

A Forrester Consulting Thought Leadership Paper Commissioned By ISIS Papyrus America

# **Knowledge Worker Empowerment Is Vital To Success**

January 2011

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## Executive Summary

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In August 2010, ISIS Papyrus America commissioned Forrester Consulting to evaluate the state of business process and case management automation through responses from application architects, case-management specialists, business process architects, and information architects in companies with more than 1,000 employees. In conducting in-depth surveys with these individuals, Forrester found that enterprises recognize that their crucial experts — their knowledge workers — are vital to success.<sup>1</sup> Yet at the same time, our survey validated that enterprises are not equipped to support this new breed of employee; enterprises provide poor information and process tools to get the most out of their knowledge workers.

There are four types of knowledge workers.<sup>2</sup> They are:

1. Mobile professionals (28%) in management, marketing, or sales, who use several knowledge tools.
2. Deskbound contributors (24%), often in finance or HR, who use collaboration tools.
3. Offline practitioners (13%), who feel that work IT lacks compared with home PCs.
4. Accidental workers (35%), who use computers because they have to.

Types 1 and 2 knowledge workers not only use typical standardized processes that can't handle all variants and exceptions beyond purely expert-designed processes, but they also have needs toward emergent social interactions. The objective must be to reduce the use of email, office tools, and out-of-process-context social media for types 1 and 2 workers.

The study finds that respondents believe and are satisfied that for standardized processes, the business objectives of reducing process costs and time and improving the execution quality are fulfilled with process management and case management systems currently in place. Yet, the majority of respondents state the need for more dynamic processes and continuous change. They recognize the organizational barriers and functional limitations of current process design concepts and the associated substantial cost.

We found that most work is not in predefinable processes and that knowledge workers must be more skilled, they handle a wider range of tasks, and they can be most effective when they have a great supply of information and process tools. Our study found that:

- Enterprises require tasks that need unique experience — and this expertise is pervasive at most enterprises, with 76% of enterprises surveyed indicating that more than a quarter of their workforce has unique experience.
- Support and understanding of knowledge workers seriously lags; only 5% of firms provided nearly all (90%) of knowledge workers with process automation support, while 4% provided virtually no support.
- Ironically, respondents report that investments in tools for knowledge workers can pay big dividends in improved customer service, work throughput, and expanded sales, but most admit to being underinvested.

Our survey reveals that rather than support for the high-value but less predictable process of the knowledge worker, most process-improvement investments are tied to industrial concepts such as control, standardization, and lower costs. Our study showed that:

- The distinction between process types from an organizational support perspective is not well understood or appreciated.
- Despite many years of experience with process- and flow-charting tools to define business processes, most respondents say the technique is too difficult.
- Respondents are considering a variety of alternatives to process maps for defining and updating processes. Of respondents, 65% favor the creation of processes from events flowing between existing systems and between existing systems and people.
- The most popular new approach to updating processes (at 65% adoption) is for managers to define process goals and knowledge workers to add the “work items” required to achieve those goals. Next most popular approach (at 55%) was using tools that allow knowledge workers to define key decision points and process milestones and have the underlying platform correctly configure the running process.

Overall, the survey results say we are still far from achieving the goal of empowering process owners in the business to update and evolve processes. Respondents report that the majority of their process changes require IT support, and only a very small number of changes are in the hands of business process professionals. Yet prompt changes to processes also remain a concern: Respondents are coping for now, but they are facing rising time pressures. Cross-departmental issues and integration top the list of case management challenges, and current systems lack agility and business-side control. Our study also found that:

- Companies recognize the need to directly connect goal-oriented processes and decision-making with event-driven processes to business objectives, but current process infrastructures are inadequate.
- The benefits of in-process business goals and handover criteria that enable business departments to improve their part of end-to-end processes are not understood with a “flowchart mindset.”
- Despite the desire to give business professionals responsibility for process change, IT staff is still required in most cases to update processes, which increases the time needed for coordination.
- IT involvement in process change drives high costs. Respondents reported that the cost of maintaining processes dwarfs the cost of initial deployment — and that processes change frequently.

### **Semistructured Processes Requiring Unique Expertise Drive Business**

As more and more factories relocate to China and other lower wage economies, the work done in developed countries is changing dramatically. Businesses in the developed world are busy applying Lean Six Sigma and BPM approaches to automate work in nonmanufacturing activities. As a result of these continuous improvement initiatives, more heads-down, mass production style clerical activities that have low value-add are being eliminated through automation, continuous improvement, or rethinking job assignments.

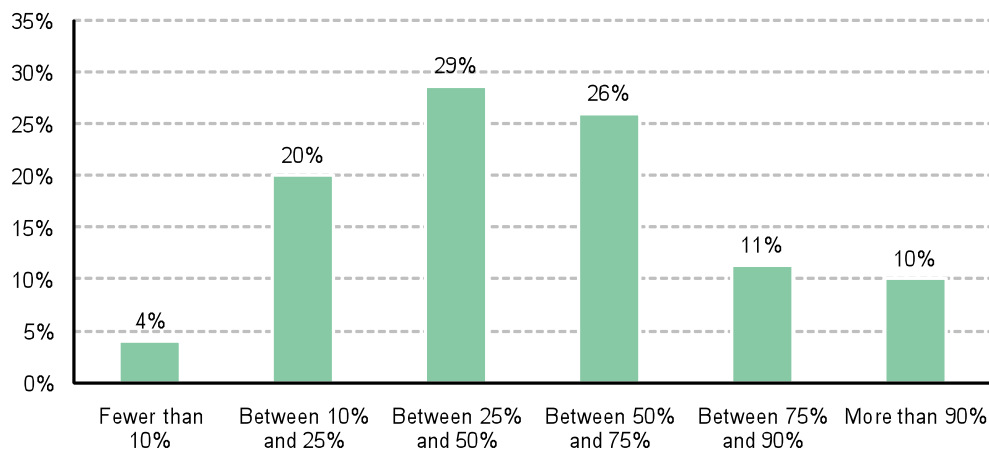
Responses to our survey validated these macro trends, as firms reported that business processes more and more leverage unique employee expertise and tackle smart jobs, encompassing more skilled workers who must accomplish a greater variety of tasks with relatively fewer resources. Instead of work being parceled out to a sequential progression of service workers on an imaginary assembly line, workers in smart jobs must manage a “process” from start to finish. That case may be a loan request, a benefits claim, or a disability claim at the Social Security administration, but the common thread is that the case worker handles more of the work. In short, the workforce has shrunk; the sheer amount of information handled by a single worker has increased.

Most enterprises rely on a cadre of knowledge workers to create, distribute, and apply knowledge to drive semistructured business processes. Forrester asked respondents what percentage of their company’s staff had unique expertise that was routinely required to get their company’s work done and meet process goals. For example, routine insurance claims may be processed with limited human intervention or with well-structured production processes — controlled by software but involving humans. Unique expertise to apply, create, and distribute knowledge is clearly pervasive at most enterprises, with 76% of enterprises surveyed indicating that more than a quarter of their workforce has unique expertise (see Figure 1).

**Figure 1**

Unique Expertise Is Pervasive At Most Enterprises

**“What percentage of your organization’s staff have unique expertise and experience and use it to create, distribute, and apply knowledge?”**



Base: 150 case management influencers or decision-makers from the US and UK

Source: A commissioned study conducted by Forrester Consulting on behalf of ISIS Papyrus America, August 2010

Yet despite these trends, the majority of firms (57%) provide less than 50% of emerging knowledge workers with process automation support tools (see Figure 2). The lack of tools support is an indicator of the

organizational attention — or lack thereof — to the knowledge worker. Also missing from most firms is a culture of process innovation that motivates knowledge workers via greater responsibility and recognition.

### And Yet, Organizations Don't Invest Enough In Their Knowledge Workers

Support for knowledge workers in terms of process automation tools showed weakness across organizations. Only 5% of firms provided almost all (90%) of their knowledge workers with process automation support, while 4% of firms provided virtually no support. Members of the largest group (32%) had support for between only 25% and 50% of their knowledge workers.

This relatively low level of investment in process support may be explained by an inability of line of business management to attach tangible ROI metrics to an investment. In addition, it may reflect an imagination gap. IT and process workers may have difficulty envisioning the process solutions with enough flexibility to support less structured processes. Our survey shows a clear recognition that current business thinking may not be able to take advantage of rapidly evolving technology platforms. In short, enterprises surveyed show limited understanding and knowledge of what is possible to support their knowledge workers.

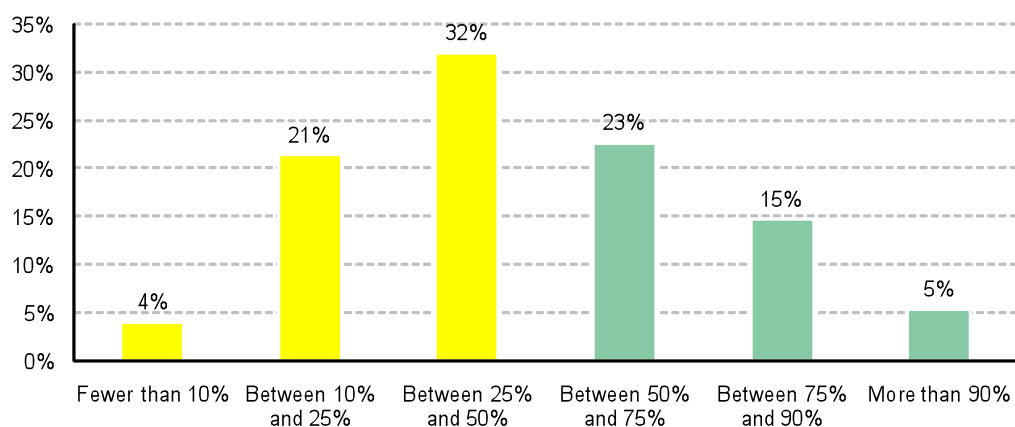
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**Figure 2**

The Majority Of Firms Are Not Supplying Process Automation Tools

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**“What percentage of the ‘information workers’ you described above are supported by process-automation software and tools, including case-management solutions?”**



Base: 150 case management influencers or decision-makers from the US and UK

Source: A commissioned study conducted by Forrester Consulting on behalf of ISIS Papyrus America, August 2010

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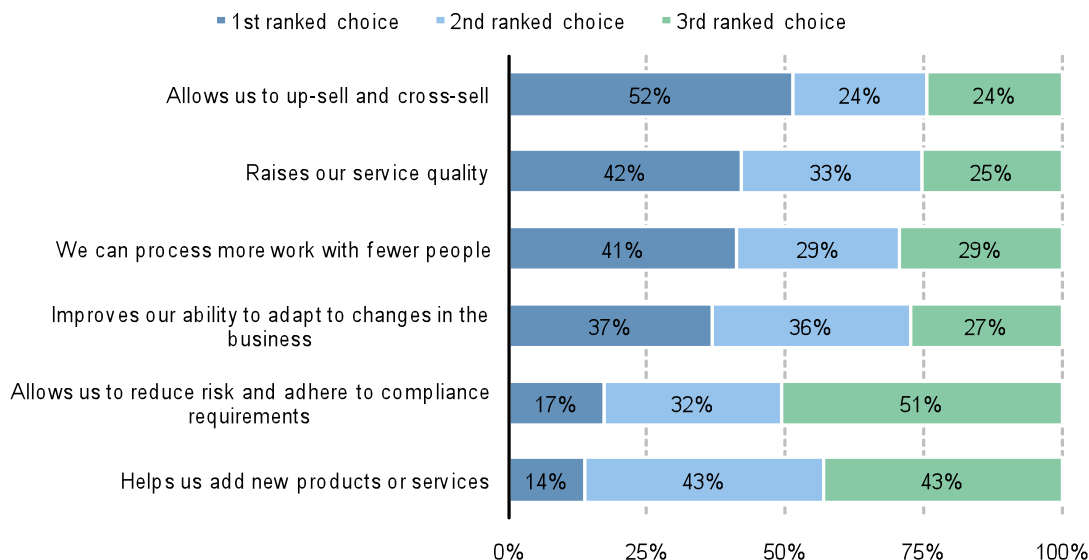
## And The Low Level Of Investment May Be Short-Sighted

Ironically, respondents believe that investing in knowledge workers pays big dividends — in higher levels of service, greater customer satisfaction, and ultimately, increased revenue. Respondents noted that giving the knowledge worker the ability to up-sell and cross-sell to customers was the most influential business outcome; 52% ranked this as the No. 1 business outcome (see Figure 3). This was followed by raising the overall service level for the organization. The ability to process more work with fewer people was the third-ranked choice.

**Figure 3**

Investment In Knowledge Workers Pays Off And Improves Service Quality

**“How do your organization’s investments in process-management tools and systems for information workers most influence business outcomes? Please select the top three choices.”**



Base: 150 case management influencers or decision-makers from the US and UK

Source: A commissioned study conducted by Forrester Consulting on behalf of ISIS Papyrus America, August 2010

Our survey shows that current process design methodologies and automation approaches are not adequate for all types of business processes. Forrester recommends that executives make the empowerment of mobile professionals and deskbound contributors a strategic priority. For these knowledge workers, executives need to invest in technology that supports the high-value, semistructured work patterns between standardized processes and social interactions.

## Looking Ahead, Organizations Favor Goal-Oriented Process Management

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When respondents look ahead to the investments they'll make during the next year to improve their processes, goal-oriented process management heads a list of advanced technologies. Among respondents, 61% are planning to bring in goal-oriented process management technologies during 2011 (see Figure 4). In goal-oriented process management, business goals are designed into processes and associated with tasks and activities. The result of this approach is business processes aligned with business strategies by design (see Figure 5). Three advanced technologies followed just behind goal-oriented process management:

- Decision management: 51% of respondents. Decision management in general refers to automation of business decisions within processes, such as the application of policies and constraints.
- Integration of process management and balanced scorecards: 50% of respondents.
- Case management analytics: 49% of respondents.

A puzzling result from this question is the low investment priority respondents plan to give to process definition and maintenance tools for business experts. This result conflicts with respondents' expressed desire to allow knowledge workers to manage process changes. If knowledge workers are to take on more responsibility for process change, we'd expect tools for the purpose to be a high priority for future investment. One possible explanation for this conflicting result is that respondents don't view today's process definition and maintenance tools as productive for knowledge workers and so are either investing in other areas (decision management) for knowledge workers or planning to continue to rely on IT staff to manage process change.

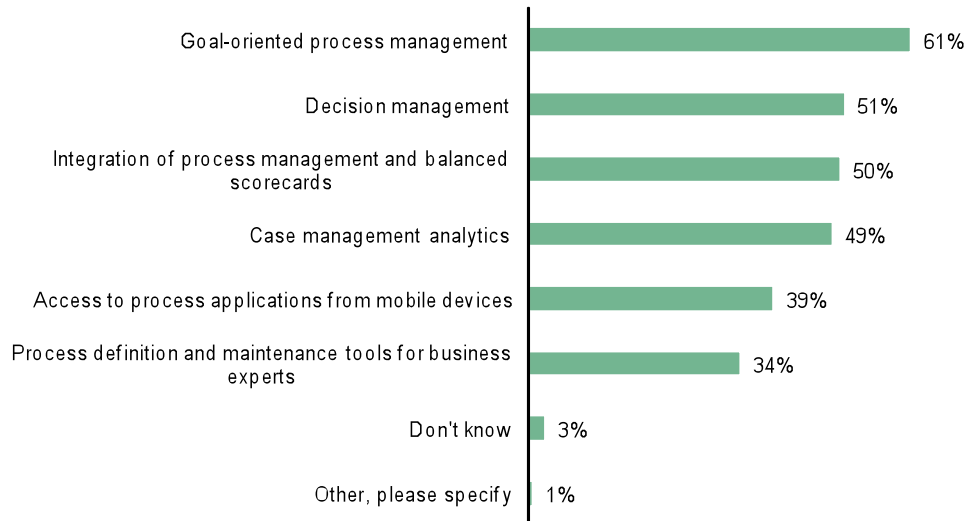
The results indicate that process needs are well understood, especially by the business, but that they are not reflected in current process and case management methodology and technology. That might hinder their adoption and use and possibly fuels the trend toward the use of social technologies. Social media technologies are an important enabler for collaborative elements in business processes, but they don't satisfy the above needs and they still leave a substantial functional gap. Their main limitation is that, like email, they provide communication but don't guide the process toward completion or organize business data and content in a context sensitive manner. A primary goal of knowledge worker support must be to reduce out-of-context communication and information, along with the related problems of redundancy and lack of version control.



**Figure 4****Goal-Oriented Process Management Is Of Great Interest**

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**“Which advanced process management capabilities are you seeking to provide through your planned investments during the next 12 months? Select all that apply.”**



Base: 150 case management influencers or decision-makers from the US and UK  
(multiple responses accepted)

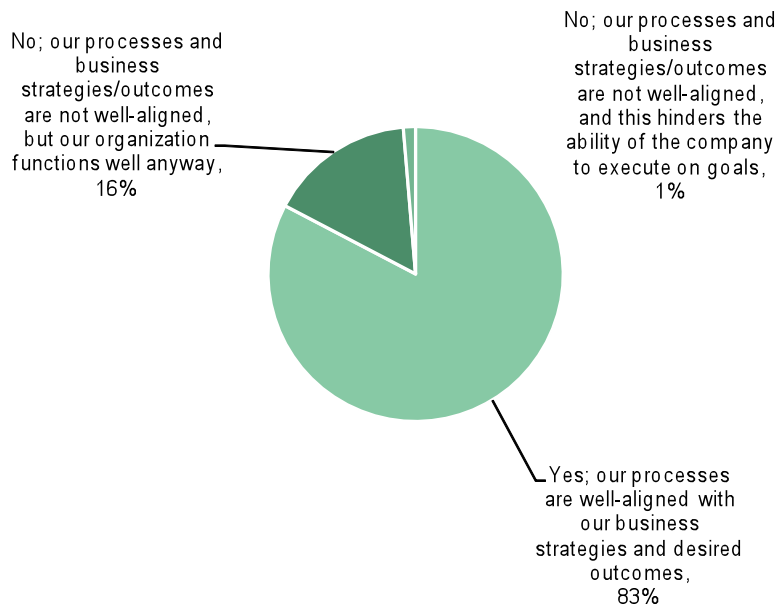
Source: A commissioned study conducted by Forrester Consulting on behalf of ISIS Papyrus America, August 2010

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**Figure 5****Processes Appear Well-Aligned With Respondents' Business Strategies And Desired Outcomes**

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**“Are your organization's business processes well-aligned with its overall business strategies and desired outcomes?”**



Base: 150 case management influencers or decision-makers from the US and UK

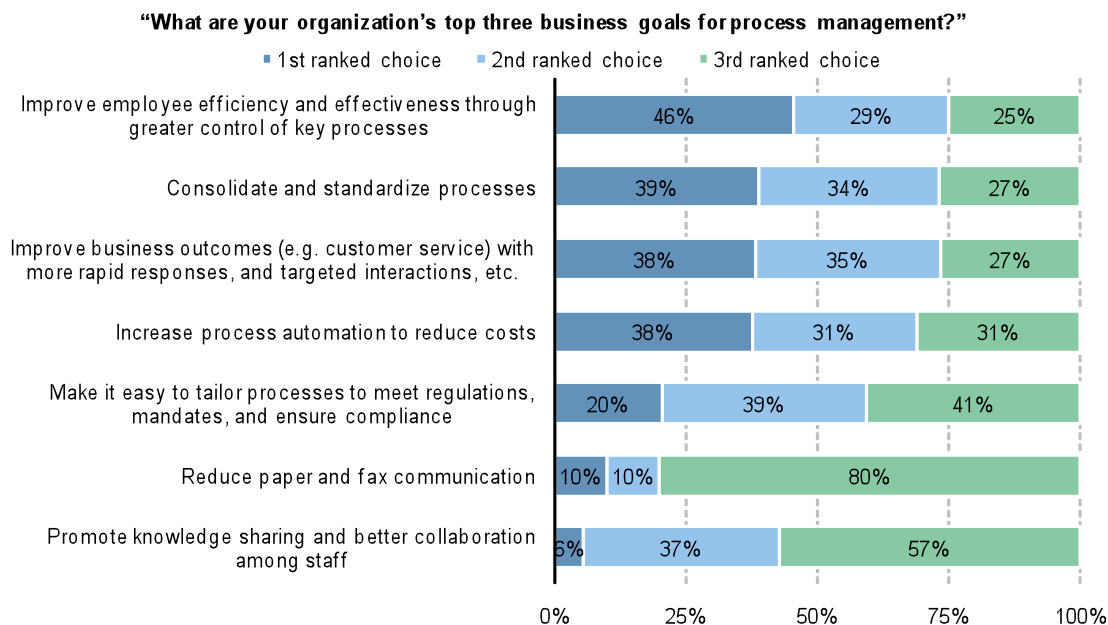
Source: A commissioned study conducted by Forrester Consulting on behalf of ISIS Papyrus America, August 2010

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## Processes Are Aligned With Strategic Goals, But Enterprises Struggle To Meet These Goals

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Enterprises find that key processes are well-aligned with overall corporate visions and goals, but they are less likely to meet these goals due to issues of control, standardization, and cross-department coordination. Organizations' top three business goals for process management were to improve employee efficiency through greater control of key processes. This was followed by a desire to consolidate systems — also a measure of control. These are consistent with achieving the third most desired goal — to improve business outcomes such as customer service (see Figure 6).

**Figure 6****Control, Consolidation, And Standardization Are Top Business Goals**

Base: 150 case management influencers or decision-makers from the US and UK

Source: A commissioned study conducted by Forrester Consulting on behalf of ISIS Papyrus America, August 2010

Among the respondents, 46% selected process control as their top business goal for process management. The payoff: improved employee efficiency and a more predictable customer experience. The next most common goal among respondents was consolidation and standardization of processes, largely due to their expense and ability to coordinate efforts across systems. Standardization and consolidation speak to the consistency of business processes, a measure of control. But Forrester finds that organizations seeking to standardize processes are also concerned about the costs of inconsistency. These objectives are consistent with achieving the third most desired goal — to improve business outcomes such as customer service and to cut costs by automating business processes. In summary, the prime issue for respondents was standardizing processes to reduce costs, with less concern for higher-value, less predictable knowledge worker support. That perspective is understandable, as this was in most cases the defined ROI of the BPM business case. However, this priority doesn’t address the needs of mobile professionals and deskbound contributors.

### **Rigid Automated Processes Top The List Of Barriers To Process Goals**

What are the barriers to achieving these business process goals? Ironically, at the top of the list of barriers to achieving process goals, survey respondents cited rigid, hard-to-change *automated* processes. At 48%, this barrier was substantially higher as a first choice than the other factors respondents cited (see Figure 7). The

relatively light use of BPM suites among respondents no doubt contributes to this finding, as many business processes are still automated using inflexible traditionally coded applications.

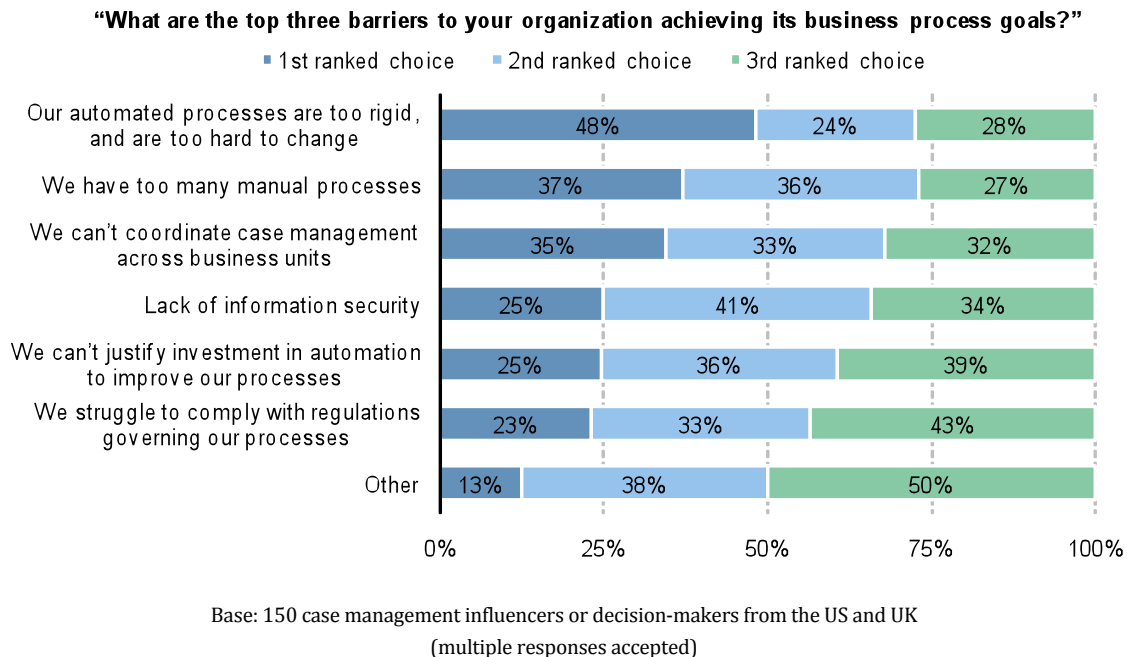
Second on the list of top barriers — at 37% — was a lack of process automation. Forrester continues to find a preponderance of manual processes in organizations across the board. Our survey results suggest that although these manual processes may be aligned with business strategy, they impede progress toward expanded process control, standardization, and reduced costs — and may impede good business outcomes as well. It's possible that this lack of automation is due to processes that can't be easily automated and standardized due to complexity, their unstructured nature, requirements for integration of various technologies (i.e., content, rules, decision-making, analytics), or their inherent change dynamics. It means that a typical ROI business case for the use of a flowcharted process paradigm is not attainable, as is also indicated by the study. Thus they remain manual. The solution might be to calculate ROI not with short-term cost savings but with a true improvement in outcome quality and customer service agility. It's likely that current BPM technology is unable to support those types of processes and that current process life cycles have to be changed as well. That further hinders the adoption of such new paradigms.

The third most common barrier is another issue Forrester routinely sees among clients: Organizational boundaries prevent organizations from coordinating activities across business units and departments. Inability to coordinate activities across departments or business units creates bottlenecks, information blackouts, and nonvalue-added activity, such as duplicate data entry and searching for information locked in incompatible systems. Forrester is seeing accelerated interest in process improvement initiatives and business process management centers of excellence that provide executive sponsorship, drive culture change, and provide organizational resources. While top-down COEs are important to guide decisions in process management and provide process improvement coaching, Forrester is cautious of their use to enforce process coordination across organizational boundaries without costly and lengthy bureaucratic opposition.

The study indicates that process professionals understand process problems, such as rigidity and flowcharts, and opportunities, such as goal-orientation and decision management. Yet, the changes required in process planning and coordination have not been accepted. It's possible that this is connected to the currently used methods and tools for process design. While statistically calculated KPIs and metrics are considered an element of business planning and process monitoring, they're not understood as the driving force inside process execution. Process coordination and handoffs might have to be linked to outcomes and responsibility passed to the individual departments. This would be substantially improved as a continuous effort in each department if it is not just a design concept driven by the COE but if the process and case management technology would support the definition and in-process verification of process goals and handover checklists, rules, and criteria. End-process verification of customer perception of the outcome (defined-goal) would ensure satisfaction and in-process improvement, rather than just postmortem statistical analytics of monitoring data.

**Figure 7**

Rigid Automated Processes And Lack Of Automation Lead The List Of Barriers To Achieving Process Goals



Source: A commissioned study conducted by Forrester Consulting on behalf of ISIS Papyrus America, August 2010

## Barriers In Information Systems Prevent Process Progress, Too

Similar to the cross-organization barriers cited above, respondents also reported having barriers between their key information systems. Process automation systems usually seek to bridge such gaps, as many business processes require coordination of information, transactions, and business rules in multiple systems (see Figure 8). Responses to this part of the survey suggest a divide between “haves” and “have nots” in coordinated information systems. Thirty-seven percent of respondents — a high number — reported that their key information systems are fully coordinated. But 54% indicated only partial coordination or planned coordination of key information systems.

The results indicate a good understanding of the problems (rigid flows) and larger consequences (hard to change), as well as recognition of what might solve these (goal-orientation). However, the study shows a lack of perspective on how to approach the overall solution. While it seems obvious that rigid processes create a rigid, larger end-to-end process framework, it's apparently not understood that this is a key limitation to necessary changes. It's like changing one strut in a supporting mechanical structure like a bridge, without regard to how it affects the whole structure. If all the components of a system are interconnected, then each minor change becomes a substantial change management effort of the whole.

Object-oriented (i.e., Java) as well as messaging concepts (SOA) are understood and accepted in IT, but the principles are rarely applied to process management. An end-to-end process flowchart can easily resemble what

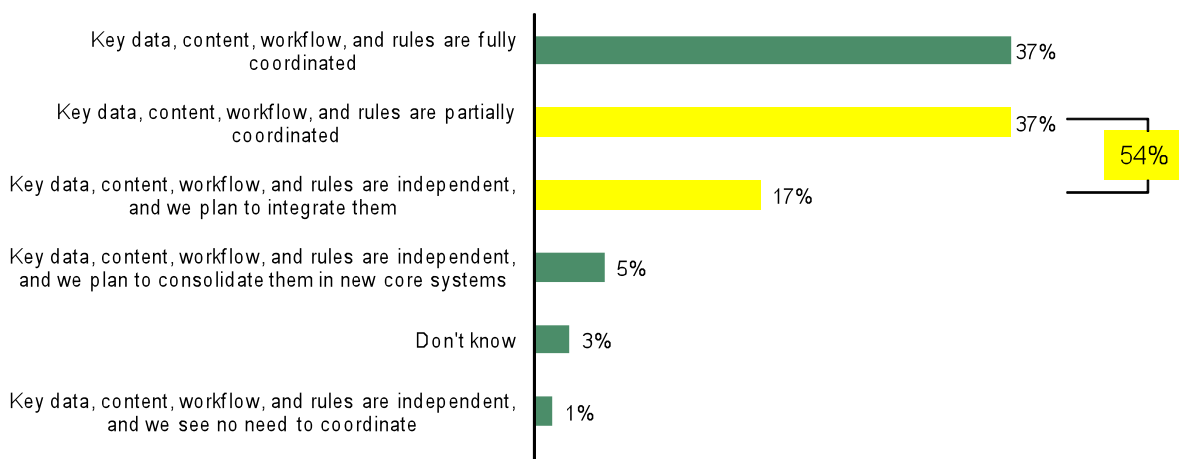
used to be called “spaghetti code,” and even with sub-processes or reusable flowchart patterns, that remains the same if process attributes and data are accessed indiscriminately. Event-driven processes face serious issues with identifying if already executed process fragments have to be rolled back or simply suspended until the event has been handled. Rules triggered from processes in independent business rule engines create substantial issues of master data management and data and process synchronization.

Overall, it's the resulting complexity that has to be handled by skilled IT staff and project management that is a key limiting factor in passing more process responsibility and change capability to the business users. A consolidation or simplification of the process infrastructure and a different organizational concept is probably a prerequisite before more user empowerment, and therefore real agility for business processes, is possible. Further research may be necessary to identify if and how the reported coordination efforts of technologies directly impact change, cost, and user empowerment.

**Figure 8**

More Than Half Lack Coordination Between Key Information Systems

**“How would you describe the coordination of data, content, workflow, and rules of your organization's key information systems?”**



Base: 150 case management influencers or decision-makers from the US and UK  
(multiple responses accepted)

Source: A commissioned study conducted by Forrester Consulting on behalf of ISIS Papyrus America, August 2010

## Process Change Is Endemic — And A Problem

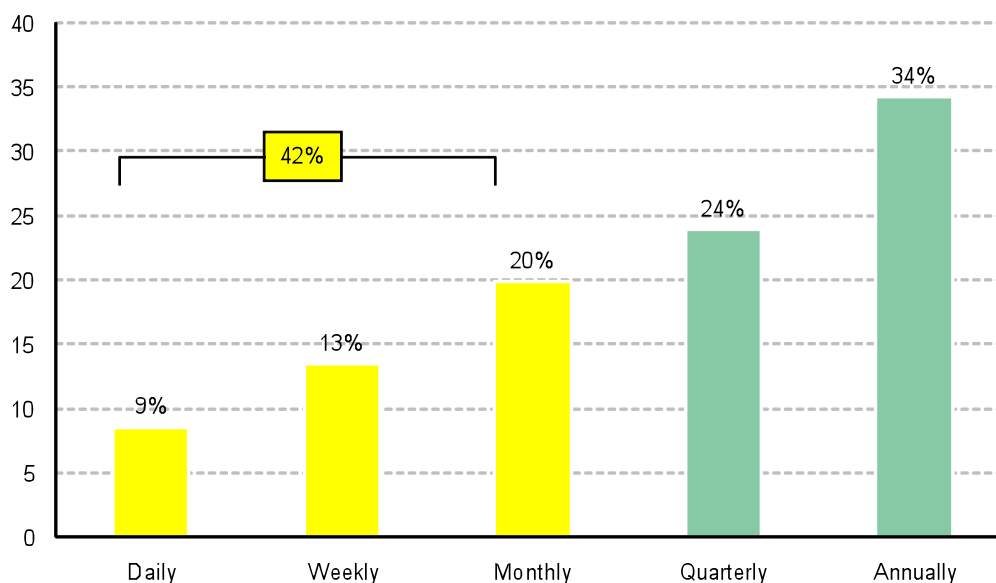
According to our survey, the first barrier to achieving process goals points directly to process change. Forrester was not surprised by this finding, as most clients are struggling to keep up with unprecedented levels of business process change. Change as a barrier came through loud and clear in our survey results.

First, respondents indicated that 42% of processes change monthly or faster. Figure 9 shows how fast processes change, on average, for respondents. Two-thirds of business processes change at least quarterly. At these rates, process change must be seen as *continual*, in Forrester's opinion. And at these rates of change, the method used to update and/or replace processes matters very much. Manual processes simply won't suffice in this environment. Automation will be crucial for parts of the system, but support must be provided for ad hoc and tacit tasks that drive knowledge worker productivity. In either case, continual change (or improvement) must be a hallmark of future processes.

**Figure 9**

Organizations Report Rapid Business Process Change

**"Which portion of your organization's business processes changes frequently? Assign average percentages to each time period so the total is 100% "**



Base: 150 case management influencers or decision-makers from the US and UK  
(multiple responses accepted)

Source: A commissioned study conducted by Forrester Consulting on behalf of ISIS Papyrus America, August 2010

## Process Change Takes Time — And Is Costly

Our survey defined process change to include the full range of factors Forrester has observed in organizations (see Figure 10). Some of these factors are quite challenging in the face of rapid change, notably updates of business rules and process models and the addition of new channels of communication to customers and new data to existing processes.

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**Figure 10****How Business Processes Change**

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Update business rules and content (including integration of new data/content)
Update document formats/templates and forms
Update workflows or process models
Update regulatory features such as audit and report and analytics
Tailor the individual user's screens and online workplace
Update timing, channel, format, and/or content sent to customers

Source: A commissioned study conducted by Forrester Consulting on behalf of ISIS Papyrus America, August 2010

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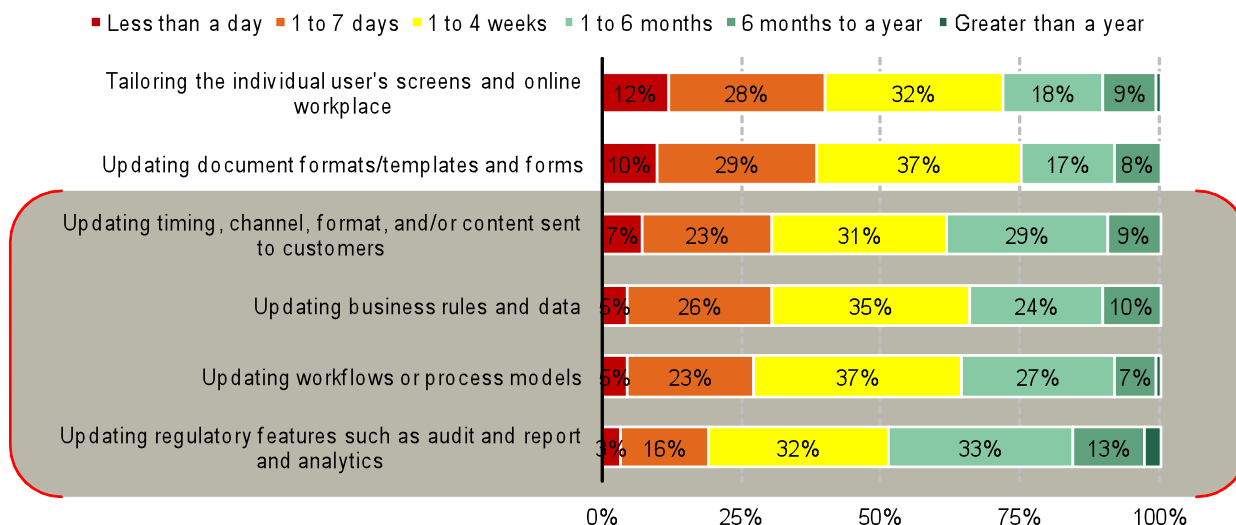
We asked respondents how much time their organizations typically require to make these process changes and found that updates to customer channels, business rules and data, process models, and new regulatory requirements take the longest to complete (see Figure 11). Still, respondents reported having an ability to change processes at fairly agile rates. Most are able to make the changes on our list to their process management systems in less than four weeks. A new generation of case management platforms will allow for even more rapid change by the case worker, business process pros, and IT. But this ability only matters if it's aligned with organizational agility, that is, if it allows rules, such as dollar approval limits, to be approved by management in the same timeframe. Approving a new rule or wording change in a communication can take weeks at some enterprises.



**Figure 11**

Process Change: We're Coping For Now

**"How long do the following changes typically require in your process management systems? Please report the average time between identification of the requirement for change to the implementation of that change in your systems."**



Base: 150 case management influencers or decision-makers from the US and UK  
(multiple responses accepted)

Source: A commissioned study conducted by Forrester Consulting on behalf of ISIS Papyrus America, August 2010

Despite the ability to make tactical changes to a rule, template, or process flow, respondents also reported that, collectively, process change is far more expensive than creation of an initial solution. This finding makes sense, as organizational change management (training, human resources, and administration) around a process and overall IT support accumulate costs over time and money and will rise as the number of process updates and revisions grows. Almost one-third of respondents said the annual cost of continuous process change of a solution is more than two times the cost of the initial installation. Thirty-eight percent of respondents reported that ongoing annual costs of process change is two times the cost of the initial installation (see Figure 12).

Of respondents to this question, 31% either don't know the costs of ongoing process revisions and updates (20%) or don't measure them (11%). While we find this result discouraging, we're not surprised, based on experience with clients. How could an organization not know the costs of ongoing process revisions? One explanation is that updates are so complex they are impossible to track, a consequence of a poorly designed process or very rapid change. Another explanation is that process changes are too small to make tracking the cost of each one worthwhile.

The results indicate the possibility that the ROI calculations for BPM solutions did not take these costs into account. Either the ROI period is much longer than estimated or ROI is not achieved. This does not mean to doubt the benefits of individual BPM implementations, but we recommend that enterprises be more

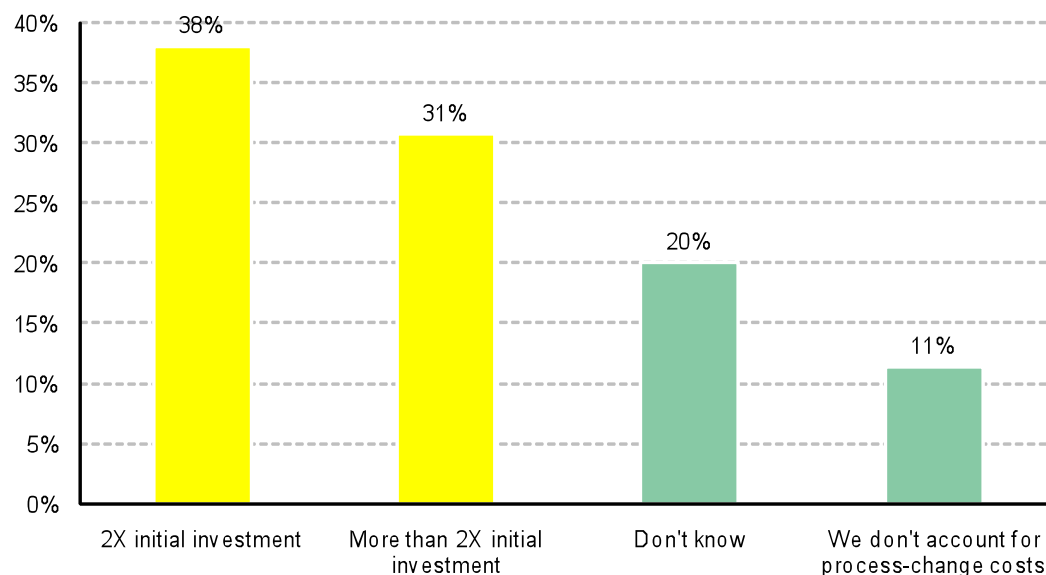
conservative in estimating the follow-on costs for process management, because of the high rate of change and the substantial IT involvement necessary.

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**Figure 12**  
Annual Costs Of Process Change

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**“What is your estimate of the average annual costs of continuous process change after installation of an initial process-automation solution?”**



Base: 150 case management influencers or decision-makers from the US and UK

Source: A commissioned study conducted by Forrester Consulting on behalf of ISIS Papyrus America, August 2010

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### **A Worrisome Sign: IT Pros Are Often Required To Make Process Changes**

A hallmark goal of process-automation and case-management technologies is to allow business experts to make process changes so that IT pros don't have to. In essence, the goal is to take most process changes out of the backlog of IT projects so that changes can be made on the business' schedule rather than on IT's schedule. Forrester actively advocates the use of process-automation and case-management tools that empower business people to keep processes up-to-date. We believe an empowered approach is the only way for organizations to keep up with rapid process change (respondents agree with us; see Figure 13).

The majority of process design tools do not support a 100% roundtrip from design to execution to modification, but require the flowchart to be converted to some executable (i.e., BPEL) and then enhanced by an IT expert with forms, data links, rules, and content interaction. These tools rule out any direct business user involvement in improving processes. Only a “model preserving paradigm” is actually capable of this kind of interaction. These

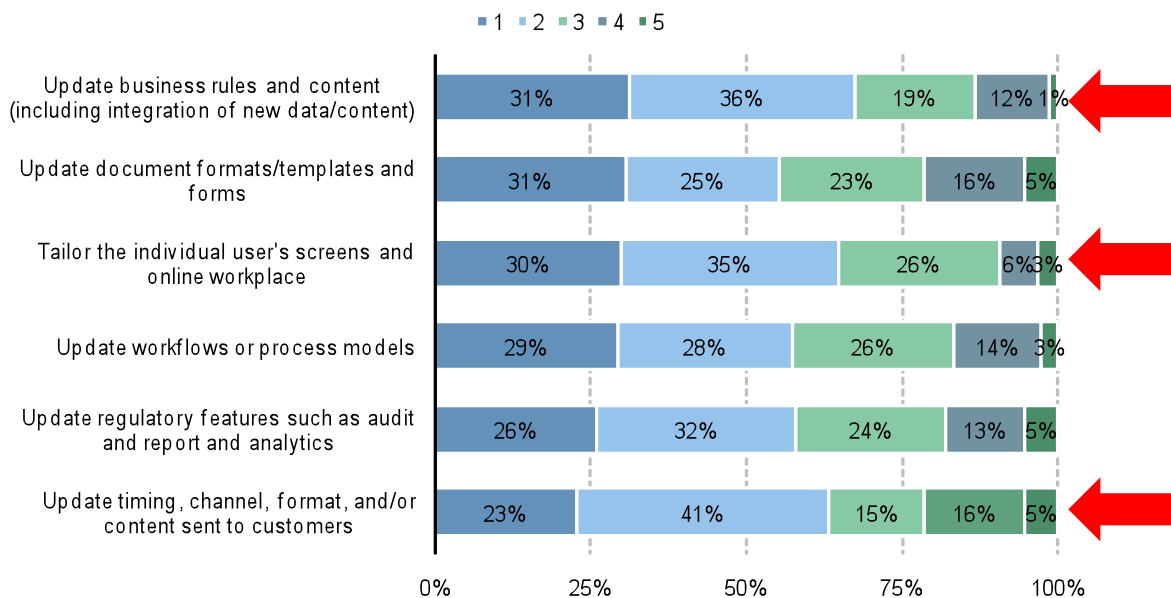
aspects ought to be taken into account for ROI calculations when selecting BPM or case tools where user empowerment is an essential selection criterion.

Our survey results suggest we are still far from achieving this goal of empowering process owners in the business with process-automation tools. Respondents report that the majority of process changes require IT support, and only a very small number of changes are in the hands of business process professionals without IT support (see Figure 13).

**Figure 13**

IT Support Is Still Usually Required To Make Process Changes

**“On a scale of 1 to 5, where 1=always requires IT support and 5=never requires IT support, how does your organization update its processes and supporting software?”**



Base: 150 case management influencers or decision-makers from the US and UK  
(multiple responses accepted)

Source: A commissioned study conducted by Forrester Consulting on behalf of ISIS Papyrus America, August 2010

Particularly worrisome is the requirements for IT involvement in not only updates of business rules and integration of new data but also in tailoring an individual business person's screens and online workplace. Respondents indicated that 67% of business rules and integration updates require heavy IT support, while 65% of changes to business workplaces require heavy IT support. IT's value in creating new and updated business logic (rules) and integration links is obvious, but individual business people should have great control over the appearance and even structure of their workplaces.

The finding on IT support requirements to update workflows and process models is also a cause for concern. Respondents said that 57% of workflow and process model updates require substantial IT support. With the many process-definition and automation tools available today, this is a high percentage.

The survey's findings on IT support for change is likely the consequence of how current systems are implemented. If the system's supporting processes can only be changed by manipulating code and technical architectures, we'll not see knowledge workers making those changes! The corollary point is that for knowledge workers to be able to make process changes themselves they must have access to the key business architecture, process, rules, and definitions, as well as production data and content, the tools to evolve them, and organizational support for fast action.

### **Empowering Knowledge Workers To Make Process Changes Is Crucial**

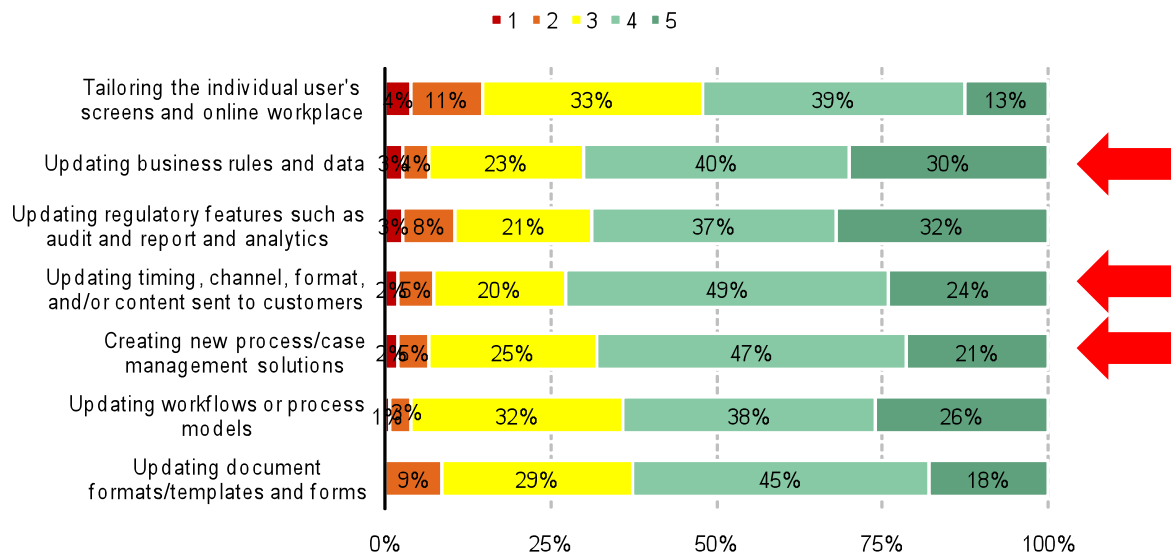
As noted, respondents to our survey seem to agree with Forrester's view that knowledge workers must be able to manage business process changes (see Figure 14). Respondents not only rated knowledge worker empowerment to make changes high, they also want knowledge workers to make deep changes to business processes, i.e., not only changes to the process execution at runtime, such as adding a document or delegating a task, but adaptations to the process definitions and templates for future execution. Proliferation of process variants, similar to explosion of document variants, must be controlled. To support dynamic change, and adaptation of templates, requires solid change management authorization under the auspices of the process owner.

Among respondents, 73% want their knowledge workers to be able to update the timing, channel, format, and/or content sent to customers. Seventy percent of respondents said that updates to business rules and data is very important; 30% indicated this level of knowledge worker empowerment is crucial. And 68% of respondents want their knowledge workers to be able to create new process and case-management solutions.

Surprisingly, fewer respondents listed as very important the ability for knowledge workers to update their screens and workplaces, while more than 50% still see it as important or critical. One way to interpret this ranking is that changes to information presentations are of much lower value than new-solution creation, new channels and formats, and updated business rules and data sources.

**Figure 14****Business People Must Be Able To Update And Change Processes**

**“Please rate how important to your organization is the ability of your information workers to perform the following tasks themselves to achieve process/case management goals. Please use a scale of 1 to 5, where 1=none (not important) and 5=critical (critically important)”**



Base: 150 case management influencers or decision-makers from the US and UK  
(multiple responses accepted)

Source: A commissioned study conducted by Forrester Consulting on behalf of ISIS Papyrus America, August 2010

## Business Process Automation Must Better Address Continual Change

Most organizations need better control and consistency in their business processes, in part to cut costs, our survey suggests. And the ability to change business processes is a crucial issue firms wrestle with. The survey results suggest that process change is endemic, with a mean of 42% of respondents reporting their business processes change monthly or faster. Moreover, most firms still rely on IT professionals to change human interfaces, business rules, process logic, and other aspects of business processes and report relatively slow rates of process change.

The survey results suggest that while investments to date in business process technologies have produced gains, they have not yet provided all of promised benefits. Indeed, respondents suggest they hope for better techniques for defining and maintaining processes in the future — although the winning approach isn't yet obvious. The survey results suggest to us that business process and case management technologies must exhibit far better return on investment, ability to support process change, and accessibility to business experts and knowledge workers to meet enterprise process goals.

## The Most Common Approach To Process Definition Produces Mixed Results

There are many possible explanations for the survey results on IT and knowledge worker involvement in business process changes. Because of the reported complexity of BPM needed for process management today, IT must retain the responsibility for delivering process changes to ensure system integrity by means of project management and testing changes. Clearly, business people shouldn't be spending time with process design work but doing productive work for their customers. Given the above, it is a possibility that today's process automation tools are falling short in empowering business people to update business processes. But even the use of tools by experts produces interesting results that indicate the need for both actions by the executive and further research.

To probe the latter question, our survey asked respondents how they felt about the process-mapping and flowcharting tools that are commonly recommended today for process definition and automation (see Figure 15).

The results seem at first conflicting, with the largest number of responses (117) reporting that process maps are essential for creating process detail. Only approximately a third of respondents report flowcharts to be unsatisfactory or limited. With flowcharts being the predominant function and defining facility for being a BPM product, that's not a surprise.

Among respondents, 45% said that process maps are essential to process definition, and 55% said process maps were essential to update and revise processes. But at the same time, 49% of respondents said they wished they could improve their business processes without using flowcharting tools. Why? Seventy-seven percent said working with flowcharting tools is just too difficult in creating processes. Further research may be needed to identify which roles the various respondents have in the organization. It's unlikely for a process analyst to report flowcharts as not being important.

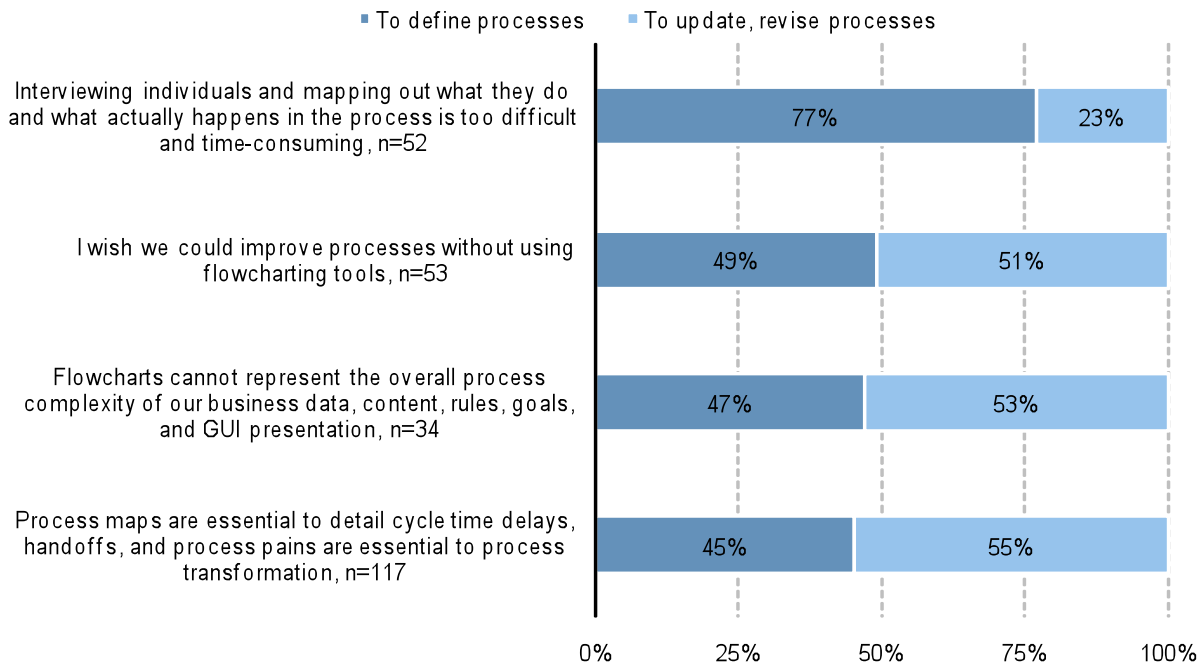
Of great concern, 47% of respondents stating that flowcharts cannot represent the overall process complexity of business data said that flowcharts are inadequate during the design of processes, and 53% said flowcharts fall short in representing processes during the maintenance phase of processes. It's actually surprising that more than three-quarters of respondents do seem to believe that flowcharts can represent satisfactory detail for data, content, rules, goals, and user interface when there are no such facilities in normal flowcharting tools. Some of it can be explained by some BPM suites having integrated tools for mapping data, rules, and forms and that these are seen as an element of process maps. Very few tools have embedded content capability, which also provide mapping the content logic and data (both for inbound scanned/captured and outbound composed content) into the process.

This response might indicate a lack of relevance of these process elements in the mindset of process analysts, which could be one of the reasons that business departments often report a disconnect and lack of understanding by process analysts. Processes are no better than their weakest component, and a flowchart describes no more than a fifth of the complete process functionality. That flowchart-focused mindset might be a remnant of the original "workflow" perspective, which was no more than a routing of scanned content from user to user. For example, focusing on the content, its state, and user actions per state is more of a human understandable design concept than the abstract flow of tasks between people.

**Figure 15**

Flowcharting Tools Are Important, But Not Sufficient

**“What best describes your attitude about using flow charting tools to help define and revise business processes? Distinguish as much as you can between initial process definition and ongoing changes to processes...”**



Base: 150 case management influencers or decision-makers from the US and UK  
(multiple responses accepted)

Source: A commissioned study conducted by Forrester Consulting on behalf of ISIS Papyrus America, August 2010

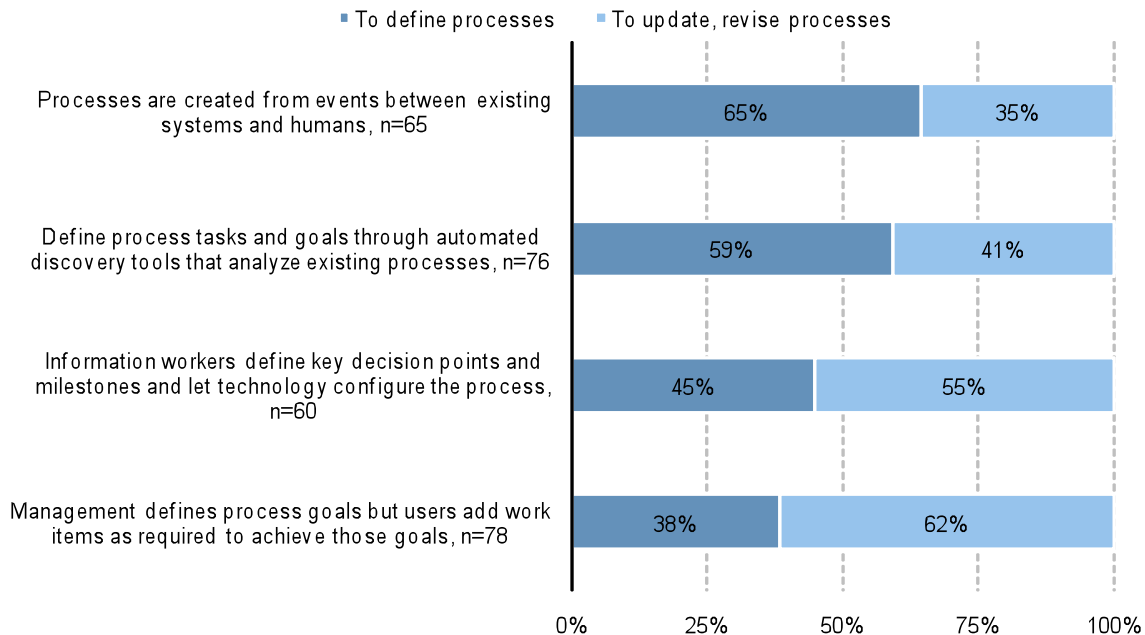
## Respondents See Events And Process Discovery As Best Alternatives To Flowcharts

We also asked respondents what they thought about emerging techniques, including goal-driven process design and automation. Two techniques rise to the top of the list, both of which place great emphasis on defining processes based on the reality of today's systems (see Figure 16).

**Figure 16**

Events Are The Most Promising New Process Definition Approach

**“Which alternative process-definition approaches in your organization’s experience are better than flowcharting? Select all that apply, distinguishing as much as you can between initial process definition and ongoing changes to processes.”**



Base: 150 case management influencers or decision-makers from the US and UK  
(multiple responses accepted)

Source: A commissioned study conducted by Forrester Consulting on behalf of ISIS Papyrus America, August 2010

Of respondents, 65% favor the creation of processes from events flowing between existing systems and between existing systems and people. In this approach, business events are the key design point for processes, rather than tasks and activities.

Moreover, 59% of respondents identified discovery tools that capture today’s business processes so they may be improved and, presumably, augmented. In this approach, process designs start with the actual business processes an organization uses, rather than desired new processes.

We asked respondents which new approaches would be best for maintaining business processes (as well as designing them initially). The leading options for updating processes call for knowledge workers to implement process changes. The most popular new approach to achieve this goal (at 65%) has managers defining process goals, and knowledge workers adding the “work items” required to achieve those goals. Next most popular (at 55%) was tools that allow knowledge workers to define key decision points and process milestones and have the underlying platform correctly configure the running process.



Clearly, respondents indicate there is a need to provide a flowcharting capability in order to provide process detail. Our responses come from different perspectives in the business hierarchy, which should all be applied to achieving business goals. On the lowest level of process definition, the flowchart paradigm seems to be the preferred way to create and modify them. This level is probably below where a business user would want to or should get involved.

Business users and process owners prefer a perspective to organize processes around goals, events, and content used and need the ability to modify their work items to fulfill those goals. They look for a way to execute their current processes as-is and then have the system provide support and improvement capabilities without needing complex IT involvement. The multiple process/case perspectives have been well represented in Figure 4 and Figure 14:

- The executive desire is to connect process goals directly to strategic (e.g., Balanced Scorecard) objectives.
- Management wants better support for decision-making that drives operational targets and the ability to simply add rules to processes that ensure compliance to principles and regulation.
- Process owners want to see their process goals and related handover criteria represented. They want to manage change requests by business users and be able to define boundary rules for processes.
- Business professionals want to go mobile and have the flexibility to pick and choose from alternative goal-oriented activities and modify and add work items where allowed.
- All want a more business-driven process environment, while the lowest level of process definition will have to be provided by the infrastructure platform through IT.



## A LOOK INTO THE FUTURE: WHAT ENTERPRISES CAN DO TO PREPARE FOR REQUIRED KNOWLEDGE WORKER SUPPORT

Our survey shows that current process automation and case management approaches are not adequate for people-driven, semistructured work that requires autonomous decision-making. Forrester recommends that enterprises evaluate technology investments to support knowledge workers and their less predictable work streams. In particular, enterprises should:

- Consider a different perspective on more dynamic processes, with a lesser focus on reducing errors and cost through perfect flow execution. Between the high-volume, low-value fully automated processes and chaotic social media interactions lies the widely unsupported work domain of the business professional and contributor who uses his/her experience and skill to achieve process goals and customer outcomes.
- Understand that highly skilled workers cannot deliver value in one end-to-end 100-step process flowchart, no matter how well analyzed. Their processes are semistructured, driven by business events, and require embedded decision-making. Hitherto case management does provide the collaboration but not enough control over the outcome. Social media, like email, lack the focus of directing business activity toward fulfillment.
- Avoid the disconnect and lack of collaboration between departments for end-to-end processes by allowing independence in how they achieve process goals, as long as they meet handover criteria and are compliant. Support process creation for all levels of business hierarchy, while retaining a focus on the customer's perception of the outcome. Manage the resulting dynamics by organizing processes by goals and optional/alternative sub-goals with handover criteria, resembling encapsulated objects (goals) that are loosely coupled by message events.
- Train business analysts in the COE as mediators and coaches who help to define process goals that are linked upward to business objectives and downward to handover criteria, much as the principle BPM practice requires. Now goals and handovers are literal, functional elements of process creation that enable assembly and adaptation of new templates by business users. Business analysts define which parts of the processes need to be handled by IT and which areas of compliance and efficiency may have to be protected from user influence.
- Enable ad hoc, in-process improvement rather than a long change life cycle. Processes are not monitored *en gros*, but *en detail*, and corrective action is immediate if goals or outcomes are not met. Process outcomes are not achieved by a completion of steps, but they can always be rated, accepted, or rejected by the "customer," who may either be a person or a next process goal in sequence or on a higher level. Content states, external events, boundary rules, and professional judgment create dynamics in which goals and outcomes become controlling entities.
- Empower all levels of the hierarchy to create and improve the high-value, semistructured knowledge work of business professionals. The evolution in the mindset of people responsible for process management can be accelerated by the use of technology that steps beyond the simple case folder or flowchart paradigm. It's most likely a combination of both concepts — either an integrated or consolidated platform that combines change management, content, process, rule, and portal functionalities.

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## Appendix A: Methodology

In this study, Forrester conducted an online survey of 150 case management influencers and decision-makers in the US, UK, Australia, and India to evaluate the current state of case management. Questions provided to the

participants asked about the challenges surrounding their organizations' case management issues and how to achieve their organizations' case management goals. The study began in June 2010 and was completed in August 2010.

## Appendix B: Demographics

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**Figure A**  
Demographics

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**"In which of the following countries do your responsibilities for your organization reside?"**



Base: 150 case management influencers or decision-makers from the US and UK

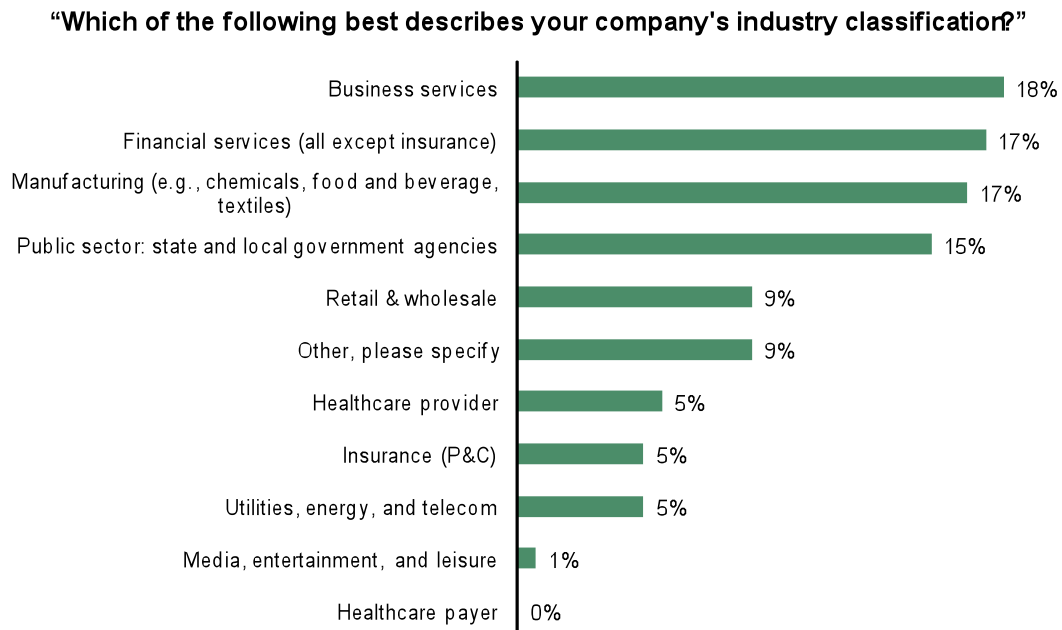
Source: A commissioned study conducted by Forrester Consulting on behalf of ISIS Papyrus America, August 2010

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**Figure B**  
Demographics

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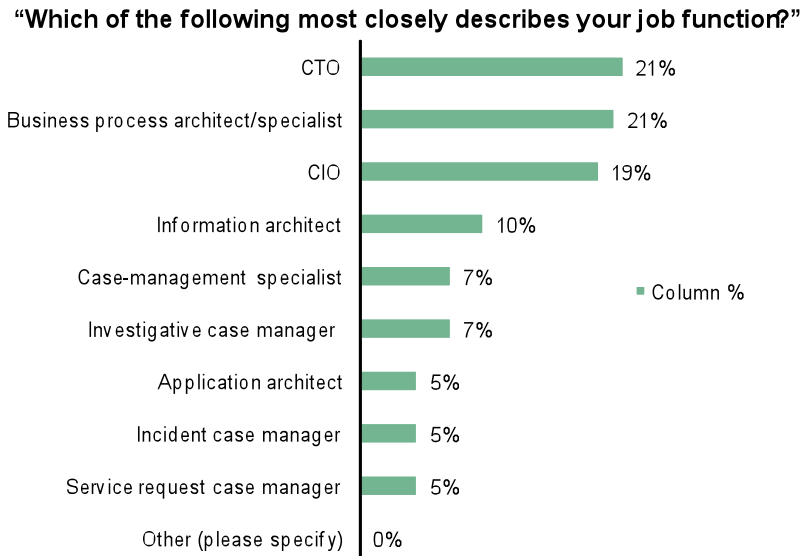


Base: 150 case management influencers or decision-makers from the US and UK

Source: A commissioned study conducted by Forrester Consulting on behalf of ISIS Papyrus America, August 2010

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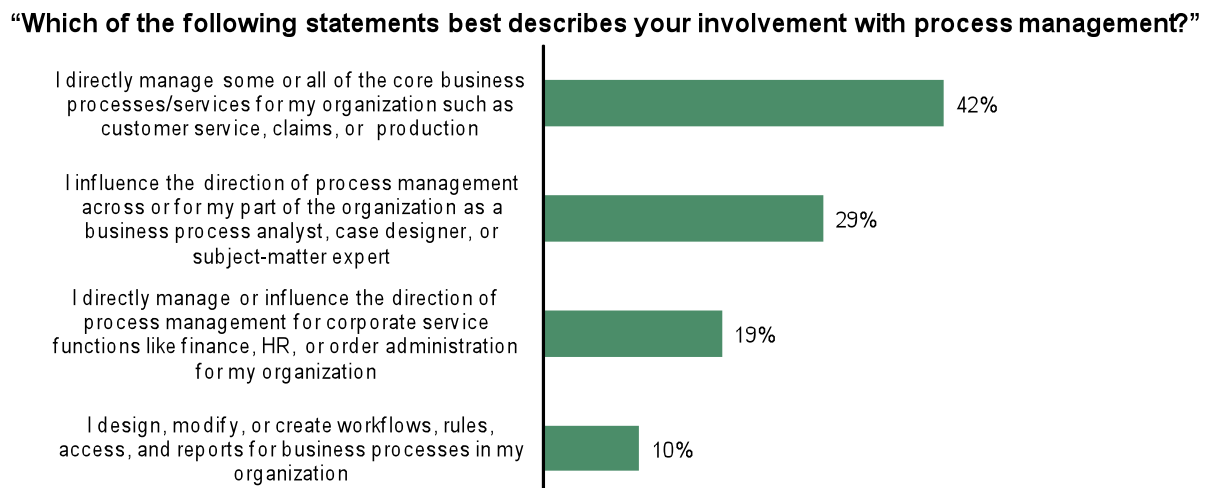
**Figure C**  
Demographics



Base: 150 case management influencers or decision-makers from the US and UK

Source: A commissioned study conducted by Forrester Consulting on behalf of ISIS Papyrus America, August 2010

**Figure D**  
Demographics



Base: 150 case management influencers or decision-makers from the US and UK

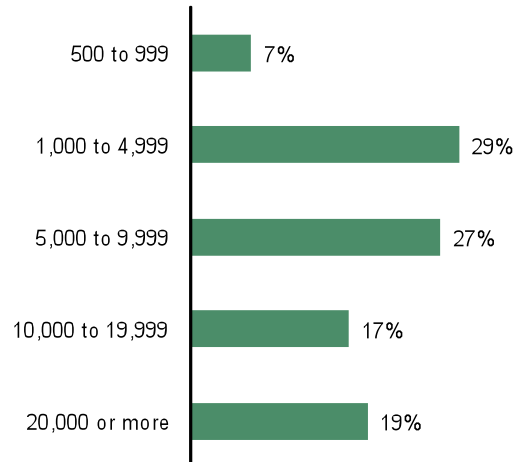
Source: A commissioned study conducted by Forrester Consulting on behalf of ISIS Papyrus America, August 2010

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**Figure E**  
Demographics

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**“Approximately how many employees work for your company, organization, or agency network?”**



Base: 150 case management influencers or decision-makers from the US and UK

Source: A commissioned study conducted by Forrester Consulting on behalf of ISIS Papyrus America, August 2010

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## Appendix C: Endnotes

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<sup>1</sup> Knowledge workers: Individuals who are valued for their ability to act and communicate with knowledge within a specific subject area.

<sup>2</sup> Source: “Harness The Power Of Workforce Personas,” Forrester Research, Inc., December 9, 2009.