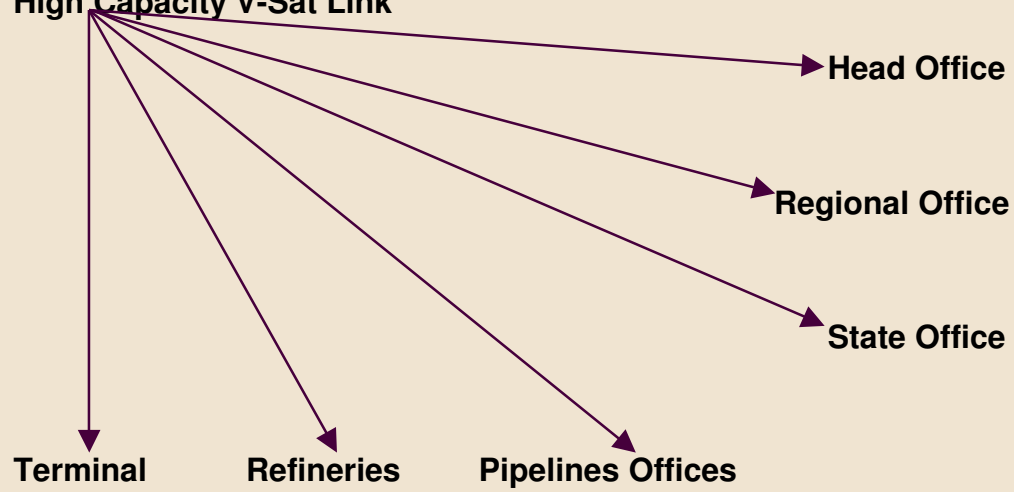


SAP's Three Tier Architecture



Network Plan

High Capacity V-Sat Link



Terrestrial Network

- **Connectivity being provided to 70 marketing locations**
- **Eight refineries being connected in a star network to Refinery HO**
- **Provides Data/Voice connectivity on the same channel using latest technology**
- **Refinery LANs being extended to Marketing and Pipelines offices within the same campus**



The Consultant

➤ **PricewaterhouseCoopers** appointed to assist IndianOil in:

- Conceptual design : 8 months
- Detailed design : 6 months
- Construction : 9 months
- Final preparation : 4 months
- Production : Live on September 01, 2001

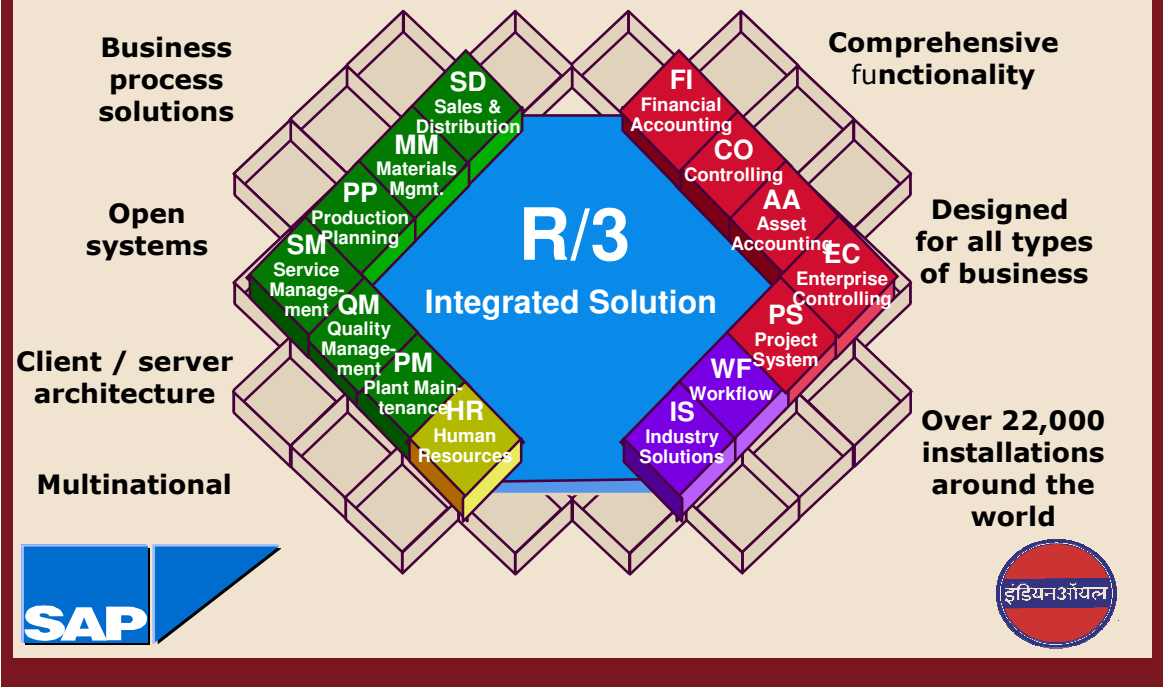


Pilot Sites

- Corporate Office
- Refineries HQ
- IIPM
- Marketing HO, Mumbai
- Pipeline HO, NOIDA
- R&D Centre, Faridabad
- AOD (Refinery/Mktg)
- Mathura refinery
- Panipat refinery
- Northern region (Mktg)
- Delhi & Haryana state office
- Delhi Divisional office
- Karnal Area office
- Bijwasan Terminal
- RCs office, Panipat
- Madanpur Khadar Bottling Plant
- Hisar Depot
- Palam AFS
- Pipelines Eastern region, Kolkata
- KBPL, Panipat
- Lube Blending Plant, Mumbai



SAP Modules



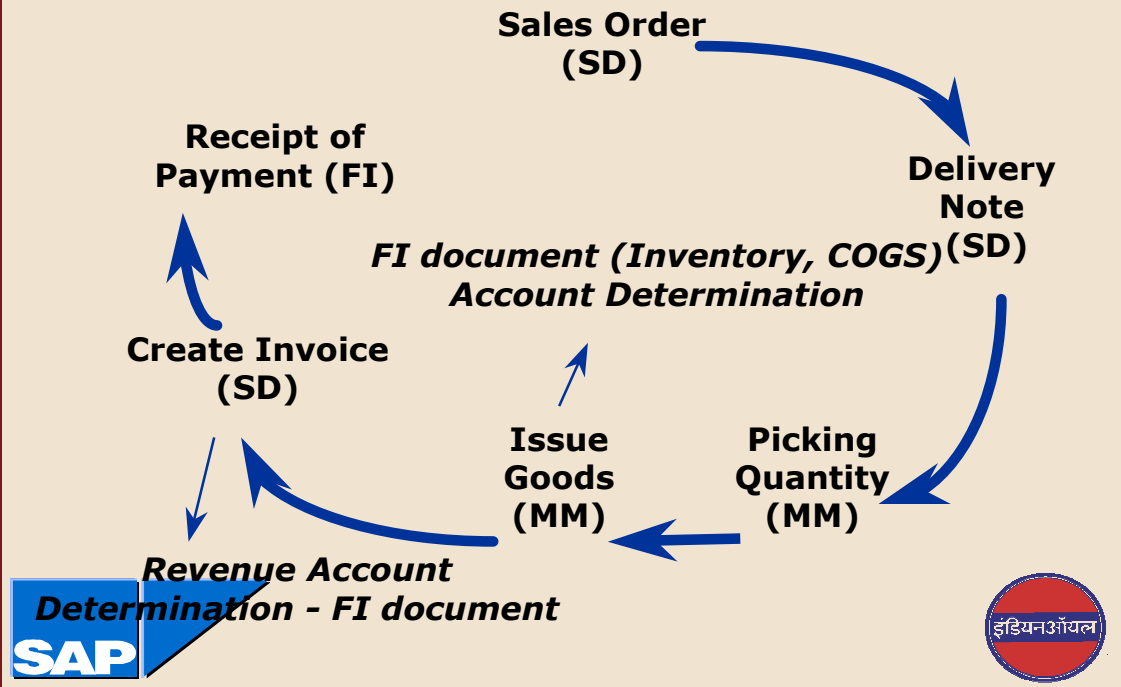
Add-on packages

➤ ERP based 'Hybrid Solutions'

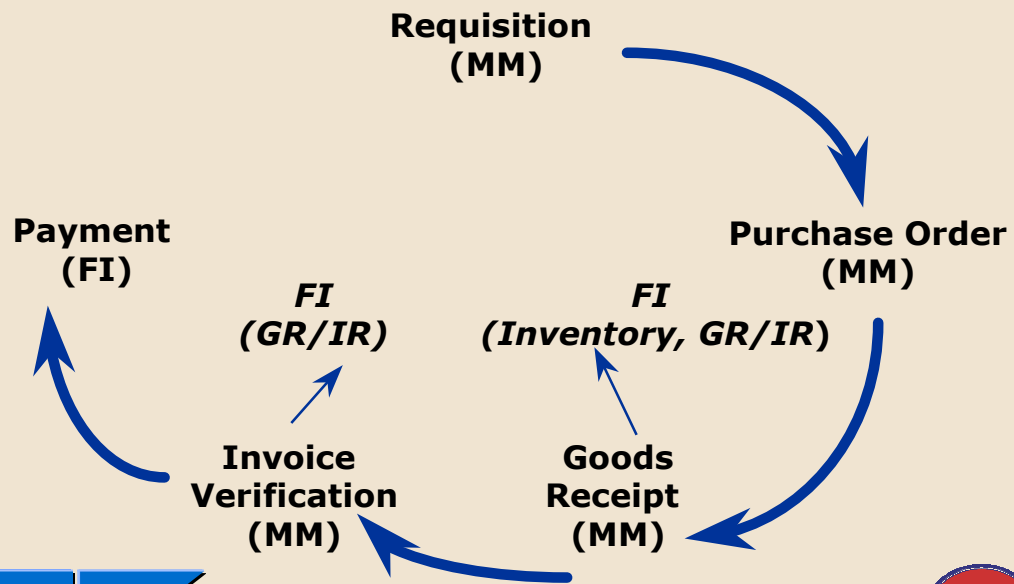
- Crude selection & Feed Mix optimization
- Refinery scheduling & product mix optimization
- Data Reconciliation & Yield Accounting
- Refinery Operation Monitoring
- Laboratory Information Management System
- Crude Scheduling (Pipeline & Tankers)
- Advanced Planning and Scheduling for products



SAP Integration- Sales Order Cycle



SAP Integration- Procurement Cycle



SAP HR



Organizational Plan

- Enables preparation of future Organizational Structure
- Manpower Planning

Impact:

- Org. hierarchy can be defined
- Forecast & plan for any org. changes
- Assignment of positions to Cost centres



Recruitment

- Supports Administration of vacant positions
- Comprehensive database of recruitment to the user

Impact:

- Standardisation of all recruitment related procedures
- Integration of all information
- Online screening of all applicants



Training & Event Management

- **Helps in manage internal & external training activities**
- **To manage conventions that have sessions running concurrently**

Impact:

- **Online registration of employee for training**
- **All the inputs reqd. for arranging training event available online**
- **Qualification profile of the employees can be automatically allocated**



Organizational Reassignment

- Includes Important change in an employee's career path
- Identification of successor for specific positions

Impact:

- Most suitable person can be identified
- Delays are minimised



Competency Management

- **Determine company's personnel development needs**
- **Qualification catalogue enables HR to work more effeciently**

Impact:

- **Required information for each identified position is maintained.**
- **Competency mapping is possible.**



Appraisal

- **Monitor deadlines** such as appraisal dates, dates of dispatch/receipt of appraisal forms etc.

Impact :

- **Storage of appraisal data**
- **Monitoring of various phases of appraisal cycles**



Time Management

- Helps automate and manage time related data

Impact:

- Compare planned working hours with actual working hours.
- Automatic creation of leave quotas every year
- Calculation of overtime



Personnel Cost Planning

- **Supports decision making process taking into account cost viability of Org. unit**
- **Evaluation of all employee related cost**

Impact:

- **Better Administration**



HR Application Module

➤ Personnel Management

- PA Recruitment
- Personnel Administration
- Benefits
- Personnel Development
- Compensation Management
- Personnel Cost

➤ Time Management

- Shift Planning
- Incentives Wages
- Time Sheet

➤ Travel Management

- Travel Planning
- Travel Expenses



➤ Human Resources Information Systems

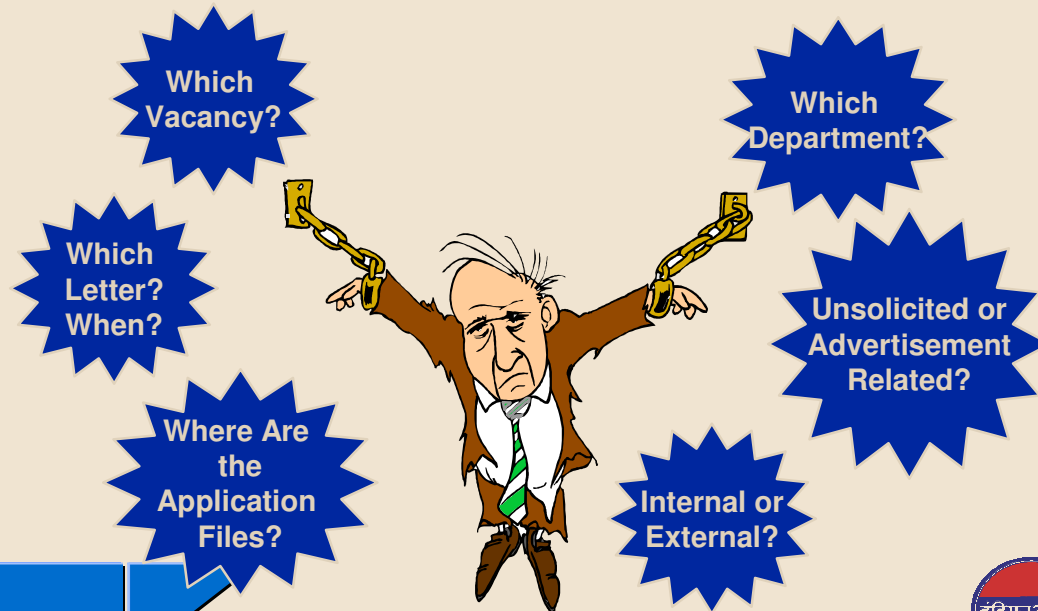


Module: Human Resource

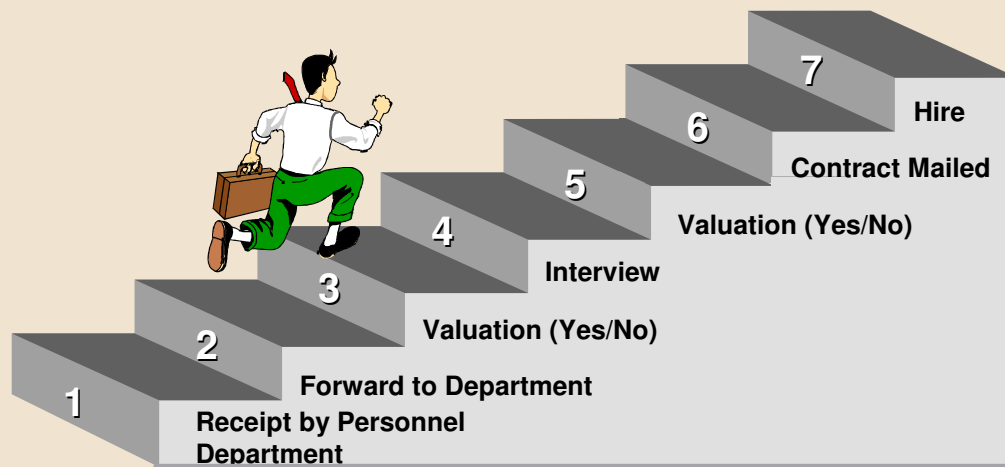
Sub-System: Recruitment



Questions Pertaining to Personnel Recruitment



The 7 Steps of a Typical Recruitment Procedure



Recruitment Procedure in IOCL

- Display Vacancy
- Maintain Advertisement
- Initial Data Entry of Applicants
- Short listing of Applicants
- Invite Applicants for Written Test
- Shortlist the candidates after written test
- Conduct the Interview
- Prepare the Final Merit List
- Offer Appointment letter to the finally selected applicants
- Transfer Applicant Data

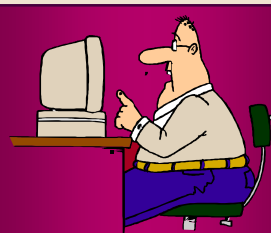


7 Status of Recruitment Procedure

- **In Process** – after entry of Applicant Data
- **Invite** – applicant for written test, group discussion, interview & generate the invitation letters
- **On-hold** – if no suitable vacancy or candidates not hired but in the merit list
- **Reject** – applicants not selected at any stage of recruitment
- **Offer Applicant Contract** – applicants issued appointment letters
- **Reject Offer** – Applicants reject offer
- **To Be Hired** – applicants finally selected & to be



Vacancies Start the Recruitment Process



Vacancy



Position Needs to be Filled

Recruitment



Start Recruitment Activities



Creating Vacancies in Planning and Development

✓
↓
←
↑
✖
📄
🗂
🗂
↺
↻
🔄
?

📄
✍
🔄
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📄
Submit
Approve
📌

Aspect

Plan version Current plan

Position

Abbr.

Validity to

Infotypes

Status: Active Planned Submitted Approved Rej

Object

✓
↓
↺
↻
✖
📄
🗂
🗂
↺
↻
🔄
?

Relationships

Description

Department/Staff

Planned Compensation

Vacancy

Acct.Assignment Feat

Authorities/Resource

Work Schedule

Employee Group/Subgr

Fast entry
📄 Infotype docu

Position	Bricklayer	Bricklayer
Planning status	Active	
Validity	<input type="text" value="09/13/1996"/> to <input type="text" value="12/31/9999"/>	
Object ID	<input type="text" value="50000387"/>	

Vacancy

Vacant Historical rec.

SAP



Creating Vacancies

The screenshot shows the SAP 'Creating Vacancies' form. At the top is a toolbar with various icons. Below it, the form contains the following fields and annotations:

- Validity Dates:** A box containing 'From' (09/13/1996) and 'To' (12/31/9999) fields, with arrows pointing to the 'From' and 'To' labels.
- Vacancy:** 50000387
- Bricklayer:** Created using PD
- Personnel officer:** CDR (dropdown menu) with an arrow pointing to the text 'Christine Reynolds'.
- Line manager:** (empty dropdown menu) with an arrow pointing to the text 'Line Manager'.
- Pct. approved:** 0.00
- Pct. reserved:** (empty field)
- Staffing pct.:** 0.00
- Staffing status:** (empty field)

Annotations include a box labeled 'Validity Dates' pointing to the date fields, and two boxes labeled 'Personnel Officer' and 'Line Manager' pointing to the respective dropdown menus.

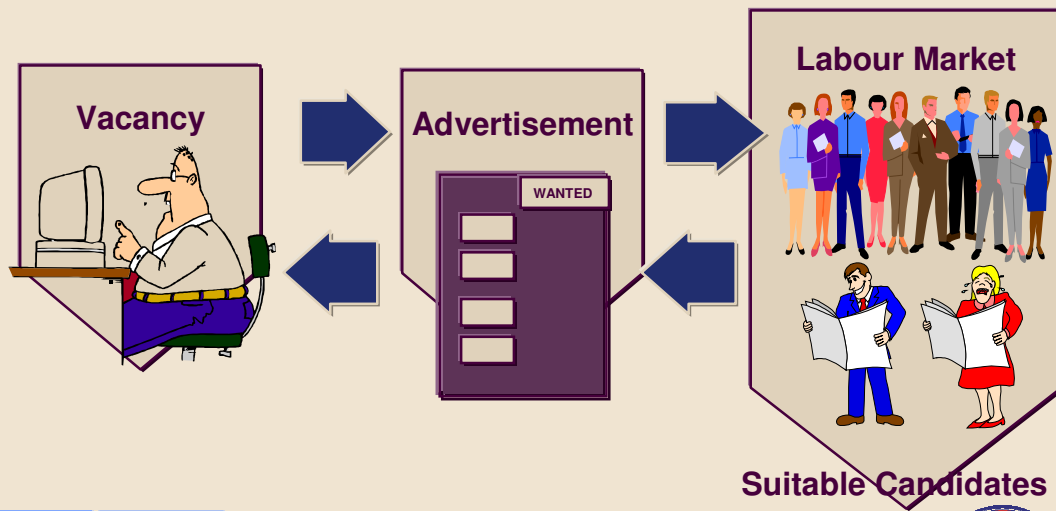


Vacancies In IOCL

- In IOCL positions have to be created in Organization Management
- Vacancies exist only at the entry level grades
- Vacancies can be displayed division wise, discipline wise



Advertisements - The Link with the Labour Market



Applicants and Recruitment Instruments



Creating Advertisements

Date	Job ad.	Instrument	Vacancies published:		St	App.
			from	Name		
08/13/1996	00000007	Reynolds Instrument	08/13/1996	Reynolds South Ac	vac.	0
08/13/1996	00000006	Reynolds Instrument	08/13/1996	Reynolds North Ha	vac.	0
02/29/1996	00000004	New York Daily News	02/01/1996	Operations Manage	vac.	0
08/25/1994	00000002	Boston Globe	01/01/1994	Driver	vac.	0
07/04/1994	00000001	New York Daily News	01/01/1994	Porter	vac.	0

Press the "Create advertisement" Button



Creating Advertisements

The screenshot shows the SAP 'Creating Advertisements' dialog box. At the top, there is a toolbar with icons for navigation and help. Below the toolbar, the 'Advertisement' field contains '00000003' and the 'Next free advertisement number' field is empty. The 'Publication' section includes fields for 'Instrument', 'Publication date', 'Publication code', and 'Text'. A 'Maintain text' button is located below these fields. The 'Vacancies published' section contains a table with columns for 'Vacancy' and 'Act'. A 'Choose' dialog box is overlaid on the table, with a callout box pointing to it that says 'Select the vacancy to assign to the advertisement.' The 'Choose' dialog box has a 'Transfer' button and a close button (X). A second callout box points to the 'Transfer' button with the text 'Press the "Transfer" button'. At the bottom of the main dialog box, there are 'Delete' and 'Insert' buttons.

Vacancy	Act
<input type="checkbox"/> 50000301	Reynolds North Manag
<input type="checkbox"/> 50000303	Reynolds North Accou
<input type="checkbox"/> 50000304	Reynolds North Marketing
<input type="checkbox"/> 50000305	Reynolds South Hanger
<input type="checkbox"/> 50000306	Reynolds South Sales Hana
<input type="checkbox"/> 50000307	Reynolds South Accounting
<input type="checkbox"/> 50000308	Reynolds South Marketing
<input type="checkbox"/> 50000309	Reynolds Hain Manager
<input type="checkbox"/> 50000387	Bricklayer

Creating Advertisements

✓ [Icons: Refresh, Back, Forward, Close, Print, Copy, Paste, Help]

Advertisement

Publication

Instrument	<input type="text" value="77777777"/>	Mediu	
Publication date	<input type="text" value="09/15/1996"/>		
Publication costs	<input type="text" value="15,000.00"/> <input type="text" value="USD"/>		
Text	<input type="text" value="Z - BRICKLAYER"/>		

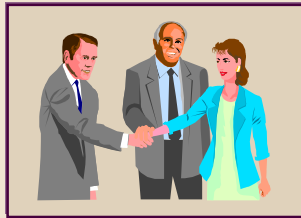
Vacancies published

Vacancy	Activity
----------------	-----------------

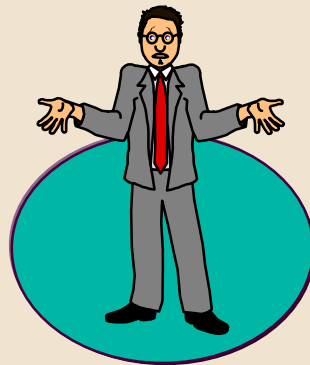
Press the "Insert" button to assign a vacancy to the advertisement.



The Personnel Officer

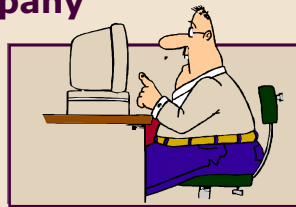


**Represents the Company
to the Applicant**



**Responsible for
Processing Particular
Application Procedures**

- Interview
- Mail contract



**Responsible for
Filling Vacancies**



Assigning Responsibility for the Applicant

From 08/13/1996 - 12/31/9999 Ch.on 09/15/1996 CREYNOLD

Corporate structure

Company code	CSUS	ChipSun USA
Personnel area	3000	Philadelphia
Personnel subarea	4000	Sales

Applicant structure

Applicant group	5	Reynolds group
Applicant range	5	Reynolds range
Organizational key	3000	

Personnel officer

Personnel officer	CDR Christine Reynolds
-------------------	------------------------

Note: A purple arrow points from a text box to the 'Personnel officer' field.

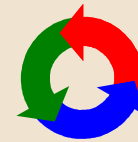
Enter the Personnel Officer's ID code.



Applicant Differentiation

➤ Adapting process flows to meet the needs of different applicants

- Examples: Different selection procedure, subsequent actions, different correspondence, different responsibility



➤ Statistics / Evaluation / Selection

- Examples: Search in applicant pool according to specific criteria.



➤ Authorization check

- Example: Only allowing access to certain applicant type or only filling certain positions



Methods of Structuring

Applicant Group

- Terms of employment
Examples: Employee
Working student
Temporary Employee

Applicant Range

- Functional grouping
Examples: Managerial Staff
Administration
Production / Skilled Worker
- Hierarchical grouping
Examples: Executive
Salaried employee
Hourly rate

Company Structure

- Personnel Area/Sub-area



Advertisements

➤ Each Recruitment cycle in SAP in IOCL will start with the creation of advertisement in SAP

Recruitment Instruments:

Attached to the Media such as Newspapers , Employment Exchanges, Consultants, Doordarshan, AIR, Internal Circulars, Press Magazine, Internet, Internal Press, Campus, Advertising agencies.

➤ Evaluation of recruitment for each recruitment instrument can be done .



Personnel Officer & Applicant Structure

Personnel Officer in IOCL are the recruitment incharges at each recruitment location such as Officer Incharge R&D. This Personnel Officer will be in charge of all the recruitments activities specific to R&D in SAP

Applicant Group : are the various recruitment points at IOCL such as Refinery HO , R&D , Mathura Refinery etc. Applicant belonging to the recruitment point will have number specific to that point

Applicant Range : Are the various induction level disciplines against which the applicant has applied



Applicant Data Entry

The screenshot displays four overlapping SAP transaction windows for applicant data entry:

- Change Applicant Events (InfoType 4000):** Shows fields for 'App.no.' (2), 'Valid' date (08/13/1996), and sections for 'Applicant event and status', 'Reference', and 'Organizational Assignment'.
- Change Applications (InfoType 4001):** Shows 'From' and 'Job advertisement' fields.
- Create Vacancy Assignment (InfoType 4002):** Shows 'From' date (09/15/1996), 'Vacancy assignment' section with 'Priority' (01) and 'Vacancy' (?), and 'Uac.ass.status' (?).
- Create Applicant's Pers.No. (InfoType 4005):** Shows an 'Interface to HR Master Data' section with a 'Per.No.int.app/ex-ee' dropdown.

At the bottom right of the SAP interface, the text reads: DLT (2) (444) | marqerita | OVR: 04:39PM



Applicant Data Entry

Applicant Data can be entered by way of two methods :

- **Applicant Data Upload in case of bulk employees**
- **Manual Data Entry through transaction Initial Data Entry**



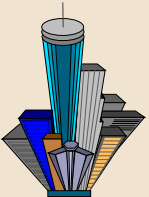
Applicant Data Entry

The following information is maintained for the applicants :

- Actions
- Organization Assignment – Personnel Area, sub-area, applicant group, applicant Range , personnel officer
- Personal Data - name of the applicant, category, date of birth, nationality etc.
- Address – applicant’s present address
- Application – details of the advertisement against which the applicant applied.
- Vacancy assignment – vacancy against which the applicant applied
- Education Details
- Previous Employment Details
- Additional Applicants data – location , venue of the test, whether ex-servicemen , landloser, physically handicapped etc.



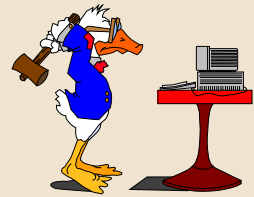
Selection Process



Company



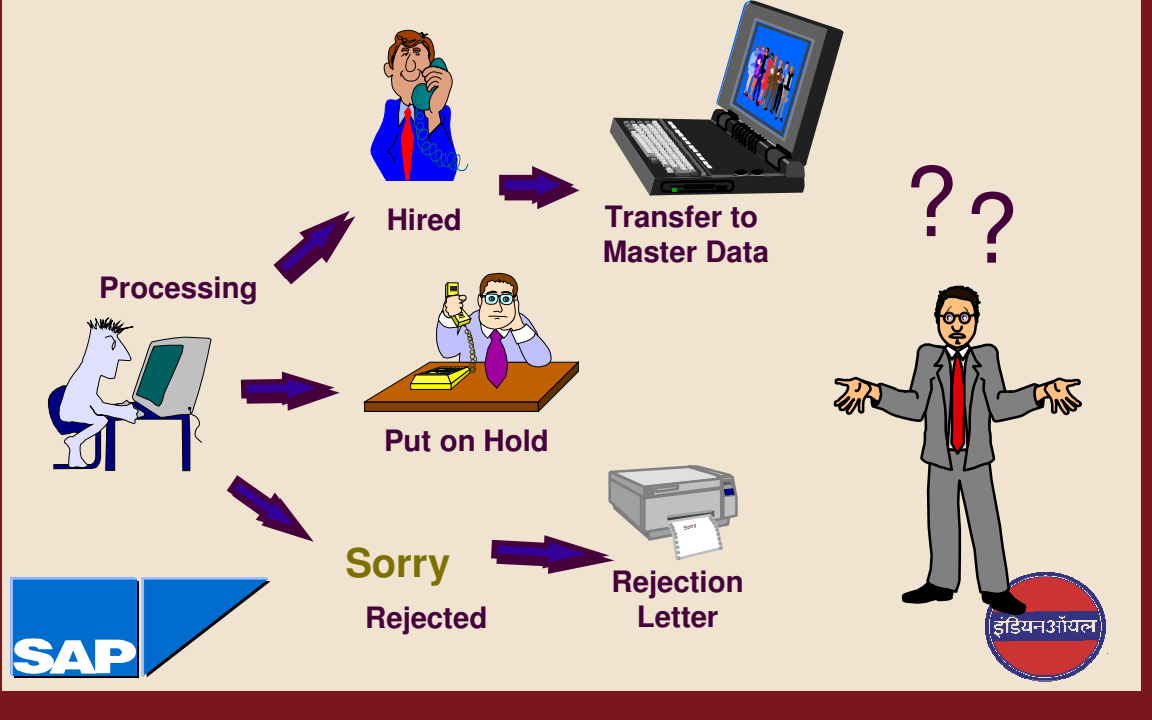
Vacancy 1 -
Personnel Manager



Vacancy 2 -
Systems Administrator



Applicant Status



Transfer Applicant Data

- After final selection of the candidate & the applicant has joined his/her data is then transferred to Personnel Administration I.e.. Employee master & employee no. is generated for him
- Recruitment process in SAP ends after final selection of the applicant I.e.. When the status of the applicant is “To Be Hired”
- Once the applicant joins the Personnel Officer will run the Transfer Applicant Data from Personnel Administration



Screen for ALL HR REPORTS

The screenshot shows the SAP 'Display Report Tree' interface. The title bar reads 'Display Report Tree' and the menu bar includes 'Nodes', 'Edit', 'Goto', 'Utilities', 'Settings', 'System', and 'Help'. A toolbar with various icons is located below the menu. The main content area displays a tree structure under the heading 'Human resources'. The 'Personnel management' node is selected and highlighted in blue. It contains several sub-nodes: Administration, Procurement, Personnel Development, Benefits, Compensation management, and Personnel cost planning. Below this, other HR-related nodes are listed: Time Management, Payroll accounting, Training and Event Management, Organization management, Travel Management, and Information System.

Human resources

- Personnel management
 - Administration
 - Procurement
 - Personnel Development
 - Benefits
 - Compensation management
 - Personnel cost planning
- Time Management
- Payroll accounting
- Training and Event Management
- Organization management
- Travel Management
- Information System



Report Menu

The screenshot shows the 'Display Report Tree' window in SAP. The window title is 'Display Report Tree' and it has a menu bar with 'Nodes', 'Edit', 'Goto', 'Utilities', 'Settings', 'System', and 'Help'. Below the menu bar is a toolbar with various icons for navigation and actions. The main area displays a tree structure under the heading 'Recruitment'. The tree is organized as follows:

- Recruitment
 - Applicant
 - Applicants by name
 - Applicants by event
 - Education and training
 - Applications
 - Applicant statistics
 - Actions for personnel officer
 - Vacancy
 - Vacancy assignments
 - Vacancies
 - Job advertisements
 - Job advertisements
 - Recruitment instruments

SAP



Selection Screen

Applicants by Name
Program Edit Goto System Help

Matchcodes Sort order

Period

Receipt of application [] To []
Data selection period **11.08.2001** To []

Selection

Applicant number	[]	to	[]	[]
Applicant name (sortable)	[]	to	[]	[]
Advertisement	[]	to	[]	[]
Unsolicited application grou	[]	to	[]	[]
Company code	[]	to	[]	[]
Personnel area	[]	to	[]	[]
Personnel subarea	[]	to	[]	[]
Applicant group	[]	to	[]	[]
Applicant range	[]	to	[]	[]
Status (overall)	[]	to	[]	[]
Status reason (overall)	1	to	[]	[]
Applicant action	[]	to	[]	[]
Personnel officer	[]	to	[]	[]

Reference

All with reference w/o reference



Report List

A. Applicant

1. Applicant By Name
2. Applications
3. Applicant Statistics
4. Actions for Personnel Officer

B. Vacancies

1. Vacancy Assignments

C. Job Advertisements

1. Job Advertisements
2. Recruitment Instruments



Benefits accrued to IOCL

- **Communication connectivity across the corporation**
- **Seamless integration of business processes and Information flow**
- **Uniform “look-feel” of software**
- **Centralized control with decentralized customer response**
- **Standard accurate real-time data to support decision making**
- **Extensive drill-down reporting for trend analysis**
- **High degree of reliability and security**



Pre-SAP scenario	Post-SAP scenario
Islands of inconsistent information	Integrated, consistent information
Distributed information processing, data transfer from different locations and functions	Centralized information processing, on-line, real time updated information
Duplication of jobs due to lack of information and connectivity	Integrated information – data once entered updates all relevant records
Local processing	Remote processing on central server



Influencers for Success

- **Good Project Management skills**
- **Using standard functionality**
- **Top Management Participation**
- **Effective Transition management through**
 - Single point contact at site: Change Manager
 - Creating/ Improving Transition Awareness
 - Ensuring availability of communication material using proper documentation and workshops



THANK YOU

