



PRODUCTION  
MANAGEMENT  
SYSTEM



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Managment  
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# About the product

- ❑ Production Management System (PMS in short) was initiated by company directors with a vision to make a simple easy to use and easy to analyse custom enterprise application for their company and eventually for all similar SMEs.
- ❑ The development begin keeping in mind the production i.e. factory and the less-educated machine operators who would be using the system on day to day basis.
- ❑ Now the system has flourished to accompany back office users, accounts department, stores and purchase department, customer support department, HR department and top level executives. Recently we added customer facing module in the system as well.

# Technical details

- ❑ PMS is developed using Microsoft tools and in .NET technology. Database is Microsoft SQL.
- ❑ PMS is a web-based cloud supported multi-OS application.
- ❑ It has 3 database and application servers located at different geographical areas, where data is synchronized in real time and periodic basis.
- ❑ The application has error-log, user-log and system-logs generated & monitored automatically.
- ❑ The design is simple to use for anyone similar to normal websites and forms.
- ❑ Application design is undergoing a shift to make it more responsive for tablets and mobile phones.

# Master Modules of PMS

- ❑ **Company Master** – multi company's official registration data & taxation details
- ❑ **Site/Location/Godown Master** – defines multiple working locations of each company
- ❑ **Customer master** – entire details of customer including their basic details, taxation details, delivery location details, sales person mapping and contact details are present here.
- ❑ **Supplier master** – prepare list of suppliers with their preferred purchasing material and mark them white/black list based on previous performances.
- ❑ **Wastage buyers**
- ❑ **Transporter master** – prepare list of transporters available with the company region-wise and destination wise.

# Master Modules of PMS

- ❑ **Material setup** – raw materials, spare parts, UOM, preferred supplier, parameters for each materials
- ❑ **Printing business related job setup masters** – ink master, paper make master, colour shade master, etc.
- ❑ **Production setup masters** – define processes of a production cycle, categories them for better management, define customer Quality check for each process
- ❑ **Machine setup master** – define various machineries used in production and supporting machines as well. Prescribe their minimum & optimum output for alerts. Mention their specifications and other details for future maintenance references.

# Master Modules of PMS

- ❑ **PMS user master** – lists the users of the system, their roles, designation, contact details and access rights for the application.
- ❑ **PMS production operators master** – list machine and production operators, helpers, assistants along with their location, shift, position in the assembly line.
- ❑ **Accounts master** – defines our tax structure with provision of history for past and current tax structure defined by government.
- ❑ **General setup** – defines country, state, city, currency and exchange rates

# Pre-Production modules of PMS

- ❑ **Proposal module** – sales team can prepare an order quotation or proposal document for their prospective and converted customers. Every possible product of trading or manufacturing by the company is available for selection, where the work for sales person is left to minimum. Tax details, Terms and condition, other statutory details are predefined yet editable for the sales team.
- ❑ **Tender/Project documentation** – system provides documents required for submitting a government tender. Sales team can log their tender details (customer, quantity, rate, qualification details) & the result (Level) in the system.
- ❑ **Order booking** – Sales persons often on the go, can book an order by providing various available details (most important being print job specification).



# Pre-Production modules of PMS

- ❑ **Print job card** – based on the details of approved order booking, job card is prepared in the defined format. It is easy for any print literate to create a job card in minutes. Here we define print specification [paper, ink, data], ideal machines & materials to be used and process list to be followed.
- ❑ **Sales orders** – a sales order is generated for the customer that defines quantity, delivery location, taxation details, packaging details and shipping charges.
- ❑ **Job design module** – DTP department prepares art work for new or revision jobs – get it approved from customer and upload it for future reference in PMS against each job.
- ❑ **Job scheduling** – also known as “work order planning” is defining the date, machine, material and man for each process of production for variety of jobs that are in pipeline. A simplistic GAANT chart is provided to review a production cycle of a job.

# Pre-Production modules of PMS

- ❑ **Stores** – as soon as a job card is prepared, based on the required materials and order quantity, Bill of material (BOM) is generated and stores at factory can start allocating materials to the operators for jobs next in schedule.
- ❑ **Material requisition** – if the required job materials are not available at factory, then they can submit a requisition form, which is then approved by technical and financial authorities and a PO is sent to the supplier.
- ❑ **Material inward** – materials that are procured and received are inward at gate. Respective documents are scanned and uploaded for further use. A material quality check is performed and logged in the system by QC head.
- ❑ **Inventory** – this module presents the current raw materials levels (actual and allotted). Each item wise threshold can be set to auto alert the store manager for further requisition of material.

# Production modules of PMS

- ❑ Production work entry –
  - ❑ Operators on production floors can open their account in PMS to glance through the current assigned jobs per machine and can initiate working.
  - ❑ After production they enter the Input / Output quantity, wastage quantity and raw materials returned back to store
  - ❑ Each operator is responsible for quality check of his own output. Supervisor QC can also be performed during audit days.
  - ❑ Any complaints or comments for the production run can be mentioned here which will be handled by supervisor on periodic or urgent basis.
  - ❑ Entry form has preselected – job name, machine name, process name. Total time for production run is captured as PMI.
  - ❑ Every process – starting from DTP team for making computer based artwork, pre-production QC, production entries, packaging entries are made in the system to cover every user accountable.

# Post-Production modules of PMS

- ❑ **Finished goods entry** – As soon as finished goods are produced and packaged, their final QC is performed and entered in the system. For trading jobs, this module shows stock in hand inventory as well.
- ❑ **Dispatch module** – an accurate challan is generated from the system for single & multi-order dispatches, as per government norms across the country.
- ❑ **Invoice copy** – bill can be produced from the application in one go with entry for as minimum as 3 fields. Integration with the companies' tax software is done via to-fro communication of data sets. Invoice copies for trading jobs, manufacturing jobs, export jobs can be prepared from the system.

# Production support modules of PMS

- ❑ **Training Entry module** – training given at shop floors to operators is not only usefully but archiving them provides company with rich full information accessible for self-learning or future trainings to new joiners.
- ❑ **Machine maintenance module** – every breakdown of machine or precautionary scheduled maintenance can be logged into the system with their detailed problem-analysis-solution. This can be reviewed and acted upon by everyone from supervisors to top-level executives.
- ❑ **Complaints** – ticket based system is provided for internal and external complaint logging. Every department user can log a complaint on various topics. Each grievances are handled by the respective section head.

# Operations supporting modules of PMS

- ❑ **Visitor gate pass** – every firm requires a visitor log. PMS provides a digital solution for it. The visitor details are captured at the gate by security personal. It captures the name of guest, person to meet, area of the office to allow access, his face photo via webcam, contact details, purpose of visit. A small gate pass is printed with all these details, handed over to the guest which needs to be signed by the person to meet without which exit is not permitted.
- ❑ **Documents transfer** – for multi-site companies, transfer of documents often takes places between these locations. This module captures the transfer details – with options for receiver to acknowledge the transfer on successfully receiving it.
- ❑ **Partial material transfer** – if the production processes of a job are located in different geographical sites, then this module captures the to-and-fro transfers of the partially prepared job material between those sites. This is helpful to serve government norms.  
work order

# HR related modules of PMS

- ❑ **Interview & Recruitment module** – all job profiles (CVs) that are filtered for interviews in the company are logged here. Their interview details are logged as well as the final result of selection.
- ❑ **Employee Performance measure** – employees of the company are structured in PMS as per their organizational position. So each supervisor or manager can submit a simple performance measurement form by end of the month, where each employee is assessed on various key points. This is then consolidated by HR for year end appraisal day.
- ❑ **Reference documents** – PMS has a digital repository of documents for future references. Categories of documents are Forms, agreements, checklist, policy, framework, certificates, circulars, etc. every user irrespective of the access rights, can search and download them.





# Reports in PMS

- ❑ **Dashboard** – bar graph, line graphs and other charts provides insightful data to executives and administrator of PMS on various important activities happening in and around PMS and the company.
- ❑ **Daily PMS count** – a simple easy to understand table of critical metrics covering each and every module of PMS is provided here. It is emailed daily by EOD to administration and executives.
- ❑ **Job reports**
  - ❑ *Open job report*
  - ❑ *WIP job status report*
  - ❑ *Order booking report*

# Reports in PMS

- Production reports**
  - Work entry report*
  - FG report*
  - QC Report*
  - Complaint report*
- Performance reports**
  - Operator report*
  - Machine report*
  - Process report*
- Sales report**
  - Invoice report*

# System configurations of PMS

- ❑ **SMS and Email alert configuration** – APIs for SMS and mails are pre-configured in the code. So administrator of PMS can change the credentials of the service providers easily without looking at the source code. Every SMS and email sent from the system are via these credentials only.
- ❑ **Email report configuration** - More than 7 basic reports of pre-production, production and post-productions are sent daily, weekly, monthly through the system. Administrator can add email ids in TO, CC, BCC of any of these emails from this configuration.
- ❑ **Email alerts** – 9 different types of emails alerts on critical functional activities are triggered from the system. The respective section heads are alerted and their email ids can be configured here.
- ❑ **Access rights management** – only the administrator can add or edit or remove access rights dynamically without the need for an IT person. This also defined the menu structure of PMS.

# Data management in PMS

- ❑ **Capturing** of data – we ensure that every form's data is successfully captured.
- ❑ **Accuracy** of data – field level validation, user level validations and server level validations ensure correct data is captured.
- ❑ **Structuring** of data – data is normalized at maximum possible level that helps generate reports easily and quickly.
- ❑ **Security** of data – limiting the access of DBMS to only limited developers and restricting it via selective IP addresses ensures no intruder can access it without permission.
- ❑ **Data** of data(meta data) – we capture every possible logs of data (i.e. its creator, modifier, creation and modification date, location of data creation)

# Data management in PMS

- ❑ **Archiving** of data – ERPs generated 100s of MBs of data in couple of weeks. We manually ensure that old data is archived and yet it is part of the system. They are helpful for historical reports and analysis.
- ❑ **Efficiency** of data – we filter out technically correct but practically invalid data entries from critical modules time to time. Train the users on how to enter data in the correct sense of it. This helps us achieve the efficiency of data for the organization to use it and depend on it.
- ❑ **Synchronization** of data – we allow multi-site and multi-database system entries because local database performance is much higher than internet based database. Internet connectivity issues also reduce performance. So we save data on intranet server and then using the intermediate cloud server we synchronize all of their data. This process is periodic, repeated several times a day & is auto triggered.
- ❑ **Backup** of data – Microsoft SQL auto backup and manual backup options are available.

# Implementation support for PMS

- ❑ Simply delivering an ERP suffices no help. It has to go through:
- ❑ Customization – as per the customer organizational needs, country/state needs, product needs
- ❑ Data migration – from existing or older non-working systems
- ❑ Training – training and gaining confidence of every stake holder of the application is important. We play a vital role in it.
- ❑ Implementing – ensuring that every user of the system has accepted it and have started using it. Every domino of this game is important.
- ❑ Support – for further development, change requests.

**ANY QUESTION AND SUGGESTION  
FEEL FREE TO ASK**

