



Extreme Competition

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www.mkpress.com

The Greatest Innovation Since BPM

No, this wasn't my idea for the title of this column; I borrowed it from the award-winning CIO Michael Hugos' new book on business agility, *The Greatest Innovation Since the Assembly Line* (www.mkpress.com). Thanks Mike: The idea fits so well in what I hope to articulate about the current state of BPM, and where we need to go – beyond what's now so loosely called BPM. Before I begin, let's turn to the UK business-tech magazine, *Information Age*, to establish some context:

Riding the Fourth Wave

A new generation of people-centric collaborative information management tools is set to produce the first fundamental advances in personal productivity since the arrival of the spreadsheet. Three years ago in their book *Business Process Management: The Third Wave*, Howard Smith and Peter Fingar wrote what has since come to be regarded as a manifesto for radical business change based on business process management (BPM) technology. Now though, says Fingar, the time is already right to prepare for a new, and potentially even more radical, fourth wave of business automation – human interaction management systems (HIMS).

According to Fingar, even though much of what he and Smith described in *The Third Wave* has still to be realised, among its most sophisticated early adopters, BPM has already eliminated most of the back-end system bottlenecks that have traditionally impeded business development.

For these organisations, it is time to move on: "The real future, if you look at business process management – the key part of it that has not been fully addressed – is human to human interaction," he says.

To some extent, this assertion is already recognised in the current industry vogue for collaborative, Internet-based personal productivity tools such as Google's Writely word processor and spreadsheet products. Unlike first generation Microsoft Office-like applications, such so-called Office 2.0 products are designed from the ground up to distribute and share documents. However, HIMS proponents believe that these advances do not really solve human interactivity problems, and may actually be making them far worse [e.g., with *infogluf*].

What Howard Smith and I wrote about didn't in any way ignore human interaction management. The people components of a business process were given equal status to machine components in our definition of a business process: "A *business process is the complete and dynamically coordinated set of collaborative and transactional activities that deliver value to customers.*" But the IT industry went its own way, by and large focusing on the "transactional activities," relegating the collaborative part to be trapped in the world of traditional workflow, with BPM lipstick.

BPM vendors with a strong workflow heritage began labeling their BPM suites as “people-oriented.” Meanwhile, other vendors competed in the space known as “integration-centric BPM” – hmm, a new term for next-generation EAI?

Such labeling is a red herring, for the way humans interact among themselves to get work done is far different from integration-centric BPM or the predefined notion of workflow, even with complex nesting and chaining logic built in. These are primarily notions of system-to-human (S-2-H) systems, where people are treated as cogs in an assembly line, dynamic as it may be, shoving tasks from station to station. The chairman of the WfMC, Jon Pyke, noted:

Supposing you were playing golf, using the BPM approach would be like hitting a hole in one every time you tee off. Impressive – 18 shots, and a round finished in 25 minutes.

But, as we all know, the reality is somewhat different (well, my golf is different) – there’s a lot that happens between teeing off and finishing a hole. Ideally, about four shots (think nodes in a process) – but you have to deal with the unexpected even though you know the unexpected is very likely; sand traps, water hazards, lost balls, free drops, collaboration with fellow players, unexpected consultation with the referee – and so it goes. Then there are 17 more holes to do – the result is an intricate and complex process with 18 targets but about 72 operations.

Like the game of golf, when it comes to the *creative* and *innovative* forms of business processes that reside in the domain of human-to-human interactions, the processes cannot be predefined or “flowcharted” in advance. In short, such collaborative human processes are “organic.” That is to say, they represent “emergent processes” that change not only their state, but also their structure as they are born, and then grow and evolve. Such processes deal with new business initiatives, new programs, new marketing campaigns, new product development, case management, research, and, all too often, unexpected crises. These are not the kind of processes you call in IT to analyze, model and code – and get back to you in 18 months with a solution.

In the messy real world of business, people communicate, research, think, consult, negotiate, and ultimately commit to the next steps that are unknowable at the outset. As new commitments are made, the process continues, often involving new participants playing new roles as the process expands. The participants usually cross organization and company boundaries – functional departments, customers, regulatory agencies, suppliers, suppliers’ suppliers, design firms, market research firms, channel partners, and so on. Unlike the internal command and control within a single company, one company cannot command another company to do this or do that.

Instead, the parties must negotiate and commit to next steps, and track the many agreements made along the way. Such human collaboration shifts the requirements for IT support from “information processing” where data are tracked, to “commitment processing” where agreements are tracked. Does your EPR or BPM system do that?

Human Communication with Implicit Collaboration

Let’s take a brief look at the tools people use to carry out knowledge work, decision-making, and collaboration. It’s not a pretty picture, but we need to grasp the diverse and complex nature of how humans interact to accomplish their goals, as shown in Figure 1.

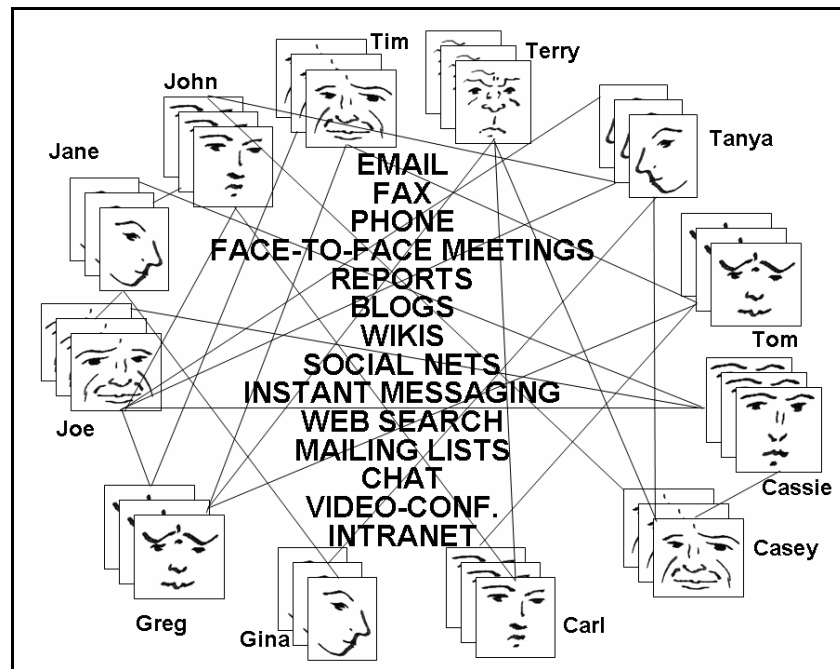


Figure 1. Communication With "Implied" Collaboration
(A Real Mess)

Portrayed in Figure 1 are people from four companies:

Company J (Joe, Jane, and John),

Company T (Tim, Terry, Tanya, and Tom),

Company G (Greg and Gina) and

Company C (Carl, Casey, and Cassie).

Company J wants to develop a new financial service to provide a new form of health insurance that allows consumers to utilize the growing number of low-cost, high-quality health providers (hospitals, surgeons, assisted living facilities, and nursing homes) in the emerging Globalized Health Care industry. Joe is the CEO, Jane is the V.P. of Business Development, and John is an M.D. with international health expertise.

Company T is a health services company representing transnational hospitals and related organizations based in India, Thailand, and Israel. Tim is V. P. of Business Development, Terry is V.P. of Quality and Government Compliance, Tanya is Research Director, and Tom is V.P of Finance.

Company C is a highly specialized broker responsible for channel development. Cassie is the CEO and Casey is V.P of Business Development.

Company G is an international law firm located in The Hague that specializes in international medicine regulations and the intricacies of related global trade agreements.

Somewhere in all their communications, and all their "Web 2.0" endeavors, there must be collaboration taking place, right?

Of course there is, but it's "implicit collaboration." Keeping track of what's really going on is all in their heads, each head having its own assessment of what's going on at any particular time.

Yet there is no real technology support to structure their collaborations. Quite the contrary, the participants suffer from information overload, also known as infoglut:

Who got "cc:'ed" on the latest version of the risk assessment projections? Who have or have not completed their latest critical path tasks? Which experts do we now need to bring to the table? Was the contract signed with the Thai government? Do we have a business plan for acquiring and managing the hospital in Belize? Now that the contract has been signed for managing the hospital in Panama City, what are the next steps, and who and what are needed to move forward? Where's the latest version of the lobby layout? Have the investors committed to the Belize project? What steps do we still need to complete for certifying our Indian medical staff in Costa Rica? Did we get responses to our RFP from the pharmaceutical companies in India?

Such is the real world of new business initiatives, new marketing campaigns, new joint ventures, mergers and acquisitions, research, and business innovations in general. It's a world of human interactions, which, to date, have little technological support that truly provides "human interaction management."

So, what's needed?

Explicit Collaboration Via Human Interaction Management Systems

If technology is to be used to support human interactions, collaboration can no longer be *implicit*. It must be *explicit* if it is to be brought under management control. For this to happen, five basic principles are needed:

1. **Connection visibility:** To work with people, you need to know who they are, what they can do, and what their responsibilities are as opposed to yours.
2. **Structured messaging:** If people are to manage their interactions with others better, their communications must be structured and goal-directed.
3. **Support for knowledge work:** Organizations must learn to manage the time and mental effort their staff invests in researching, comparing, considering, deciding, and generally turning information into knowledge and ideas.
4. **Supportive rather than prescriptive activity management:** Humans do not sequence their activities in the manner of a procedural computer program. There is always structure to human work, sometimes less and sometime more, but it is not the same kind of structure that you get in a flowchart.
5. **Processes that change processes:** Human activities are often concerned with solving problems, or making something happen. Such activities routinely start in the same fashion – by establishing a way of proceeding. Before you can design your new widget, or develop your marketing plan, you need to work out how you are going to do so – which methodology to use, which tools to use, which people should be consulted, and so on. In other words, process definition is an intrinsic part of the process itself. Further, this is not a one-time event – it happens continually throughout the life of the process. Human interaction management requires a major shift from "information processing" to "commitment processing," where participants negotiate and commit to next steps. The process itself is *emergent*, not predefined.

To achieve all this, a new kind of software system is required, one based on the six different kinds of "objects" defined by Human Interaction Management (HIM): Roles, Users, Interactions, Entities, States, and Activities. This column is not the place to discuss the nature of each HIM object type, but all six must be used as the fundamental basis of any system intended to properly support collaborative human work in the enterprise.

By implementing these principles in software, a human interaction management system can support human collaboration in a way that can effectively turn strategy into action, and provide the mechanisms for ensuring strategic, executive, and operational management control. All these forms of management control have direct ramifications for corporate and government compliance. Implementing these principles allows management participation in the process execution, including ongoing re-definition of the process itself, thereby ensuring maximum *agility* and *responsiveness*.

With support from a Human Interaction Management System (HIMS), an organization can provide new means to help people work better as they take on the constant stream of new business initiatives and human-centric tasks that make successful companies tick:

- ✓ new product development,
- ✓ promotions,
- ✓ special events,
- ✓ research,
- ✓ new marketing campaigns,
- ✓ customer self-service,
- ✓ case management,
- ✓ mergers and acquisitions,
- ✓ opening new global markets,
- ✓ complex sales proposals,
- ✓ management-level SOX compliance, ...
- ✓ all the projects people undertake to innovate, to grow the business, or
- ✓ to stave off competitive threats and deal with crises (you know, the real stuff of any business).

This is the stuff people do that allows companies to go from good to great. It's about going beyond efficiency and on to effectiveness, going beyond being a commodity player to becoming an innovator. It's about dealing with tacit information, not transactional data.

Figure 2 illustrates the use of an HIMS to support human work. Each of the participants, typically scattered across companies as we previously discussed, plays *multiple roles* in *multiple projects*. Such roles can vary from "responsibility" for a given project to simply "being informed" on other projects. The HIMS is used to add *structure* to collaborations, making them *explicit*. Collaborations can be structured around specific *goal-driven* projects or cases, but can also be used to add structure to ad-hoc collaboration, taming what is now "in-box hell." Just consider the "global CC: nightmare" wherein people just CC:/FWD: emails to each other randomly, rather than taking proper responsibility for sorting out issues. According to a BBC report in the UK, it's not unusual for office workers to spend as much as two hours a day, every day, sorting and reading all the email that pours into their in-boxes. Worse, that doesn't include the time they have to spend responding to it.

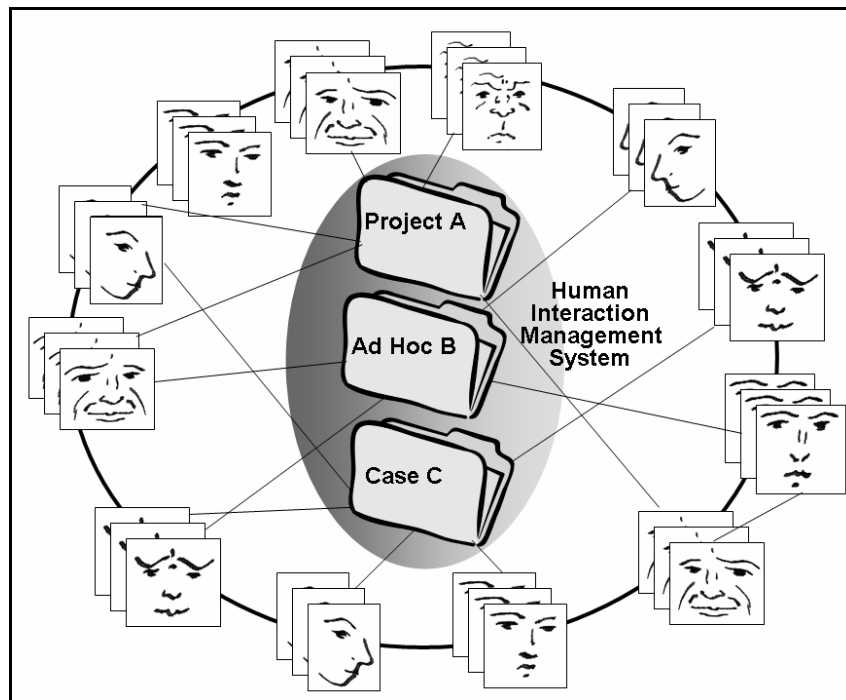


Figure 2. Explicit Collaboration Via a Human Interaction Management System

No, I haven't forgotten that today's companies are complex and depend on their IT systems. Thus we can now take Figure 2 and surround the people involved in human collaboration with the "background" IT systems that are embedded in most organizations, as shown in Figure 3. To many in a typical organization, they have to get their thinking and decision-making work done in the context of, and often while maintaining, a host of often disparate enterprise systems, as illustrated in Figure 3. Such is the case for, let's say, a sales manager who must do the real work of collaborating with customers, suppliers, and sales people, while also feeding and caring for the CRM machine. But because, as Forrester Research points out, 85% of all business processes involve people, and because human-driven processes have not been fully addressed in the majority of today's BPM systems, I simply started with people in this discussion. After all, as John Seely Brown once pointed out, "processes don't do work, people do."

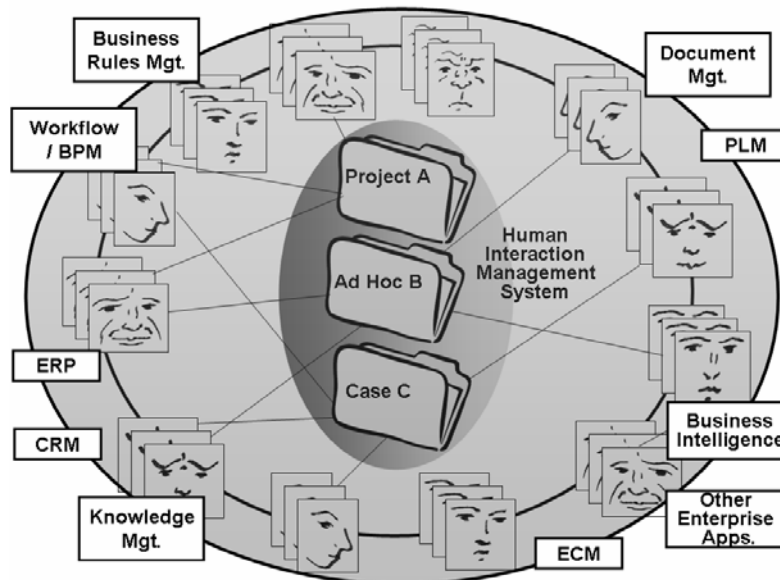


Figure 3. Modern Businesses Depend on Multiple and Disparate IT Systems

There are essentially two ways people are involved in business processes:

1. as cogs in a workflow where they are asked to “approve” or “not approve” predefined next-steps, or “do this task” or “post this transaction,” or “escalate this problem;” and
2. as knowledge workers and decision makers going where no routine, transactional process has gone before: not simply operating today’s business, but charting tomorrow’s course, or addressing major disruptions in the industry.

The first case, cogs in a workflow, is handled reasonably well at present by workflow systems – except, that is, for the 20% of *special cases* that actually consume 80% of your resources! This is of deep concern to telcos, for instance, who are struggling desperately to control the costs of resolving line faults that cannot be dealt with automatically and thus go to manual “case management” mode – costing some telcos millions of dollars.

In the second case, the knowledge worker/decision maker has little support whatsoever from workplace applications at present. What they need is a new kind of interface to their existing tools that allows automated integration of knowledge work with routine business processes handled by heritage workflow, BPM, and ERP systems.

Yes, people are a part of almost all processes, excepting straight through processes (STP) such as financial trade or other routine transactions. It’s the “non-routine” that drives competitive advantage, and that’s what human-driven business processes are all about. Indeed, shouldn’t this class of process be paramount in any business? After all, the routine, operational processes are commodities, and who wants to be a commodity player in today’s hypercompetitive global marketplace? Michael Hugos writes in his new book that companies should be “efficient enough,” but the real prize is responsiveness. Being responsive to changing market conditions, competitive threats, and new market opportunities is what successful business is all about. And, that’s all about people and how they collaborate to innovate.

We still need continuous process improvement via workflow and integration-style BPM, and many companies are just now coming to grips with these process-oriented IT systems. Service oriented architecture (SOA) has enabled great advances and is currently all the rage. But SOA, by itself, isn’t enough. BPM pioneer, Ismael Ghalimi, said it best, “BPM is SOA’s killer application, and SOA is BPM’s enabling infrastructure.” Human interaction management pioneer, Keith Harrison-Broninksi, takes that notion one giant step forward, “HIM is BPM’s killer application.” SOA is primarily in the domain of IT analysts. BPM is primarily in the domain of business analysts. HIM is

primarily in the domain of business people themselves, providing support for the way humans actually work and interact with one another.

Figure 4 ties together the two worlds of human interactions with the surrounding world of IT systems. The HIMS puts heritage IT systems in their proper place, for humans don't work together in isolation from their IT Systems (even though many wish they could). The HIMS is not a replacement for workflow/BPM any more than business rules management systems (BRMS) or a business intelligence systems (BI) are. They are orthogonal. They are complex systems in their own right, and in their own domains. But just as a BPM system can fuse disparate IT systems into end-to-end business processes (especially with the help of web services and SOA), the HIMS must have the capability to fuse workflow/BPM and other heritage systems into the "information base" that managers and knowledge workers use when they collaborate via human-driven processes.

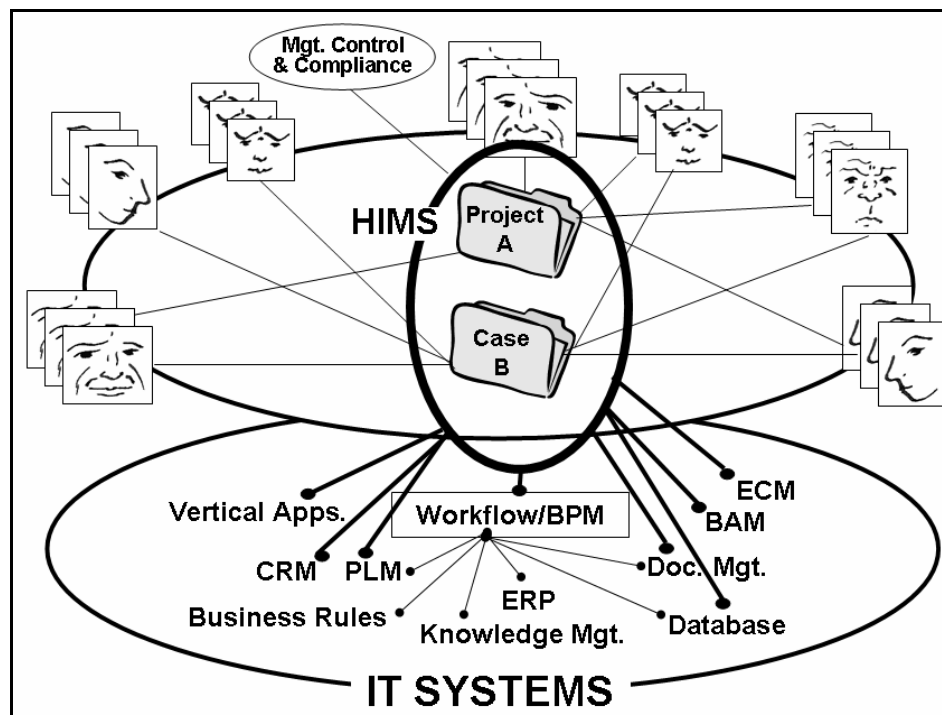


Figure 4. The Relationship Between HIMS and Heritage IT Systems

The HIMS can help keep non-routine work activities in context (telling everyone "what's going on") and can change the way executives, line managers, and high-value knowledge workers manage their work as they guide the business into the future. But for all this to come about, the design of an enterprise-class HIMS must incorporate the underlying computer and social sciences that reflect how humans actually interact together. They must have the underpinnings of

- ✓ negotiate-and-commit speech acts, so that agreements, not just information can be tracked, and so that human-driven processes can be redefined as they emerge/evolve over the lifetime of the process,
- ✓ role activity theory, where human interactions, not computer interactions, can best be modeled,
- ✓ distributed computing techniques to cope with multiple and dynamic asynchronous communication channels, allowing a given human-driven process to be redefined as participants in that process are dropped in or out,

- ✓ multi-agent systems, where collaborating software agents use their own unique business rules and knowledge sources,
- ✓ cognitive science models (such as REACT/AIM) that reflect how knowledge workers think and act,
- ✓ choreography methods for handling interactions with process participants, including stable, operational processes in heritage IT/BPM/Workflow systems,
- ✓ private information spaces, where versioning and shared access are under the control of the participants that own the information, work objects, and even processes, and
- ✓ other ingredients that make computer-supported collaborations reflect real-world human interactions?

Of course, business users of such systems should never see these underpinnings, just as business users of modern database systems don't see relational algebra. But they had better be there, else the HIMS will not be flexible enough for adaptive and dynamic collaborations in which the interaction patterns cannot be anticipated. Such collaborative processes include creative, innovative human activities such as research, design, and multi-party project/case management. The activity sequencing of these processes cannot be prescriptively imposed. Why? The contracts of interactions, deliverables, and business rules are continually renegotiated during the life of the process: emergent behavior, emergent processes. The HIMS pushes the envelope of the typical workflow/integration BPM approaches in managing these kinds of "impromptu" processes.

Putting it All Together

Today, there is a pressing need to come to grips with support for human interaction management for non-routine, knowledge-based workplace activities, and to address the desperation people feel when they are swamped by increasing demands and infoglut in today's workplace. In "Linking Insight to Action: The Next Big Goal," posted at *Intelligent Enterprise*, Doug Henschen reveals a real problem in business, "I've had a number of conversations in recent days around the theme of linking analysis to action. There's lots of frustration out there, understandably, because managers and executives increasingly have plenty of tools that spot problems – reports, alerts, dashboards, KPIs, scorecards, etc. – but they're not connected to levers that enable them to take action."

To reach for Doug's next big goal, we can turn to EDS's Janne Korhonen depiction of the evolution of process management, as shown in Figure 5, and relate that to how HIM can turn strategy into action:

- ✓ *Strategic Control*: the definition of aims and measures for each high-level process
- ✓ *Executive Control*: the definition of outline processes that include a mixture of Roles, Interactions, and Users
- ✓ *Management Control*: adapting the outline processes into a form for initial execution and later ongoing redefinition of the process, along with executive feedback (e.g., dashboards, statistical reports)
- ✓ *Agreements*: contract of interactions, deliverables, and business rules is continually renegotiated during the life of the process

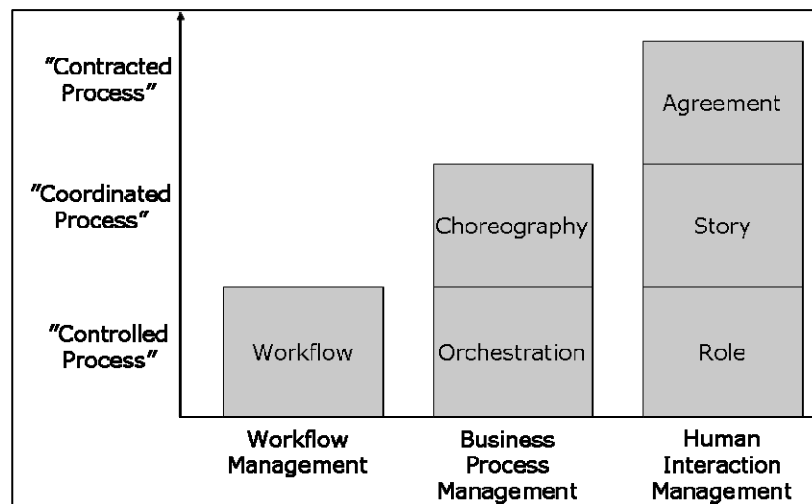


Figure 5. Evolution of Process Management

(Source: http://www.jannekorhonen.fi/blog/wp-content/BPM_Systemic_Perspective.pdf)

To paraphrase Admiral David Farragut, "Damn the flowcharts, full business speed ahead." Flowchart-based technologies treat work as steps in a routinized process, and hence people as cogs in a machine. Because such technologies don't "understand" knowledge work, they can only mimic its superficial appearance as a sequence of tasks. Tasks are but the tip of the knowledge-work iceberg.

It's time to take insight, innovation, and strategy into action. That's about people and dynamic human interactions, not predefined workflow/BPM.

It's time to go beyond assembly-line workflow.

It's time to go where no routine process has gone before.

It's time for the greatest innovation since BPM.

It's time for human interaction management.