

Modeling Human Interactions: Part 1

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*Human Interaction Management (HIM) is a radical new business theory describing **how we really work**, and **how we can be helped to work better**. HIM sets the stage for a step change in business practice, by applying process principles to revolutionize the management of collaborative work.*

These principles require a new approach to process description, management, support and analysis. However well suited current techniques are to dealing with mechanistic and repetitive activities, they are very poorly suited to the dynamic, innovative, interactive behavior typical of humans. People are not programs, and their behavior cannot be properly described, controlled or facilitated using techniques such as BPEL, BPMN or the UML.

HIM is the theory required to deal with humanistic processes. It permits dramatic cost savings to be achieved across the board, in any organization no matter its type, by providing a new approach to such everyday activities as work assignment, project management and meeting organization.

*In a previous article for BP Trends, “Managing Process Change? Easy as Pi (and Petri)” we looked at some of the high-level management concepts in Human Interaction Management, and showed how both management practices and low-level work activities can be given a **formal underpinning**—a formal underpinning that unifies modern best-of-breed mathematical approaches to process analysis. In the first part of this article we look at the fundamental building block of process modeling in HIM—the Role concept. In the second and concluding part we will introduce a key technique in HIM—an enhanced version of the long-established graphical notation known as **Role Activity Diagramming (RAD)**—show why Role Activity Diagrams are appropriate for the description of human activity, and demonstrate how they can be used in seamless conjunction with conventional process modeling via techniques such as the UML to complete the process picture in the enterprise.*

Jazz is there and gone. It happens. You have to be present for it. That simple.

—Keith Jarrett

All those working with business processes know that the fundamental problem is that of *change*. There is just too much of it for convenience. Like it or not, change happens—all the time, all over the place.

Strategies and policies change, and such high-level change is expensive to implement—however, it happens relatively infrequently. *Structural changes* to the organization are more frequent, but can be anticipated, prepared for, budgeted and planned. *Staff movement* occurs even more often, but we like to think we can manage this kind of change—even if it is not generally handled as well as we intend, and problems occur all the way down the line as a result, sometimes not manifesting themselves until quite some time after the event. But *process change*—this is the real nightmare. Not only does it happen all the time, for any number of reasons, but it happens on a case by case basis, as well in general. And there are no generally accepted methods for dealing

with it.

In other words, we may spend large amounts of time and money preparing a set of process descriptions, and even use these as the basis for computerized process support systems, only to find that the reality of working life has changed, and is now a poor match to the processes thus expressed. There are two fundamental reasons that the processes change.

First, a particular process description is no longer right at all—since the time at which it was drawn up, the business has moved on and now does things differently. For example, the process model describing how purchases over a certain amount require approval from a senior manager, but this has been holding up projects, so in practice all project managers just assume approval will be given, and the requisition forms are signed retroactively.

Second, people may carry out a particular process in different ways, only some of which match the process description. For example, the process model describing how purchases over a certain amount require approval from a senior manager, but this has been holding up large projects, so in practice certain project managers just assume approval will be given, and the requisition forms are signed retroactively.

Note the slight difference in wording! In the second case, it is only for *large* projects, and *certain* project managers, that retrospective approval will be given. The change is on a case-by-case basis, rather than across the board. This latter practice, in particular, may never have been officially enshrined in company procedures, just adopted by all concerned as the best and quickest way to get the work done. It is quite possible that the business analysts who did the process modeling were never even informed that such things happen.

Some executives may see the removal of such workarounds as a benefit of computerized process support. Whether or not this view has merit, it just doesn't work. People will always find a way to beat the system. Particularly if a group of staff members are frustrated with a process support system that doesn't let them work in the way they wish, they will just work round it—exchanging login details, paying for project supplies as out-of-pocket expenses, ordering on account from suppliers, and so on.

The only people who believe that process systems have the ability to control people effectively are those who never use them. There is usually an implicit conspiracy of silence among the users of such enterprise software, developed in order to protect their hard-won ability to make the systems do what they want. However, anyone who has implemented enterprise systems, and taken the trouble to look at how they are actually used, knows that users see the constraints enforced by computers as at best an annoyance, and at worst a challenge. Either way, they will bypass or misuse the system in order to get their work done as efficiently as possible—because what matters to individuals is not the unalloyed purity of the systems they use, but the results they achieve in their daily work, that have a direct effect on their appraisal outcomes, promotion chances, and salary levels.

Hence, if we are to find an effective way of understanding, modeling, managing and supporting human-driven processes, we need to work with people, not impose structures on them that are viewed as hindering the best way to get on with things. Even if you are prepared to ignore basic human psychology, to do anything else aside from accommodating how people actually get work done is just a waste of time.

At this point, some readers with executive responsibilities may feel distinctly disinclined to read

further! Is anarchy being advocated? Power to the people? A Bolshevik revolution of corporate workers? How are organizations to be controlled if their staff are able to do whatever they feel like?

The response to this lies in understanding *what needs to remain constant about a process*, for purposes of control, and *what needs to change in operation*, in order to empower people to do their jobs properly. What we are saying is that existing enterprise systems, techniques, and tools have focused to date on the wrong level of process, and attempted to constrain human activities at too detailed a level.

In particular, *task ordering* can't be counted on as a stable component of process structure—in *any* process centered on humans and their interaction. Moreover, we go further, and say that not even the individual tasks themselves are stable—they are dispensed with or added to based on what people perceive to be necessary. In fact, a person's ability to make these kinds of judgments is a major reason that the person was chosen for his or her position in the first place—it stems from an individual's deep understanding of the work, and a commitment to getting it done properly and on time.

However, this is different from saying that people should be entitled to decide for themselves what the *nature and purpose* of their work is. It is one thing to decide for yourself how to go about doing your work, and quite another to define the work itself. Defining the work itself involves determining the *responsibilities* of the workers—the duties they must uphold—and the *goals* they must achieve—their aims and targets. Giving responsibilities and setting goals are executive activities, carried out at a more senior level of authority.

Enter the Role concept. Goals and responsibilities are the fundamental aspects of a Role as process participant. In fact, HIM provides a very rich concept of Role, including such key features as a *private information space* including references to other process objects, and the potential *ability to manipulate the process itself*. However, goals and responsibilities are effectively what *defines* the Role. Hence, our claim here boils down to the following:

- It is an executive matter to determine the Roles in a process, and assign them to appropriate people; but
- It is for the Users of each Role to decide how best to carry out the work involved—something that may vary from person to person, and from case to case.

Let's take as an example a hypothetical investigation by a government agency into cost reduction, featuring Roles including *Project Manager*, *Business Analyst* and *Accountant*. The executive responsible for the process as a whole—the person who instigated it and funded it, a senior civil servant perhaps—sees his or her self as *in charge* of the process, as opposed to *managing* it on a day-to-day basis. The executive neither needs nor wishes day-to-day involvement with every operational detail. What the executive needs is to know that the work will be carried out in a certain way—e.g., according to an approved project management methodology such as PRINCE 2¹—or that the work will deliver results in a specific format requested by, let's say, a politician.

In particular, the executive needs to ensure certain specific things. They will engage some, if not all, of the people who will work on the process—almost certainly the project manager, and perhaps others such as analysts and accountants—and be concerned that:

- *The people involved will perform certain Roles, each with its own goals and*

responsibilities. In order to feel confident of the outcome of the process, an executive sponsor needs to know that people of the right caliber, with the right skills, will be involved, and have agreed to carry out specific duties.

- *The eventual deliverables will meet certain preconditions*. It is unlikely that every detail of the deliverable will be specified at an executive level, although executives may need to know that the deliverable will be in a certain format, or contain specific key sections. However, until the process itself has been carried out, it is not appropriate to specify in precise detail the structure of the documents or other deliverables concerned—defining the scope of the problem is a major part of the work of the process itself, and the eventual deliverables will only mirror the understanding developed along the way.
- *The process participants will interact in a way to ensure that their individual contributions combine to produce overall deliverables of the highest possible quality*. Although project managers can act to *facilitate* these interactions, they will not necessarily be empowered to *specify* how often each person will attend meetings, and what exactly each participant will bring to the table. Such details are often determined by existing, wider-reaching agreements, with, for example, external consultancy organizations. Project management is often concerned more with negotiation and support than with the authority necessary to ensure that the participants in a process are willing to work together in appropriate ways.

In other words, the executive responsible for a process does need to ensure certain things about a process, but none of these concerns are directly task-related. They concern Roles, deliverables and interactions: who will do the work, the general nature of what the workers will produce, and how they will co-operate in doing so. Joining the process as a participant amounts to agreeing that you will contribute specific parts of the overall work.

This way of thinking about work provides a more reassuring approach to human-driven process implementation, because it leaves executives with a form of control that they seek—and removes from them a level of detail they shouldn't have to worry about.

Human Interaction Management (HIM) builds on these insights to provide a comprehensive model of process management—an approach that enables not only managers, but also workers to *focus on the work that is rightly their own province*. If you are micro-managing your workers down to the level of monitoring each task they carry out, and asking why they have done everything the way they have, you may as well do the work yourself—saving everyone time in the long run, and certainly causing less annoyance. Executives should be concerned with a higher level of process, one that remains more or less constant because it is part of a wider organizational picture. The principles of HIM implement this *separation of control* approach to human activity.

In general, HIM as a whole is a multi-layered theory, describing process patterns that can be used to understand human working activity, providing modelling tools with which to capture them, techniques with which to manage them, and technology with which to support them. However, at the heart of Human Interaction Management (HIM) there is always the Role concept—the recognition that a Role is not simply a label applied to a group of activities, but a rich, multi-layered representation of a process participant including goals, responsibilities, varied private information resources and so on. All the principles and methods of HIM depend on a rich Role concept as the fundamental means of process description.

Unfortunately, however, conventional process modeling techniques universally deal with Roles in

a very limited way—simply as a way to group activities. Not only is this insufficient for our purposes when modeling human interactions, but it falls down completely as a basis for the management of the continual process change that is a feature of human collaboration. A large part of what humans do when they work together is agree on *what to do next*—hence we need a process modeling technique that can be brought into play as a means of facilitating and implementing such agreements. We need a process modeling technique that:

- Places Roles center stage, and gives them a rich semantics
- Is simple and intuitive enough for non-technical people to use
- Has a natural graphical representation.

In the next part of this article, we will introduce such a graphical technique—a reinvented form of the long-established Role Activity Diagram notation—and show how it can be used in conjunction with conventional process modeling to complete the process picture in the enterprise.

¹ A project management methodology originally developed by UK government, which has also been found useful in the commercial world—see the official PRINCE 2 Web site <http://www.ogc.gov.uk/prince/>

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