

# Old Newspaper Process Optimization

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LIBER - EBLIDA

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# Agenda



- Introducing Planman Technologies Pte Ltd
- Digitization Process
- Resource Requirements
- Planman Productivity Management System
- Digitization Process Changes
- Results and Summary

# About Planman...



Founded in 1995 by Prof. Arindam Chaudhuri (Renowned Economist and Management Expert) as an Industry consulting organisation incubated by the Indian Institute of Planning & Management-Estd. 1973.

Fast growth pace led by professionals with varied industry experience to become one of India's largest multi-interest consulting and business services firms.

Today it provides Advisory & Outsource Business services in the areas of

- Management & Market Entry Consulting
- Market Research & Data Analytics,
- Public Relations & Marketing Communication
- HR Consulting and Outsourcing services
- Social Sector Consulting
- Business Publishing
- I:TES - Content & Business Process Outsourcing.

Many of Planman's Clients  
Are Fortune 500 Companies &  
Leading MNCs

American Express, Coca Cola,  
PepsiCo, ICI, HP, Microsoft,  
Standard Chartered,  
Citigroup,  
General Electric Group,  
PricewaterhouseCoopers,  
Smith Kline Beecham,  
Unilever Group, Electrolux,  
Indian Oil Corporation, P&G,  
Whirlpool, Samsung, Sony,  
Nestle, McKinsey, KPMG,  
Yahoo, Ernst & Young,  
Morgan Stanley, Fair Isaac...



ISO 9001:2000



# Overview of Operations: The Springboard to Strategic Outsourcing



## People

- Resource Pool: 3500+
- In-depth Skills
- Multi-tasking
- Domain Experience

## Process

- All Process benchmarked and certified ISO 9001-2000 Quality
- ISO 27001 Certified
- Use of established Quality Models ISO, ANSI
- Overall Engagement Effectiveness and not just individual processes
- Enhanced Knowledge Transfer
- Continuous Process Improvements, Cost and Quality focus

## Technology

- Designed for 24x7 operations
- Highly reliable network & communication facilities
- Current seat capacity - 900 in New Delhi
- Infrastructure with sufficient built-in redundancies
- Robust Security & Business Continuity Plan- ISO 27001 certification in progress

## Geographic Locations

New Delhi, India (Sales, CRM & Delivery)

Brussels, EU  
(Sales & Onshore Operations)

New York, US  
(Planned Sales & Onshore Operations)

Coronado, US  
(Sales & Onshore Operations)

Singapore (Incorporated)

London, UK  
(Sales & Onshore Operations)





# Content Services Offerings



Planman offers comprehensive back office/process outsourcing solutions to a variety of industries including technology, financial services, publishing and market research offering comprehensive solutions for all information processing needs.

- Newspaper Digitization Services
- Newspaper Clipping Services
- Publishing Services
- Content Digitization & Archiving Services
- Content Conversion Services XML, SGML, PDF Conversion
- Data Conversion Services- OCR ,Data Entry and Data Capture
- E-Books Publishing Services
- Editorial Support Services
- Form Processing Services, Transaction Processing Services, Database Management
- HTML, Content Indexing & Abstraction Services



ISO 9001:2000







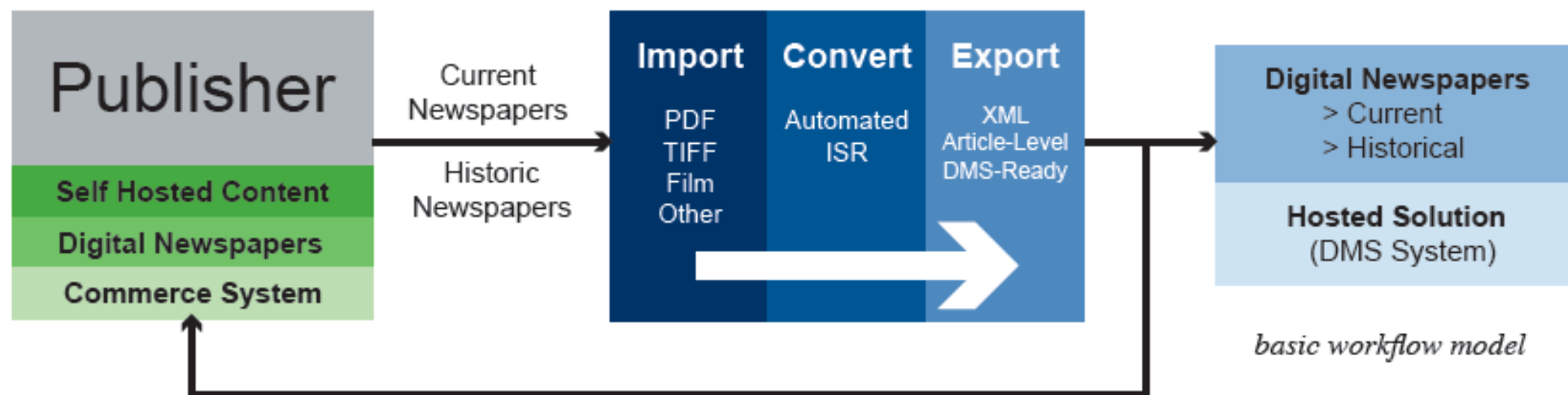
# Library Clients....



- National Library of New Zealand
- Royal Danish Library
- National Library of Norway
- National Library Board, Singapore
- Australian National Library
- State Library of Victoria
- National Library of Netherlands (KB)
- University of California Riverside
- University of Innsbrook
- Newsbank
- OCLC, USA



# Creating Digital Newspaper Edition



## KEY FEATURES:

- Process born digital PDF as well as scanned originals or microfilm
- Structural analysis (ISR) detects articles and recognizes headlines, illustrations, etc.
- Standardized output formats based on XML, TIFF, JPEG 2000, PDF and more...
- Access through DMS systems like CONTENTdm, ExLibris and others

# Newspaper Digitization Process



## 1. Scanning Process

- Cleansing of the image
- De-skewing etc.

## 2. Entity Preparation Process

- Layout Analysis / Segmentation
- OCR
- Metatagging
- Object preparation

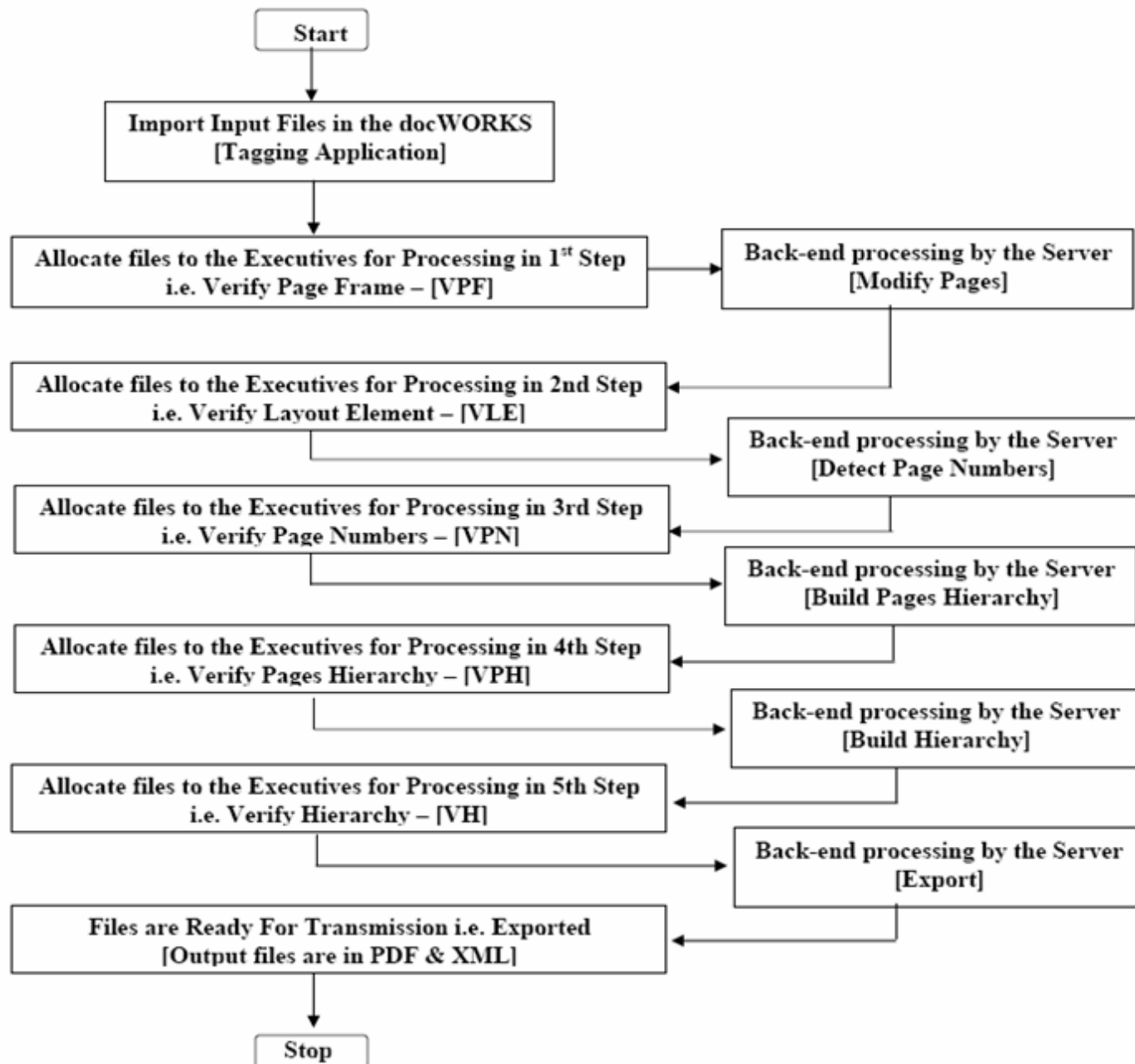
# Resource Utilization



- Project Size 0.5 million to 2 million pages
- Scanning and Cleansing of Images
  - About 30 mins per Microfilm (500 to 600 pages) or less than 5 seconds per page
- Entity Preparation
  - Depending on the extent corrections requested and Complexity of categorization resources required are 400 to 500 seconds per page.



# Process Before the Optimization



# Resource Utilization



Splitting:	5%
Verify Page Frames:	7%
Verify Layout Elements:	36%
Verify Page Numbers:	1%
Verify Page Hierarchy:	1%
Verify Hierarchy:	43%
(Including Headline Corrections)	
Article Categorization:	7%

# Planman Productivity Monitoring System



- Significant amount of resources are consumed during entity preparation phase
  - Instrumentation was embedded at each stage of the entity preparation phase
  - The error rate has been monitored
  - Over 200 reports were produced



# Planman Productivity Monitoring System



# Planman Productivity Monitoring System

32 types  
of  
Reports

Reports  
on  
Project Cost

Reports  
on  
Efficiency

Reports  
on  
Individuals

Reports  
on  
Training

Reports  
on  
HR Aspects

Graphical  
Representation

PLANMAN PRODUCTIVITY MONITORING SYSTEM (Ver 3.0)

## Reports

From: 01-Mar-10 To: 15-Mar-10 Select Shift: Morning(DIGI)

- Efficiency Reports**
  - Detailed With Tenure
  - Summary Report
  - TL's Efficiency
  - TL wise Details
  - Manhour Report
- Quality Reports**
  - Per Operator
  - Per Project / Shift wise
- Absenteeism Reports**
  - Absenteeism Report
  - Summary Report
  - Short Leave & Half-day
  - Absent / Short Leave
  - Weekly / Comp Off
- Reports on Training**
  - Training Details
  - Training Summary
- HR Reports**
  - Joining Report
  - Attrition Report
  - Working Report
  - Tenure Report
  - Confirmations Due
- Shift wise Reports**
  - Daywise Detailed
  - Shift specific details
  - Comparison

Employee Code: E1139

Select Project: CERN\_OCR

PPH Task Quality Report Absent / Short Leave Training Details

Daily Efficiency Report Summary Taskwise Output Quality / Project

PLANMAN TECHNOLOGIES

Excellence is our goal!

Name selected: SUJEET KUMAR



# Planman Productivity Monitoring System

## Sample Report

### Taskwise Production Report

- shows the tasks performed by each operator,
- compares them with Rated Output to compute the efficiency,
- plots the efficiency graph
- highlights the strength of each individual.

### Taskwise Production Report

Geo Science  
Satyajit Bose



Employee Name: SUDHIR KUMAR

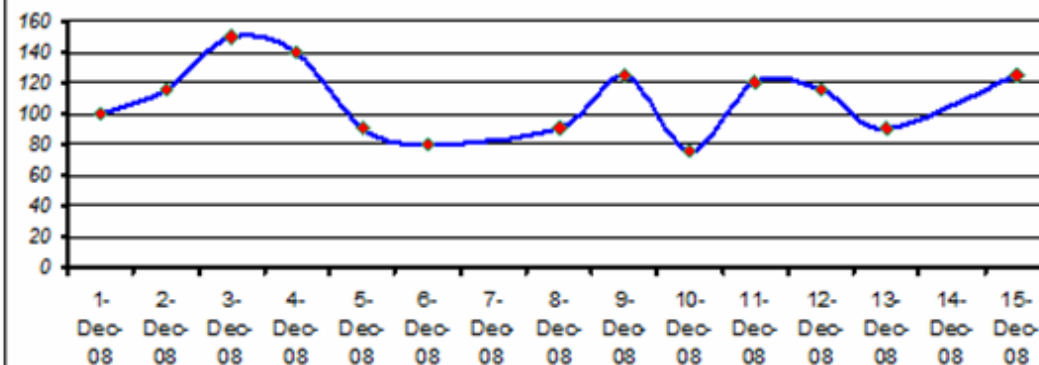
Emp Code: E2989

PERIOD SELECTED: 01-Dec-08 To 15-Dec-08

TL/Coach: BALAJI SAHU

Date	Project	Task	Target/Hr	Hrs Wkd	Exptd	Output Actual	Eff %	Shift
01-Dec-08	VETT	V-DIGI1	2,857.14	7.00	20,000.00	20,000.00	100.00	Evening(DIGI)
02-Dec-08	VETT	V-DIGI1	2,857.14	7.00	20,000.00	23,000.00	115.00	Evening(DIGI)
03-Dec-08	VETT	V-DIGI2	1,428.57	7.00	10,000.00	15,000.00	150.00	Evening(DIGI)
04-Dec-08	VETT	V-DIGI2	1,428.57	5.00	7,142.86	10,000.00	140.00	Evening(DIGI)
05-Dec-08	VETT	V-DIGI1	2,857.14	7.00	20,000.00	18,000.00	90.00	Evening(DIGI)
06-Dec-08	VETT	V-DIGI1	2,857.14	7.00	20,000.00	16,000.00	80.00	Evening(DIGI)
08-Dec-08	VETT	V-DIGI1	2,857.14	7.00	20,000.00	18,000.00	90.00	Evening(DIGI)
09-Dec-08	VETT	V-DIGI1	2,857.14	7.00	20,000.00	25,000.00	125.00	Evening(DIGI)
10-Dec-08	VETT	V-DIGI1	2,857.14	7.00	20,000.00	15,000.00	75.00	Evening(DIGI)
11-Dec-08	VETT	V-DIGI2	1,428.57	7.00	10,000.00	12,000.00	120.00	Evening(DIGI)
12-Dec-08	VETT	V-DIGI1	2,857.14	7.00	20,000.00	23,000.00	115.00	Evening(DIGI)
13-Dec-08	VETT	V-DIGI1	2,857.14	7.00	20,000.00	18,000.00	90.00	Evening(DIGI)
15-Dec-08	VETT	V-DIGI1	2,857.14	7.00	20,000.00	25,000.00	125.00	Evening(DIGI)

Efficiency Graph



### SUMMARY

Project	Task Code	Total Output	Total Hours	Hourly Rate	Hourly Target	Efficiency %
VETT	V-DIGI1	201000	70	2871.43	2857.14	100.50
VETT	V-DIGI2	37000	19	1947.37	1428.57	136.32





# Planman Productivity Monitoring System

## Sample Report

### Shift wise Efficiency Comparison

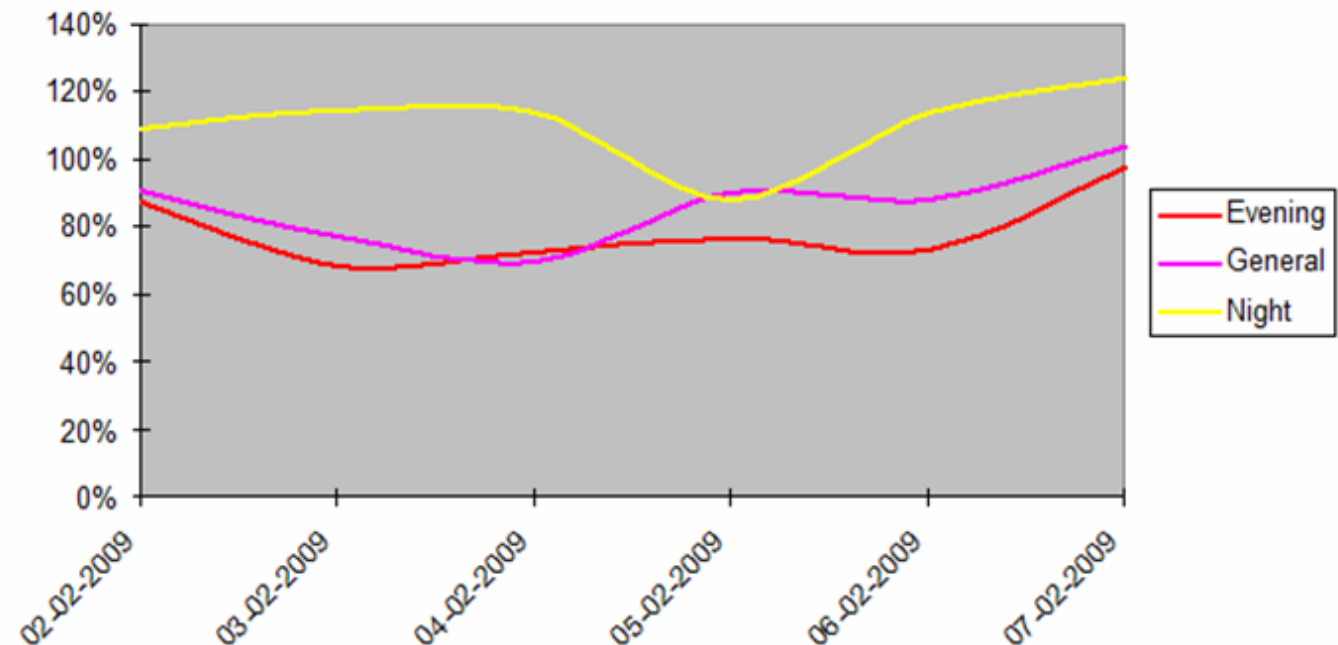
compares the Efficiency achieved in each Shift over the selected period of time.

## Shift wise Efficiency Comparision



Conversion  
Mahendra Giri

Date	Evening	General	Night
02-Feb-09	87.52%	90.86%	109.37%
03-Feb-09	68.50%	77.26%	115.12%
04-Feb-09	72.73%	69.74%	114.08%
05-Feb-09	76.92%	90.70%	88.50%
06-Feb-09	73.60%	88.23%	114.23%
07-Feb-09	97.68%	104.27%	124.56%



# Planman Productivity Monitoring System

## Sample Report

### Man-hour Report

Computes the no. of man-hours spent in a project – beneficial for cost calculations.

### Person hours Report

Conversion  
Mahendra Giri



PERIOD SELECTED: 01-Feb-09 To 28-Feb-09

#### Project: DAILY MIRROR

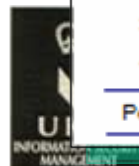
SL	Task Code	Person hours	Shift	Coach / TL
1	DM-XML	738.00	General	Rajeev Choudhary
2	DM-XML	3,601.00	Night	Rajeev Choudhary
3	DM-XML	943.00	Evening	Rajeev Choudhary
4	FINALDM-E	172.00	Evening	Rajeev Choudhary
5	FINALDM-N	7.00	General	Rajeev Choudhary
6	FINALDM-N	248.00	Night	Rajeev Choudhary
Person hours in the selected period		5,709.00		

#### Project: FRB

SL	Task Code	Person hours	Shift	Coach / TL
1	FRB-OCR	107.00	Evening	Rajeev Choudhary
2	FRB-OCR-FINAL	69.00	Night	Rajeev Choudhary
3	FRB-OCR-FINAL	41.00	Evening	Rajeev Choudhary
4	FRB-PR	135.00	General	Rajeev Choudhary
5	FRB-XML	203.00	Evening	Rajeev Choudhary
6	FRB-XML-FINAL	35.00	Evening	Rajeev Choudhary
Person hours in the selected period		590.00		

#### Project: GVRL

SL	Task Code	Person hours	Shift	Coach / TL
1	GVRL-PR	95.00	General	Rajeev Choudhary
2	GVRL-PR	226.00	Evening	Rajeev Choudhary
3	GVRL-XML	151.00	Evening	Rajeev Choudhary
4	GVRL-XML-FINAL	35.00	Evening	Rajeev Choudhary
Person hours in the selected period		507.00		



# Planman Productivity Monitoring System

## Sample Report

## Quality Report

Lists the errors found on a daily basis according to their classification – very useful for monitoring the quality standard.

### Error Details with Classification



Conversion  
Mahendra Giri

01-Mar-09

Project	Shift	Critical	Fatal	Major	Minor
DAILY MIRROR	Night			11	4
				11	4

02-Mar-09

Project	Shift	Critical	Fatal	Major	Minor
DAILY MIRROR	General			2	
DAILY MIRROR	Night			8	3
				10	3

03-Mar-09

Project	Shift	Critical	Fatal	Major	Minor
DAILY MIRROR	Evening			1	
DAILY MIRROR	General			2	1
DAILY MIRROR	Night			4	1
				7	1

04-Mar-09

Project	Shift	Critical	Fatal	Major	Minor
DAILY MIRROR	Night			9	5
DAILY MIRROR	General			1	
				10	

05-Mar-09

Project	Shift	Critical	Fatal	Major	Minor
DAILY MIRROR	Night			5	3
				5	3





# Planman Productivity Monitoring System

## Sample Report

### Efficiency Report

- Computes the efficiency level of each person on a daily basis
- Computes the efficiency of the team
- Computes the Capacity Utilization
- Computes the Effective Capacity Utilization

## Efficiency Report

Conversion  
Mahendra Giri



Date : 01-Oct-08

Project: NBXML

Team Efficiency : 91.73%

Capacity Utilization : 94.90%

Effective capacity utilization : 87.05%

SL	Emp Code	Employee Name	PPH	Err Hrs	EPH	Hrs Worked	Efficiency %
1	E251	VIKESH KU. BHANU	9.71	0.00	9.71	7.00	138.67
2	E925	VED PRAKASH	9.15	0.00	9.15	7.00	130.67
3	E2005	DINESH KUMAR	9.63	0.80	8.83	7.00	126.07
4	E2251	MUKESH BAHUGUNA	8.66	0.00	8.66	7.00	123.75
5	E1694	VISHNU	6.32	0.00	6.32	7.00	90.22
6	E998	VINOD GIRI	6.04	0.00	6.04	7.00	86.25
7	E2744	SANJEET KUMAR	5.78	0.00	5.78	7.00	82.50
8	E2416	PAWAN KUMAR	5.51	0.00	5.51	7.00	78.75
9	E1464	RAJIV PASWAN	5.43	0.00	5.43	7.00	77.50
10	E2410	PRANATI MAHAPTRA	5.34	0.00	5.34	7.00	76.25
11	E2567	ANITA SINGH	5.25	0.00	5.25	7.00	75.00
12	E2328	BHUPENDRA SINGH DHAUNI	1.49	0.00	1.49	2.00	74.38
13	E2121	KUMAR GAURAV	4.38	0.00	4.38	7.00	62.50
14	E2899	CHANDER PRAKASH	3.85	0.40	3.45	7.00	49.29
			86.51	1.20	85.31	93.00	91.73%



# Planman Productivity Monitoring System

## Sample Report

### Report on Training

Portrays the details of training provided to the employees.

#### Details of Training

Geo Science  
Satyajit Bose



PERIOD SELECTED: 01-Mar-08 To 15-Mar-10

*TL / Coach: HEMANT KUMAR*

<i>E Code</i>	<i>Name</i>	<i>Shift</i>	<i>Activity</i>	<i>Hours</i>	<i>Date</i>
E 1927	PRAVIN KUMAR	Evening	Training	7	10-Mar-08

*TL / Coach: LALIT MOHAN*

<i>E Code</i>	<i>Name</i>	<i>Shift</i>	<i>Activity</i>	<i>Hours</i>	<i>Date</i>
E 2060	SUBHASH CHAUHAN	Night	Training	4	08-Mar-08
E 1984	JANMEJAY TRIPATHI	Night	Training	8	10-Mar-08
T543	LALAN JHA	Night	Training	8	10-Mar-08
E 2060	SUBHASH CHAUHAN	Night	Training	8	10-Mar-08
T543	LALAN JHA	Night	Training	8	17-Mar-08
E 2054	RAM CHANDRA KUMAR	Night	Training	8	17-Mar-08
E 2018	RAM LAL	Night	Training	8	17-Mar-08
E 2060	SUBHASH CHAUHAN	Night	Training	8	17-Mar-08
E 1984	JANMEJAY TRIPATHI	Night	Training	8	24-Mar-08
E 2018	RAM LAL	Night	Training	8	24-Mar-08



# Planman Productivity Monitoring System



- After analysis of data, two action were identified
  - Distribute the QA process so that QA is done at each sage minimizing the rework cycles
  - Continual Training of the operational staff

# Distributed QA



- Creation of Roving QA team
- Spot check the operator's work
- Correct on the spot, if required recommend training to the operator
- Incentives : individual & team bonus

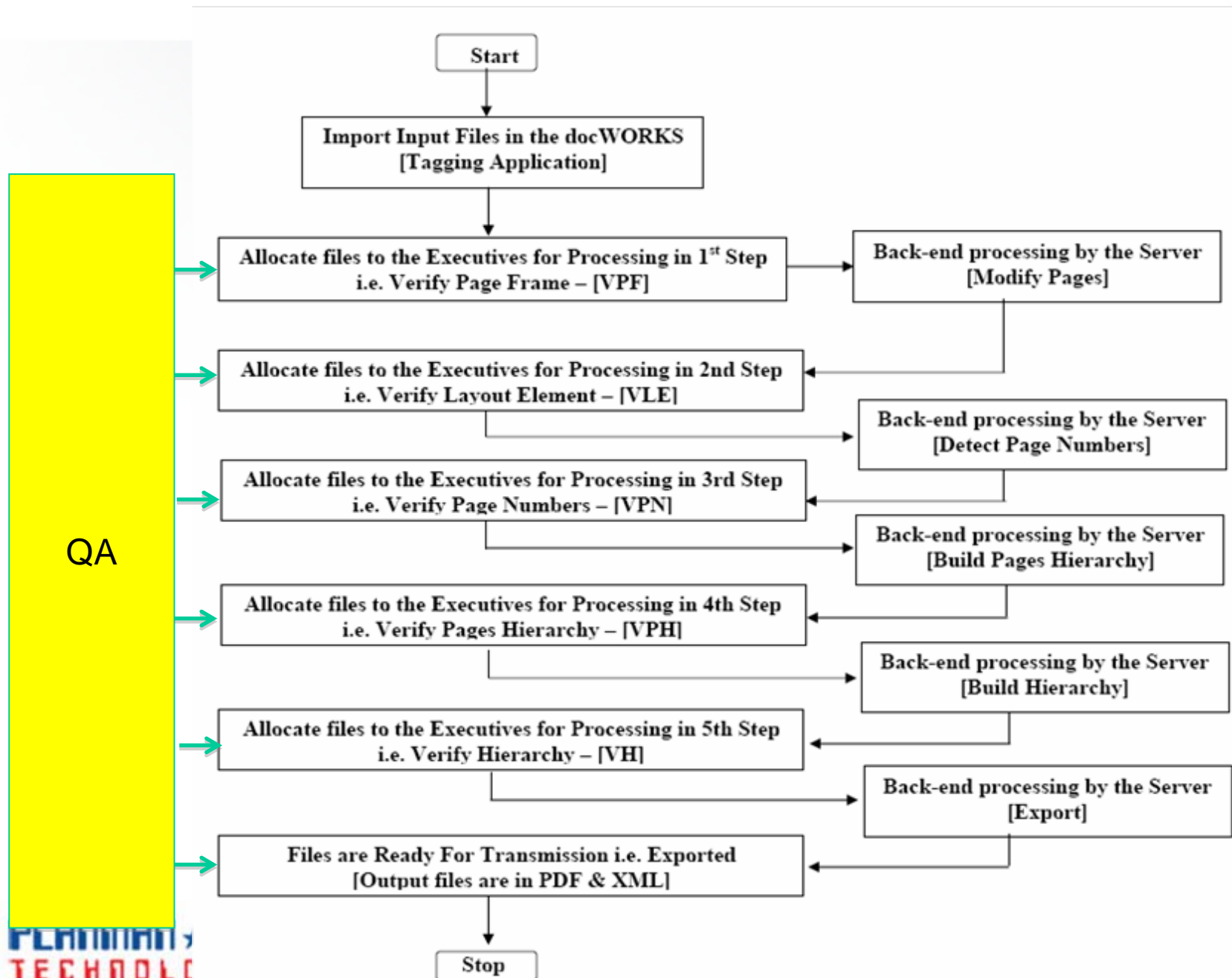


# Spot Checks



Sl. No.	Error Types	Error Code
1	Incorrect Tags	IT
2	Extra Text Blocks	B
3	Incorrect Linking	L
4	Incorrect Sequence	S
5	Incorrect Grouping	G
6	Incorrect Skew	D
7	Incorrect Headlines	H
8	Incorrect Merging of Columns	M
9	Overlapping	O
10	Incorrect Zones	Z
11	Missing Tag	MT
12	Damage Page	DP
13	Incorrect Article Type	AT
14	Wrong Insertion of Page	IP
15	Padding Error	P

# Process Before the Optimization



# Observed Performance Improvements



Task	Time Used (Post PPMS) in Secs/pg	Time Used (Pre PPMS) in Secs/pg
Splitting	20	30
Verify Page Framing	30	30
Verify Layout of Elements	150	180
Verify Page Numbers	5	5
Verify Page Heirarchy	5	5
Verify Heirarchy & Value added Services	180	210
Article Categorization	30	60

# Observed Performance Improvements



- Total Time Consumed Pre-PPMS : 520 sec/pg
- Total Time Consumed Post-PPMS: 420 Sec/pg
- A Roving QA executive checks about 200 pages per man-shift
- Average observed improvement in productivity 20% to 40%



# Summary



- Manpower is not as scalable as infrastructure
- Optimize based on total resources consumed
- Training and well deployed QA does provide good return on investment

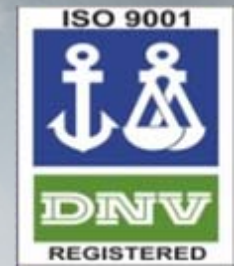
# *Thank you*

rajubln@singnet.com.sg

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India

[www.planmantechologies.com](http://www.planmantechologies.com)



# About Planman...



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Fast growth pace led by professionals with varied industry experience to become one of India's largest multi-interest consulting and business services firms.

Today it provides Advisory & Outsource Business services in the areas of

- Management & Market Entry Consulting
- Market Research & Data Analytics,
- Public Relations & Marketing Communication
- HR Consulting and Outsourcing services
- Social Sector Consulting
- Business Publishing
- I:TES - Content & Business Process Outsourcing.

Many of Planman's Clients  
Are Fortune 500 Companies &  
Leading MNCs

American Express, Coca Cola,  
PepsiCo, ICI, HP, Microsoft,  
Standard Chartered,  
Citigroup,  
General Electric Group,  
PricewaterhouseCoopers,  
Smith Kline Beecham,  
Unilever Group, Electrolux,  
Indian Oil Corporation, P&G,  
Whirlpool, Samsung, Sony,  
Nestle, McKinsey, KPMG,  
Yahoo, Ernst & Young,  
Morgan Stanley, Fair Isaac...



ISO 9001:2000



# About Planman I:TES



- Planman Technologies is a subsidiary of Planman Consulting was formed to deliver Intelligent (Judgement based) IT enabled solutions for the outsourcing & off shoring requirements of clients being served by Planman Consulting .
- 4.5 million USD was invested in this division as seed capital by Planman Consulting in FY 2004-2005.
- A new facility of 30000 sq. ft. close to 700 seats scalable to 1500 seats became operational in October 2004. New Facilities are also being added in the KPO business space.



ISO 9001:2000





# Library Clients....



- National Library of New Zealand
- Royal Danish Library
- National Library of Norway
- Singapore National Library
- Australian National Library
- State Library of Victoria
- National Library of Netherlands (KB)
- University of California Riverside
- University of Innsbrook
- Newsbank
- OCLC, USA

# Few others.....



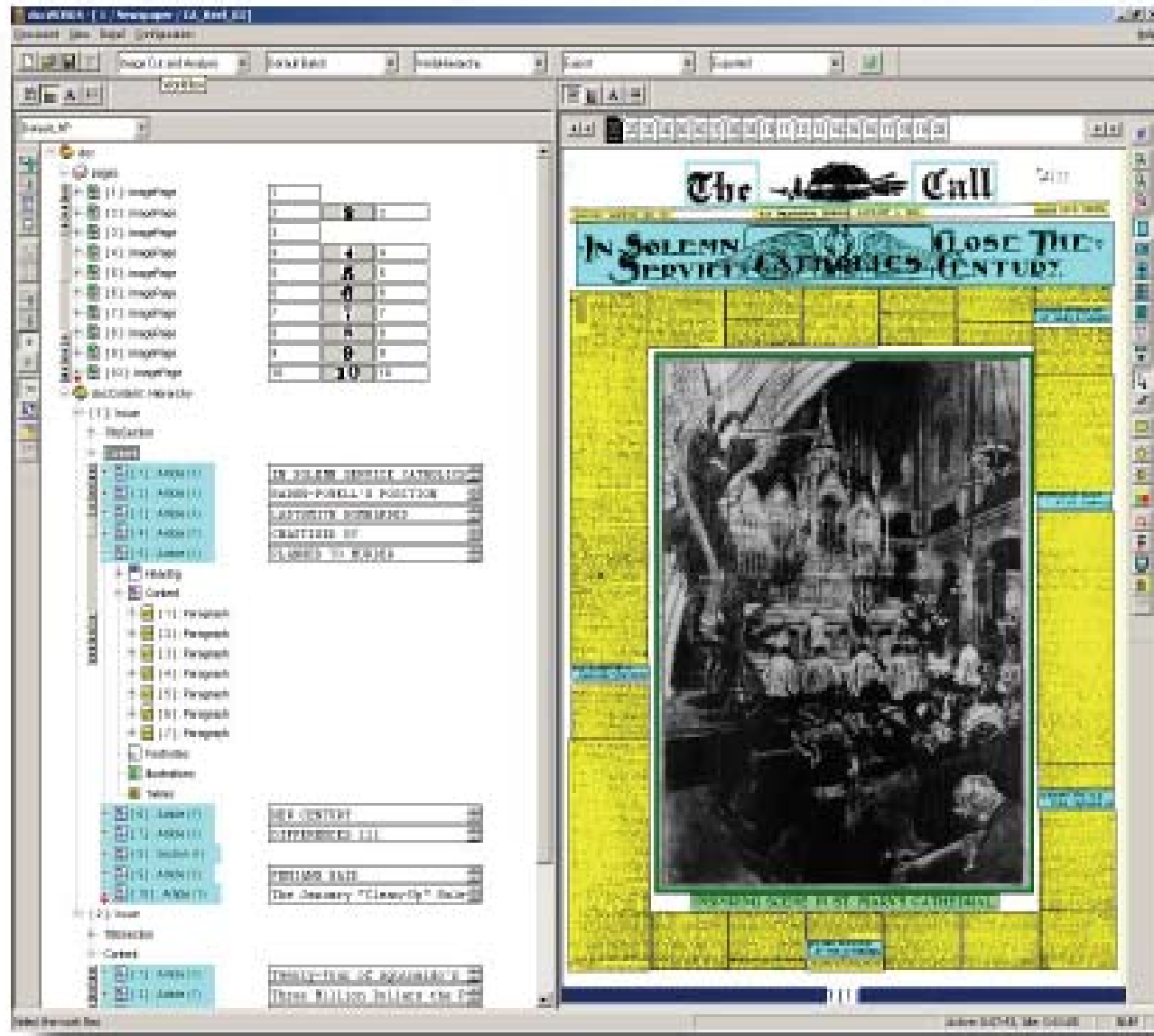
- -Trinity Mirrior Group
- - Gold Coast Bulletin, Aus
- - Sydney Morning Herald, Aus
- - Irish Independent
- - Harcourt Education, UK & Australia
- - Reed Group, USA
- - Dakota Services, USA
- - Cooper Energy, Australia
- - Divestco, USA

# Few Media Clients.....





# Creating Digital Newspaper Edition





# Vision



***“We would create superior value for all our stakeholders - customers, employees and partners will see us committed to quality in everything we do through our strategy work and behaviour.”***