

What Makes Human-Centric BPM Different?

Automation and Adaptation of Business Processes

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Introduction

Numerous independent case studies and analyst reports substantiate the impressive ROI organizations can accrue from the adoption of BPM. There is also no longer any debate about the fact that the technology of business process automation has matured and is available for organizations to use today. Many industry observers and vendors have moved on to more advanced capabilities such as process optimization and BAM. Yet the penetration of BPM in Global 2000 companies, who are the early adopters, is projected by Gartner Research¹ to reach only 20% by the year 2009, suggesting that it is about 5% today. There is obviously a discrepancy between the availability of the technology with impressive, documented case studies of ROI, and the lack of wider adoption by the market.

This white paper highlights one of the most important contributors to this discrepancy. It argues that business process management is ultimately about people, not technology. While technology enables BPM, it is people who lead, manage, and participate in business processes. Importantly, BPM, analysts and vendors have not focused enough on the importance of human-centric needs. The people side of BPM introduces a level of complexity and usability nuances that is greatly underappreciated. People needs cannot be addressed solely by a rigid and sterile focus on automation.

The paper contends that a deeper penetration of BPM will be achieved as users and vendors begin to understand what it takes for knowledge workers to participate in business processes, both as owners who define processes and as participants who use the automated solution. It highlights a number of seemingly straight-forward, but frequently overlooked features as examples of what is needed to deliver full-featured human-centric BPM. Taken individually, none of these features is a compelling change agent which is the reason why vendors and analysts have not given them the importance they deserve. However taken collectively, these capabilities can transform BPM from a cold and robotic system for automation into an intuitive, user friendly tool that eliminates redundancy and accelerates how work gets done.

What Makes Human-Centric BPM Different?

Human-centric and system-centric BPM systems look strikingly similar on the surface. Both involve processes that have a process map to encapsulate the flow, activities that indicate what tasks need to get done, and rules that dictate the various paths the process can take. In addition, human-centric and system-centric BPM systems have comparable tools such as a server that controls the processes and applications for modeling, integration, and reporting. The block diagrams in vendor or analyst slide decks showing the architecture and its various components, and the marketing message about the benefits of each are also striking similar. Even

to an IT professional without in-depth knowledge of BPM, the two categories of products will look similar. However, when one looks under the surface and evaluates the requirements, one will find major differences:

- i. **Number of Participants:** Most organizations have a small number of enterprise applications and a large number of employees. System-centric processes have significantly fewer participants as compared to human-centric processes for which every employee could be a potential participant. The need to include larger number of participants makes human-centric processes far more challenging and difficult to automate, especially as the roles of these participants are in constant flux.
- ii. **User Interface:** Enterprise applications do not need a user interface to communicate with. Instead they need a common format for data exchange. XML is rapidly becoming the de facto data exchange format. Moreover, the data exchange format does not change often because systems are simply too expensive to change. Human-centric processes require a user interface which is typically an electronic form. Organizations are very particular about the quality of their electronic forms and the security and privacy of the data presented in these forms. More importantly, the forms change often.
- iii. **Need for Collaboration:** Systems do not collaborate with each other. The closest they come to collaboration is to share data as part of a structured process. In contrast, people have a strong need to collaborate with each other. People like to consult, assign, delegate and monitor the assignments. This is especially true in the knowledge economy of the 21st century where collaboration is an essential ingredient of learning. It is important to note that most collaboration is unstructured and happens on an ad hoc basis. The need to support collaboration is an important requirement of human-centric processes, and one that is not easy to satisfy.
- iv. **Exceptions:** Systems generally do not create exceptions after they have been installed and tested. They respond predictably to well-defined inputs. Furthermore, their performance is also predictable and does not change over time. On the other hand, humans create many exceptions. They take vacations, get transferred, become ill, or are not sufficiently trained to respond to a new situation in predictable ways. They may not have enough information to make a decision, or may use their business judgment to make an exception for a given incident. The need to handle exceptions is one of the most challenging requirements of human-centric BPM systems.

- v. **Role Changes:** Systems have well-defined and fixed roles. Even if a change in role is going to occur, it is planned well in advance so that dependent processes and systems have ample time to adjust to the change. The roles that people play change often. In many cases, the same person plays multiple roles. When people participate in teams the roles they play change depending on the project they are participating in. And role changes are a frequent occurrence as people are hired, terminated, promoted or assigned to different responsibilities. Human-centric BPM systems therefore require capabilities to handle these frequent role changes.

- vi. **Definition of Processes:** System-centric processes are generally and primarily defined by IT. Only IT has the skills and the knowledge to understand how systems work. IT can consult with the business people to understand the purpose of business processes, but in the end they control the process and its definition because the mechanism of system-centric integration and the complexity of the systems are simply too much for a business person. Human-centric processes, on the other hand, deal with people who report to business managers and whose responsibilities are assigned by business people. Thus, business must own the business processes which determine how employees work with each other and their priorities.

- vii. **Resource Allocation and Management:** Systems are the resources used by system-centric processes, and these systems are managed by IT. It is IT's responsibility to bring them online, maintain them during their active life and decommission and replace them when they become obsolete. On the other hand, people are resources for human-centric processes, and it is the business team's responsibility to manage people resources.

These differences are summarized in Table 1 below:

<u>Requirements</u>	<u>System-Centric</u>	<u>Human-Centric</u>
Number of Participants	Few	Many
User Interface	None	High
Need for Collaboration	None	High
Exceptions	Few	Many
Change in Roles	None	Many
Process Definitions	IT	Business
Resource Allocation	IT	Business

As one can see from this brief analysis, the similarity between human-centric and system-centric processes is superficial. There are major differences between the two. Many BPM vendors have evolved from the EAI space. Given their roots, these vendors have a “factory automation” mindset that leads to the belief that simply by

automating processes, BPM will do for office productivity what factory automation did for manufacturing productivity. However, the fundamental flaw is that people can not be treated simply as automatons.

Due to these major differences, human-centric BPM requires a very different set of capabilities for both the automation and the adaptation of processes. In the following sections we discuss some of these key capabilities for automation and adaptation that are necessary to meet the needs of human-centric processes.

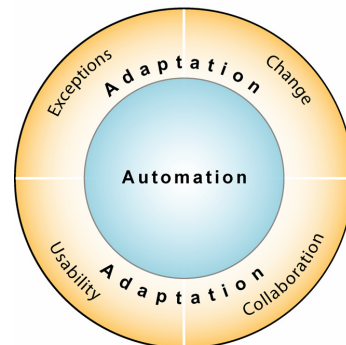
Rapid Automation of Human-Centric Processes by Business People

Human-Centric BPM accelerates process automation by enabling business users to actively participate in creating and deploying their business processes. It delivers these important advantages by reducing or eliminating the coding required, providing easy-to-use graphical user interfaces for implementing and using BPM, and by facilitating collaboration between the IT and business teams in the areas of modeling, automating, managing and optimizing the business processes.

These human-centric capabilities are easy to claim, but are hard to deliver in a natural, intuitive and fully integrated manner. This section highlights five important capabilities from a list of many that are needed to deliver human-centric automation that empowers business teams to own their processes.

Key Human-Centric Automation Requirements

1. Natural Language Process Definition and Documentation
2. Collaborative Development
3. Parallel Step Execution
4. Programming-free Automation Agents
5. Simulations for Testing



1. Natural Language Process Definition & Documentation

In recent years much emphasis has been placed on graphical process maps and the software tools needed to create them. However, a process map only tells a small part of the story of a process. When dealing with human-centric business processes, there is a need to define numerous other attributes that fully describe the many facets of the process. These include attributes like who or what performs each of the steps, what type of information is needed, the time

constraints, the costs, the rules associated with each step, and many others. A process map alone cannot represent all these facets of a process with full fidelity, and neither is it designed to do so. It is essential for a BPM system to allow business managers to specify this information in natural language without the need for complex software jargon.

The ability to document a business process is very important and is a key requirement of quality standards such as ISO 9000. When processes are modeled, information about how to automate the process should be provided in natural language. Business users also need the ability to define documentation templates and specify what parts of the process definition they want to include in the documentation. There must also be an easy way to save the documentation and distribute it to others, especially the IT team that will implement it.

2. Collaborative Development

Human-centric business processes look easy on the surface but become complex as soon as one starts catering to all the special cases and exceptions. The larger the organization, the more exceptions and special cases there are. It is not possible for one person to design all aspects of a process; it takes teamwork. Consequently, a human-centric BPM solution must provide a collaborative development environment where teams of people can work together, while maintaining proper control over versions of the process saved in a process repository. This is accomplished by enabling multiple users to check-out and check-in different parts, or objects, of a process so they can be worked on independently. When a change is made, the BPM system automatically creates a new version of the object and allows the user to add comments so a history of changes is available. Since versioning is done automatically, it is easy to rollback to an older object version. All processes and their versions should be kept in a secure repository.

3. Parallel Step Execution

One of the major benefits of BPM over manual systems is the ability to execute steps in parallel. In human-centric processes this is far more important because there is more lag time and latency involved with people who invariably are working on multiple tasks. Parallel execution allows many tasks necessary for the completion of a process to be executed in parallel rather than sequentially. BPM systems must provide the capability and support for allowing multiple steps in the same process to be executed in parallel. Note that simply showing multiple steps in a parallel does not mean the steps are actually executing in parallel. It simply may be showing parallel flows where only one of the flows is executed at any given time. Parallel step execution means that the BPM systems must be “multi-threaded” and be able to synchronize data coming back from multiple steps at the same time. In addition, it should be able to support multiple users working on the same data at the same time.

4. Programming-free Automation Agents for Rapid Integration

Tasks in human-centric business processes are performed by individuals or by other applications such as Word, Exchange, Excel, or enterprise applications such as PeopleSoft and SAP. A BPM system should provide the ability to use third-party applications to perform tasks as a part of a process. This is best done through automation agents that enable third party applications to be “trained” to perform tasks in minutes using simple point and click tools and without programming. Once “trained,” the agents cause the third party applications to perform these tasks without user involvement.

5. Simulation for Testing

While sophisticated design tools are necessary for BPM, the importance of testing the process should not be underestimated. Processes tend to be complex with many users, and the users are at different workstations which may not be in the same building or even the same city or country. Testing a process by actually deploying it is not practical as it will impact the work and productivity of many users. It can best be accomplished by providing sophisticated simulation capabilities to completely test a process on a single workstation by one person or a small team. All aspects of the process such as the flows, rules, user interface, escalations and integrations can be thoroughly tested to ensure that the process performs as desired. Simulation is also a great way to demonstrate the process to end-users to solicit their feedback and buy-in from the participants which is vital for the adoption of BPM.

Rapid Adaptation for Human-Centric Processes

Once processes have been deployed, the focus shifts from automating the processes to adapting them to the working culture of the organization and to the business environment. Business processes must handle exceptions and change as well as adapt to the collaboration and usability needs of the people who use the BPM system every day to perform their work.

The need for adaptation highlights human-centric requirements in four critical areas:

- i. Handling Exceptions
- ii. Facilitating Change
- iii. Supporting Collaboration
- iv. Providing Usability

While there are hundreds of human-centric capabilities, this white paper highlights five major requirements in each of these core areas.

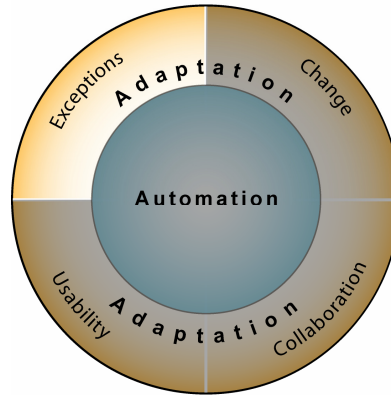
Handling Exceptions

While the goal of process automation is to provide a routine way of performing all tasks, it is not possible to handle all cases in a predefined manner. There will

always be exceptions that occur due to special circumstances or incomplete information. Listed below are some important BPM system requirements that enable workers to handle exceptions. BPM systems without these capabilities will force workers to by-pass the automated system and find a work-around to get the job done. As this begins to happen more and more, the benefits of BPM begin to erode.

Exception Handling Requirements

1. Return a Task
2. Resubmit a Task
3. Dynamic Routing
4. Escalations
5. Reassigning Tasks



1. Return a Task

In real life, users have the capability to return a task that cannot be performed because of some ambiguity or lack of information. BPM systems should provide the ability for processes to move in both directions, without requiring this to be programmed in upfront for every flow and at every step. This provides each person in the process the ability to “return” the task to the previous step(s) for lack of information or for clarification. In addition, a BPM system should provide the BPM team the flexibility to by-pass the previous steps when a step is “returned” and jump to any other step(s) under specific run-time conditions to ensure the task is routed to the appropriate person. The team can choose to specify the conditions necessary to determine where to send the task when it is returned.

2. Resubmit a Task

When performing real life tasks, if a person has completed a task, and the case has moved forward, that person can always change his or her mind based on new information. For example, what if a capital expense is approved, and then the product price or budget changes? Human-centric BPM systems must account for this and allow users to re-open an incident, change information, and resubmit it to the system. This will cause the workflow to rollback to another state depending on the conditions, and then proceed on from this state. This allows the preservation of important activities that are not impacted by the change, and redoing those activities that are impacted by the change. In addition, there may be times when the ability to resubmit needs to be disabled.

3. Dynamic Routing

In many business processes, it is not possible to determine the recipient of a task when the process is designed. The recipient is determined only when an instance of the process occurs. For example, if an item for purchase is charged to a particular account, it may be necessary for the “account owner” to approve the expense. But since there can be many different accounts with different owners, it is impractical to design a process that is “hard coded” for all these different account owners. A BPM system should provide the ability to specify the recipient of a task on an ad hoc basis when the process is executed rather than specifying it at design time. Ad hoc specification of a recipient may be done with much flexibility. For example, the name of the recipient may be typed in the form at a previous step, read from a database, or determined by calling a Web Service. Recipients may also be determined based upon the skill levels required to perform a task.

4. Reassigning Tasks

To support the way people work, a BPM system should provide users the ability to assign tasks to others with much flexibility:

- i. A user may assign task to another person because they are unable to perform the task.
- ii. A user may assign task to another user because they are planning to be away. In this case, they may want to specify a start date and an end date for the reassignment.
- iii. A user might want to do the above for more than one task.
- iv. If a user has assigned a task, they may change their mind and decide to “un-assign” it and do it themselves. This can be for one or multiple tasks.
- v. If a user has an unplanned absence, the user’s supervisor or a central administrator may want to do all of the above on behalf of the user so that the work can proceed without interruption.
- vi. The company may have a rule that a specific task must always be done by a specific person. For example, the CEO must approve all orders above \$50,000 and cannot delegate that to his secretary. In this case, there must be a way to disallow certain tasks from being reassigned.

As this illustrates, the simple need for the ability to reassign a task creates a lot of scenarios that a human-centric BPM system must be able to handle. Otherwise, users will find that automation becomes an impediment rather than a benefit.

5. Escalations

Human-centric processes must have robust escalation capability since there are many contributors to delays that can sidetrack the completion of a case, or cause it to fall through the cracks. A BPM system designed for such processes must offer a variety of mechanisms to trigger escalations:

- i. Each step should have a completion time and a grace period. This time can either be absolute or relative. Advanced systems provide the capability to have the time computed and changed dynamically so that it can be optimized for each incident of the process.
- ii. The process itself must have a completion time that can trigger escalations or notifications.
- iii. At the expiration of the completion time and the grace period, the system should be able to generate useful alerts such as context sensitive e-mail messages.
- iv. The system should provide the capability of triggering rules when the completion time or grace period has expired. The actions associated with these rules should enable the process designer to activate other steps or abort steps based on the rules.
- v. The BPM system should provide a mechanism to automatically assign the task in a round robin fashion to other members of a group if a member is unable to perform it in a timely fashion.

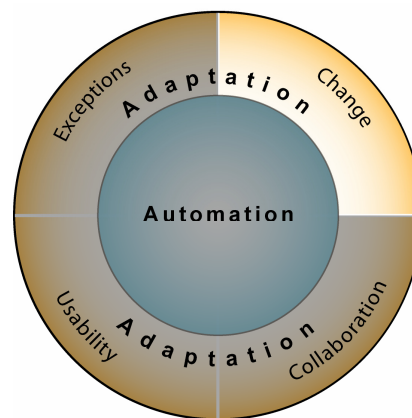
Few, if any, of these escalation capabilities are required for system-centric processes.

Facilitating Change

Change is a constant in the modern organization. People get promoted, change responsibilities, and leave the company. New employees come on-board and companies reorganize. Work processes change as well based on competitive pressures, re-engineering efforts and new compliance requirements. When change impacts core processes, an organization must have the ability to adapt quickly or risk having processes that are out of date and force a return to inefficient, undocumented processes or manual work-arounds. This section provides a set of out-of-the-box capabilities that human-centric BPM systems should have in order to facilitate process change.

Change Facilitation Requirements

1. Role-Based Routing
2. Routing to Work Queues
3. Object Libraries
4. Adaptive Discovery and Rapid Rule Change
5. Multiple Process Versions



1. Role-Based Routing

This is the ability to route a task to a job function instead of an individual. If individuals change job functions, which they do frequently, the process map and routing rules do not have to change. Advanced human-centric BPM systems provide this feature without any programming and offer sophisticated capabilities to define roles and groups through the use of a graphical organization chart. Additionally, it is important to maintain organizational hierarchy information so that process steps and can be appropriately re-routed when roles or responsibilities change or when escalations are required.

2. Routing to Work Queues

The use of task queues or a “shared in-box” is common in many businesses so that work can be shared. A human-centric BPM system offers the ability to declare a task queue. Instead of sending tasks to an individual, they are sent to a queue. Individuals at the receiving end of the queue can request tasks when they are free to perform them. This feature is important for task management where multiple users perform the same tasks, such as purchasing. Changes to the members of the group that receive the task do not result in changes to the business process.

3. Object Libraries

A change in the business environment usually requires changing many steps of a process, and in some cases, many different processes. This happens most often when the components of a user interface are changed. Organizations are used to providing standard templates for forms, documents and web sites and these templates are applied across the company. When the template is changed all the forms, documents and web sites have to be updated and the cost is high. The same challenge exists with BPM solutions.

The best way to make process updates to forms, documents and rules is to apply the commonly used concept of “object oriented design” to BPM. Instead of building the process as one entity, object oriented design calls for breaking it down into well-defend components saved in a shared library, and using these components to build the process. There are two major advantages of this approach. First, the components which perform a specific function can be re-used in other places in a process or across processes. Secondly, when the function performed by the function is changed, one can make the change only at one place and not in all the places where it is used. This makes it much easier not only to develop processes, but also to change them.

The primary candidates for the use of object oriented design and object libraries in human-centric BPM systems are as follows:

- i. Form Object Libraries: This capability enables the user to design form UI components as individual objects will well defined behaviors and save them in a library. These objects can then be plugged into various

steps of the process and re-used. When the UI has to be changed, the change can be applied only to the object in the library, and all the places where it is used in the process can be upgraded automatically. Form object libraries greatly ease change of user interfaces which is very common in business processes.

- ii. Shared Rules: In many cases, the rules that are used in the process derive from a common rule. For example, a company may have the definition of a Gold Customer as being someone who has bought more than \$50K in the past 12 months. This rule is used in many processes or steps of processes to determine Gold Customers and give them special privileges and incentives. Other rules may be based on this rule. Instead of defining the rule in every place it is used, Shared Rules allow the definition at one place and a reference to the rule at every other place it is used. Consequently, whenever the definition of a Gold Customer is changed, the rule has to be changed at one place and will automatically apply to all other places.
- iii. Sub Processes: It is often necessary to perform the same set of tasks in different processes. One can either repeat the tasks in all the processes, or design the repetitive tasks as sub-processes and save and change them as independent entities that can be used in many processes simply by dragging the sub-processes into the map. Doing the latter will ensure that when a sub-process is changed, all the processes that use it will change automatically.

As can be seen, the use of object libraries can not only ease the development of processes by enabling use, but also greatly simplify the adoption of change.

4. Adaptive Discovery & Rapid Rule Change

Business rules are the most likely component of a process to require change. Furthermore, when business rules do change it is generally costly and time consuming to change the processes that are impacted by the change in the rules. BPM systems need some key capabilities for coping with business rule changes:

- i. Extracting Rules from Processes: When rules are embedded in process maps and process logic, it requires significant time, effort, and in most cases IT programming to make even simple rules changes. Human-centric BPM systems should extract rules from the process and place them in a separate rules repository that makes them readily accessible, thus facilitating change and adaptation. More importantly, this external rules engine must be tightly and seamlessly integrated with the rest of the BPM system.

- ii. Graphical Rules Editor: To make it easier for business analysts to make changes, BPM system should provide an easy to use graphical user interface that enables the rules to be updated in minutes using simple logic skills and a drag-and-drop interface, without requiring any programming skills. The user interface should also provide the means to test and document the rules.
- iii. Detection of Need for New Rules: In a dynamic business environment, changes occur that can have a significant impact on a live process. Frequently, an undefined scenario can occur where a person, role, rule, or step is unknown for the process. When such an event occurs in most BPM systems, the system does not know what to do and the process incident either gets lost in the system or stalls the system. A BPM system should have the smarts built-in that senses the need to define new rules so the scenario can be handled and the system can become smarter.
- iv. Need for New Rules Notifications: In addition to sensing the need for new rules, a BPM system should be able to send a proactive notification to the appropriate process owner(s) so they are immediately notified of an undefined scenario and can take action to correct it. The process owner can analyze the status of the process instance that has generated the notification, the context information, the path the process has taken so far, and the rules that are currently defined. They can then define, test and document new rules to handle the change and publish them in the rules repository. The BPM system can then understand how to handle the change and can process it automatically in the future based on the rules defined by the expert.

5. Multiple Process Versions

Business processes change very often because of numerous factors. Every time the business process changes it is likely to generate a new version of the automated process unless more than one change is consolidated into a single version. The necessity to manage change means that a BPM system must have a robust ability to handle and manage multiple versions of the same process because multiple versions of the same process can be running at the same time.

When a new process version is installed, the systems must provide much flexibility on how to apply the change to incidents that are already in progress. For example, in some cases, the new process version should be applied only to new process incidents and leave incidents that are already in progress with the versions they were started with. In other cases, the new process version should be applied to all incidents including those that are already in progress. In yet other cases, the process administrator may want to upgrade incidents started with certain versions with the new versions, and leave incidents started with other versions as they are. Finally, after a new version is applied, the process administrator must have the

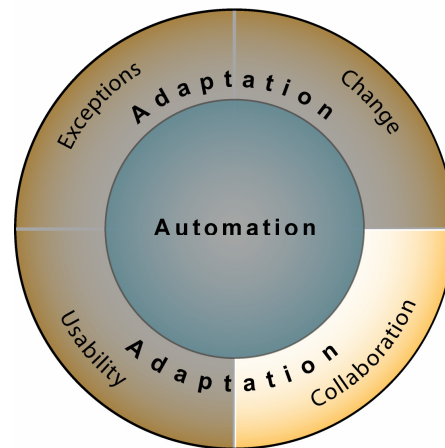
flexibility to rollback to the previous version. Like many other human-centric features, managing different versions of a process looks simple on the surface, but is very complex.

Supporting Collaboration

In human-centric business processes tasks are performed by people who work with others to make decisions and move work forward. For workers in a knowledge economy, it is important to consult, confer, delegate, monitor and interact with others while performing these tasks. Human-centric BPM must support this natural and important interaction between people in the organization because the lack of collaboration will result in the loss of productivity. Collaboration is also an important ingredient for learning. This section highlights some of these important human-centric collaboration requirements of BPM.

Collaboration Requirements

1. Conferring on Tasks
2. Graphical Status Monitoring
3. Queues for Workload Sharing
4. “Sticky Notes” & Memos
5. Managing User Views



1. Conferring on Tasks

Participants in a process often need to ask co-workers or managers for advice on a task they have to perform. BPM systems therefore should provide the capability for users to send a task from their inbox to another person with questions attached. The recipient should be able review the task, attach comments, and send it back to the owner who can then decide how to complete it. Without the ability to confer users will bypass the BPM system and resort to the old paper ways of consulting with their colleagues. This will not only reduce productivity, but the users will also be frustrated by the constraints imposed by the system and less likely to adopt it for other processes.

2. Graphical Status Monitoring

To facilitate delegation and oversight in a collaborative environment, a BPM system must provide a graphical and tabular means of checking the status of process incidents. This capability is a significant time-saver and provides visibility about the exact status of things. By providing status information at the fingertips of users, it eliminates much telephone and e-mail tag as people try to find where things are in

the process. It provides control of information in the hands of the users and fosters a self-service culture.

3. Queues for Workload Sharing

For many types of processes there is often a team assigned to perform the same or similar tasks in order to share the workload and expedite the processing. To support this work pattern, BPM systems should provide queues that enable team members to pick work items from the queue and perform the task. A BPM system should allow users to view the contents of a queue and to pull a selected task from the queue. The view shows all tasks in all queues for which the user is listed as a recipient. Blind queues should also be provided where the users cannot select the task, but simply gets the next work item in the queue based in first-in, first-out priority.

4. Sticky Notes and Memos

“Sticky notes” are a trademark of manual business processes. They are used for attaching small notes and reminders on files and documents as they are routed. A BPM system should provide the capability that at any step in the workflow a user can add an ad hoc memo in a simple memo pad that is part of each form. Each memo includes the user name and the date/time stamp. As the process moves forward or backward, the memos at each step are linked together in the memo pad to give a running history of comments. Participants in the process should be able to view the comments of others, similar to how sticky notes are used effectively with paper files and forms.

5. Managing User Views

Many groups of users with different skills and needs participate in human-centric processes. Some are power users who like advanced features and the ability to configure the interface themselves. Others may be computer novices who simply want the most basic interface that will enable them to do their work as quickly as possible and nothing else. In addition, the user interface should be optimized to show the work in an organized fashion that makes sense for each user or group. The BPM system should allow an administrator with access rights to pre-define client views for individual users or groups of users from a central location. The views can control not only what the users can see, but also what actions they can perform. When a user logs-in to a BPM client, the client views for the user are automatically downloaded from the server and the client is configured accordingly. The client view can also control whether or not the user is allowed to change the views. The ability to define Client Views for groups means that an administrator can create appropriate views for Engineers, Sales, Clerks, or Managers. This is a powerful capability for managing the user interface of participants and greatly reduces the Total Cost of Ownership (TCO) and provides security by locking down the client interface.

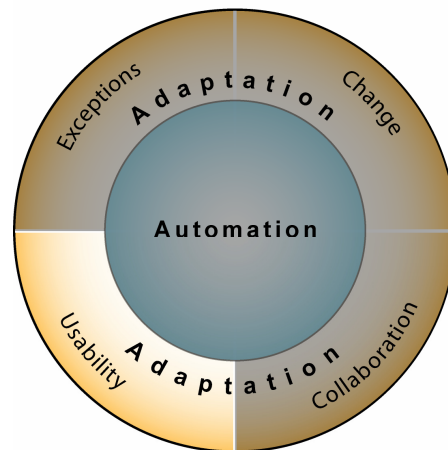
Providing Usability

When cars were first introduced to the public they were an innovative means of transportation and little emphasis was placed on comfort features. However, as the

automobile technology evolved, wider use of cars was driven by the introduction of comfort features, beginning with capabilities such as; self-starters, windshield wipers, turn indicators and automatic gears. Now, as the car industry has evolved even further, few people put as much emphasis on the engine as they do on comfort features such as ergonomic seats, electric windows and mirrors with memory, navigation systems, and entertainment systems. As BPM systems evolve they must also provide comfort features that provide a natural and intuitive way for people to do their work. Only then will BPM be widely adopted. This section provides five examples of human-centric requirements that will facilitate adoption, while fully recognizing there are numerous other usability features that are equally important.

Usability Requirements

1. Customized Views & Portals
2. Custom Terminology
3. Heads-up/Heads-down
4. Form Templates
5. Customer Help for Users



1. Customized Views & Portals

Finding an easy and natural way to access a task list is one of the most basic requirements of a BPM system. Workers should be able to perform their tasks from a BPM client or a company portal and many products provide this basic capability. However, people with a lot of tasks need to be able to organize and sort their list so that they can find them readily. In addition, they need to change the information they show in the task list depending on the type of task it is. This is not dissimilar to folders in an e-mail client but needs much more flexibility. Users need to be able to sort the task in each view or folder based on different criteria. They also need to have access to different client functions in different views so that they can work more effectively. A truly human-centric BPM suite must provide the user with the ability to define different views to categorize their tasks and each view can also be customized for displaying the tasks in various orders and the actions that are most appropriate for each category of tasks. The definition of these custom views is saved in a server so that it is independent of the computer that the user logs-in.

2. Custom Terminology

BPM systems are used in different industries. Each industry or market segment has its own terminology that companies in these industries use. In many cases, different

departments in the same company use different terminology. For example, in the legal industry the word “case” is commonly used for an instance of a process, whereas the equivalent word in insurance is “claim”, in purchasing it is “order”, in a help desk it is “ticket number”, etc. From a workflow perspective they all refer to the same thing. However, the word “claim” would be alien to a worker in a help desk. Likewise, there are many other words that have unique meaning in each industry or department, but mean the same thing from a process perspective. A human-centric BPM system should provide the means of allowing each process and client view to have its own terminology so that people participating in the process will readily understand it without being forced to learn a new terminology. This powerful feature means that not only can the terminology be different in different companies, but also different in different department if there is a user benefit.

3. Heads-up/Heads-down Usage

Users do their work in two different ways. In the “heads-up” mode, a user is not doing the same task again and again. In this mode the user will typically get an electronic notification that they have a new task to do. When they decide to do the task they will go to their task list, select a task, and perform it and then go on to do other tasks or do something else. Many tasks that knowledge workers perform fall into the “heads-up” category such as performance reviews, change orders, budgets, and more.

In the “heads-down” mode, the user is doing the same task again and again. Examples of “heads-down” users would include a claims processor or a help desk person who perform many of the same types of tasks throughout the day. For these users, having to select tasks from a task list would become a bottleneck very quickly. What they need is the ability for the next task in their queue to automatically be displayed as soon as they finish a task. In this mode they can quickly move from one task to the next without wasting time going back and forth to a task list. Since BPM is used by many different people, the BPM client needs to be able to support both the head-up as well as the heads-down mode.

4. Form Templates

Business processes are often used to perform repetitive tasks. For example, a budgeting manager may start a process every week to capture data about expenditures in various categories and distribute it to various departments for reconciling variances. Or, a maintenance manger may start a purchase order process every other week to purchase routing maintenance supplies. For these repetitive and frequently launched processes there is often a lot of commonality in the data that is used to initiate with only some small variation for each instance. Most BPM systems will force the user to type the data again and again every time they want to initiate a new incident. A human-centric BPM system allows the use to enter the data once and then save it as a “form template” with a specific name such as “Weekly Supplies Purchase” or “Budget Reconciliation”. When a new incident has to be started, the

user can simply select and open one of these templates, make the changes necessary to the pre-filled data and quickly start a new incident without having to type everything from scratch.

5. Custom Help for Users

Business processes can range in scope from small process with only a few steps to large enterprise process maps with many steps. Well-documented processes help new users quickly familiarize themselves with the process flow, understand what they have to do, and facilitate ISO certification. A human-centric BPM system should provide process and step-level help in the client. Process level help provides information about the processes as a whole, and step-level help provides help about a specific step in the process. Process designers should be able to specify custom HTML help files that have as much detail as needed for their user audience. Additionally, help can be environment-sensitive, such as having the ability to change language based on the regional settings of the computer.

Conclusion

Human-centric processes are fundamentally different than system-centric processes even though at first blush they can look strikingly similar. They involve knowledge workers, and the involvement of knowledge workers will only increase as more and more of the grunt work is taken over by systems. For a BPM system to be successful and widely used, it must provide a rich set of features that support automation and adaptation of human-centric processes. These features must reflect the complexities of the natural way people work with each other.

On an individual basis, none of these features has great significance and the absence of any given feature can be easily explained away. However, collectively these capabilities make the difference between BPM that is flexible, usable, and natural compared to a system that is rigid and treats people as automatons. People will bypass and eventually reject any system that does not help them perform work in a natural way. Instead, they will return to the more comfortable, old manual ways even if they are inefficient. The challenge for BPM today is not to simply “automate” processes, but to deliver the human-centric capabilities people need in order to fully embrace the new, more efficient work processes. When BPM systems deliver on these needs BPM close the gap between its high potential and its relatively modest adoption to-date.

References:

1: “Gartner’s Position on Business Process Management 2006”, Gartner Research ID Number G00136533