

# BUSINESS PROCESS AUTOMATION WITH WORKFLOW

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**Workflow software has been around for a couple of years now but it is only now that we see it maturing. The potential it offers for businesses is limitless if corporate managers realize what it enables and how they can leverage it to their advantage. This article discusses the revolutionary impact that Workflow, combined with the falling costs of data storage, WANs, and imaging technologies, will have.**

**Q**uickly gaining ground, Workflow is a technology that has the potential to completely change the way processes are run and managed in businesses. It promises tremendous improvements in efficiency, and has the potential of making available a huge amount of invaluable information on how various processes are controlled in a business environment.

## What can Workflow do

Processes in any organization are a means to an end - they exist to help the organization achieve its purpose, whether it be product delivery, or a service. All organizational processes contribute to the operation of the corporation's business model, i.e. the value chain by which the entity makes money. These business processes work together - sometimes sequentially and at other times in parallel, to achieve the enterprise's product delivery objectives.

**What Workflow software does is that using a business determined definition of each process, it drives the entire process from initiation to completion. It uses business rules and decides which path to route the process along, obtains approvals where human judgement is required, and sends out information to those who need to know.**

While it is doing all this, it also captures valuable information about the process - such as how long did each sub-task takes, how often was a particular decision taken, what transactions were initiated during each process, who did what and which transactions are in what state of completion at any given time. Since all of this information is in electronic form, it allows subsequent analysis which can be used to finetune the process

## What Workflow does not do

What workflow does not do is drive your business for you. Workflow is not a replacement for human judgment, though it can bring a great deal of efficiency and effectiveness to business processes.

Using Workflow is not just a 'software buy' decision. It also represents a commitment to invest in understanding and documenting business processes, roles and responsibilities, and business rules to guide the processes. It requires, in simpler words, a commitment to replace adhocism with precision. This is not to suggest that flexibility cannot be built into the software to deal with business uncertainty, all it means is that there be a clear understanding and definition of the process and the decision points.

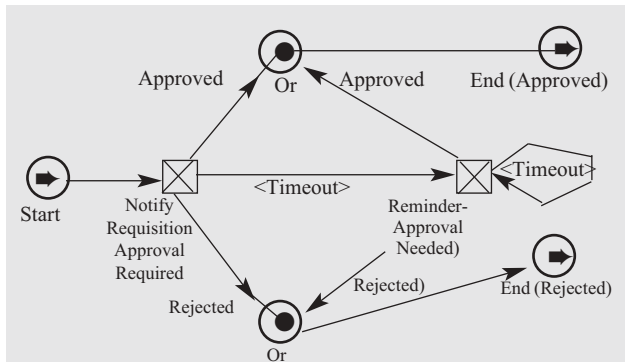
## Components of Workflow

The components of Workflow software vary from vendor to vendor, and can come with varying front ends, but nearly all provide the following functionality:

**A process builder:** The process builder would be a

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tool that allows building the process in flowchart format. An example of a requisition approval/rejection process from Oracle's Workflow offering is given below - remember that this is a sub-process for a main process but the idea here is to illustrate the level and kind of detail that is required.



As is clear from this schematic, each notification and decision point must be identified, and there is little place for ambiguity.

**A notification system:** The notification system is the mechanism by which Workflow interacts with the human operators in the process, i.e. either decision points where a manager needs to give an approval or choose an option that will decide the rest of the process flow, or just a notification to the people who need to know that a certain event or transaction has happened. The notification system can take many forms, the most commonly supported are email and a web page or a combination of both. If email is required to be used, it is important to make sure that the Workflow software will be compatible with the email software used in the company.

**Workflow monitor:** The 'monitor' does exactly that - it allows monitoring of every transaction in a process as it passes through various stages of completion. This is often a graphical tool that shows the part of the process that have been completed and those that are outstanding, and with the right security access will also allow bypassing certain activity nodes that the manager may consider irrelevant to the transaction in question.

**Workflow engine:** This is the processing engine of the software that drives the process, does the computations, applies business rules, captures information but remains invisible to the end user. Workflow engines

are normally based on RDBMSs and keep track of all events that happen as processes are executed.

## Documenting processes

Traditionally, business activities are split along functional lines that divide end to end processes along departmental lines. For instance, sales order to cash collection is a single process that cuts across business administration, sales, finance and credit control functions. It is important to not be constrained by departmental bounds when determining key processes.

As a first step, Workflow requires a clear understanding of the processes that can be 'Workflowed'. If you are at an initial stage of a decision in implementing Workflow, it is enough to know that any transactional process that requires the involvement of many people in a sequential (though not necessarily) fashion with approvals and possible movement of paper from one desk to another could be an ideal candidate for Workflow. As an example, a payables approval process from requisition to payment is often a target process for Workflow. On the other hand, preparation of a payroll where the bulk of the Work is concentrated in one activity (i.e. the calculations) may be poor candidates. At the same time, accompanying tasks such as effecting changes to the payroll database for leavers, joiners, promotions, salary changes, leave adjustments where a number of people such as line managers, HR, approvers, finance, property managers may be involved greatly lends itself to be Workflowed.

Once a target process is identified, it is necessary to accurately document it with finite begin and end points. The process definition is an important step and often determines the success of the implementation more than the technology itself. The documentation of the process needs to be done from an implementation perspective and often requires an analyst with a good understanding of the application itself. It is important to document the process in a structured manner seeking answers to the questions that are required for configuring the software. Unstructured narrative documentation of the process can be useful to understand the process from a layman's point of view but will contribute little to Workflowing it. A flowchart is a useful way to capture the process, but here again caution must be exercised to achieve the right level of granularity - neither too detailed nor excessively lacking in it.

Swimlane diagrams are a very useful tool for documenting processes - they identify the process players, i.e. the person or the group that does a particular task, and also lay down the sequential event of activities in a process.

A few of the typical key processes in any company are indicated below:

- Product design
- Sales order to cash
- Manufacturing processes- raw material to final product
- Logistics and materials management
- Capital expenditure

The next step is to break down the processes into the component tasks or activities. It is important to view tasks not as discrete units but as parts of larger processes. One big process can have smaller processes as components - for example, 'month end closing' is a process, which may have smaller subsets such as the payables process, cash management (including treasury reconciliations, bank reconciliations etc). Many of these would be interdependent and cut across departmental lines. Many would require completion of the other as a prerequisite.

A large number of system driven validations can be incorporated in a Workflow without requiring user intervention. Approval limits, checking of stock at hand, ensuring the right account is charged, that the credit limit for the customer has not been reached etc. - in fact anything that can be precisely expressed as a something capable of being expressed in terms of programming logic (if..this..then..do this..else..do that) can be built into a Workflow.

### The tasks for instance in a typical finance function might include

- Accounts Payable - purchase to pay
- Revenue accounting - sales order to cash
- Fixed assets - requisition to recording/reporting
- Bank accounts - reconciliations
- General accounting - Accruals and prepayments, depreciation etc
- Intercompany accounting
- Branch returns
- Treasury accounting, management and reporting
- Month end account reconciliations
- Management review and external reporting

## Workflow: The efficiency impact

With Workflow, it is possible to achieve tremendous efficiency gains as the technology does much of the hard work. No longer need an invoice be hidden in someone's in-tray, and no longer does a staff expense report need to get lost. There are two key advantages that Workflow brings to a business process:

**1. Transparency:** Workflow makes a business process absolutely transparent, greatly improving visibility and efficiency. Bottlenecks can literally be seen, and removed. It can show where the most delays are occurring, and where each transaction is stuck as it passes from one stage to another.

**2. Process refinement:** The precise documentation that Workflow requires can on its own reveal opportunities for streamlining and improving efficiency. However, the key gain to the business is the fact that Workflow ensures that a process, as documented and agreed, is implemented and followed to the letter.

Workflow imposes and maintains the right discipline for practical processes that are run by real life people and not just written for them by eggheaded consultants. If a process isn't right for business, it just won't work on Workflow, and then a change will be immediately necessary. It allows a business to adopt best practices and also implement them, and provides a mechanism for making sure that it stays that way.

## Workflow: The revolutionary.

What Workflow allows is the capability to granularize process tasks and make them visible as such to business managers. The increasing sophistication of Workflow software, combined with imaging technologies and an explosion in international network bandwidth with rapidly falling prices mean that it is possible to have a single process performed in many different parts of the world without breaking the flow that is necessary to achieve the process objectives - and this realization will underpin the huge growth in offshore services.

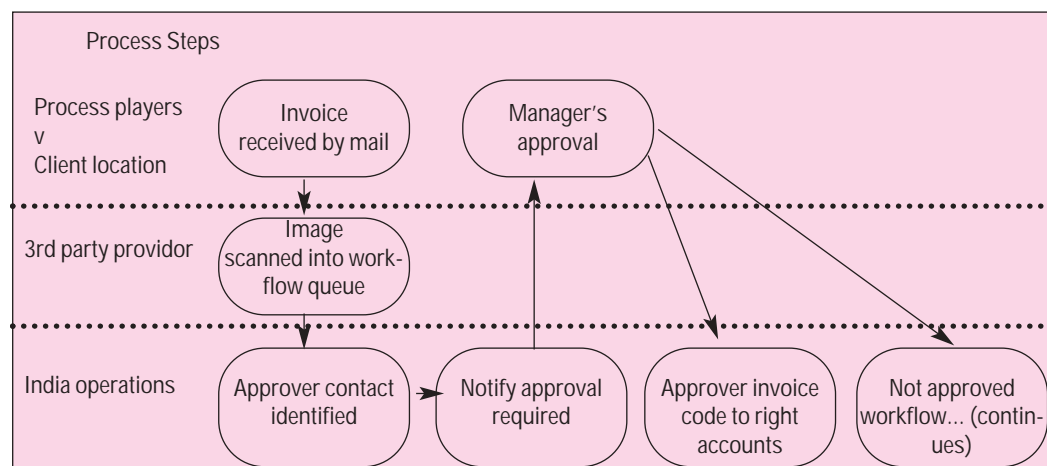
A word about imaging technologies would be in order here. Physical movement of paper, such as customer contracts, supplier invoices, GRNs etc is redundant as long as an electronic image is available. Electronic images offer inherent advantages of immediate availability and costless reproduction. And imaging technologies are now coming into their own

## MANAGEMENT

due to a number of related developments happening together - falling storage costs for image files (as image files tend to be storage hungry), the increasing capability of databases to store and deal with entire files (as opposed to discrete data alone as in the past), falling hardware costs for high capacity scanners, and cheap bandwidth to transport image files quickly across locations.

### Imagine this

To put all the above together, imagine this:



An invoice is received in the United States. An imaging solution is used to scan it locally. Workflow directs the invoice image to an operator in India who reviews it, marks it to the attention of a US-based manager

(which is the next step in the Workflow driven process) who upon receiving an email with a browser link, uses Accounts Payable self-service to approve it electronically on screen. Thereafter, operators in India pick it up and process the invoice in a series of sequential steps governed by the Workflow software. These steps would include matching the approved invoice to a purchase order, entering in the accounts payable ledger, coding to the general ledger, data-entering in the fixed assets system if it happens to be a fixed asset related invoice etc.

**Finally, once all validations have been carried out, the payment is generated on the due date and approved again using self-service by a controller carrying out exception checking in the US. The entire process is driven by**

**Workflow, and underpinned by the imaging software, and incorporates human judgment by allowing accept/reject/comment/escalate possibilities as part of the self-service software.**

Amazing - what technology can do! ■

### ANNOUNCEMENT

Due to unavoidable reasons, the National Conference on Import and Export Policy (jointly organized by Corporate and Allied Laws Committee on Trade Laws and WTO of ICAI) scheduled to be held on August 21st, 2004 at New Delhi stands postponed.

Secretary  
Corporate and Allied Laws Committee

### New Subscription Rates for Journal 'The Chartered Accountant'

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