Is Process Mapping A Barrier To Innovation?

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Executive Summary

Traditional process-centric application development approaches that design, develop, compile, and deploy based on a "frozen" set of requirements are now insufficient. Application development decision-makers require new solutions based on information-led and adaptive approaches that will augment traditional process-based implementation.

In December 2013, MicroPact commissioned Forrester Consulting to gain insight on how organizations create business applications, evaluate the strengths and weaknesses of current development processes, and the impact of a business' strategy driving the process.

In conducting in-depth surveys with 151 application development and implementation decision-makers from North America, our survey shows a clear recognition that older process-driven automation approaches based on mass production concepts are no longer adequate. Respondents cited fast-moving requirements, communication with the business, and information access as key barriers to achieving implementation goals.

KEY FINDINGS

Forrester's study yielded these key findings:

› Nearly half of organizations think a "data-first" approach that surfaces information at the right time is required to provide richer and more personalized interactions.

› Overall, respondents felt a data-first approach supported with dynamic and adaptive knowledge worker capabilities is required to support an increasing load of unstructured work activity.

› Future dynamic process support should focus on goals and knowledge worker adaptability.

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Mobility, Workforce Demographics Have Altered The Process Landscape

Our research suggests a fundamental change in how firms must support customers today. Since the advent of information technology, difficult problems or exceptions were often kicked to a back-office workflow and placed in a work queue to be handled by production workers. Yet today customers expect a high percentage of a transaction — in fact all of it — to be handled in the moment, assisted by mobile technology and/or humans with smarter more responsive systems. In our survey, 75% of organizations reported a shift of the process boundary toward mobile and web channels (see Figure 1).

FIGURE 1

Process Work Is Becoming Fragmented And Less Structured

"How has the nature of engagement processes changed? Please indicate how process initiation and settlement (the process boundary) has changed over the last two years if at all."
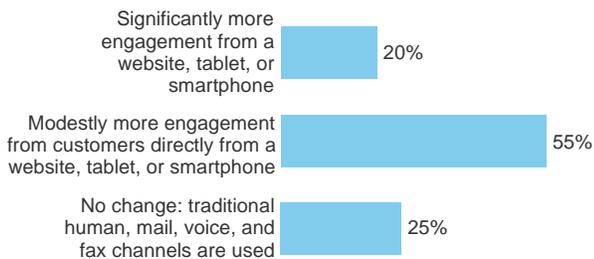
Significantly more engagement from a website, tablet, or smartphone — 20%

Modestly more engagement from customers directly from a website, tablet, or smartphone — 55%

No change: traditional human, mail, voice, and fax channels are used — 25%

Base: 151 North American application development and implementation process decision-makers from firms with 1,000 or more employees

Source: A commissioned study conducted by Forrester Consulting on behalf of MicroPact, December 2013

In essence, the boundaries of the process, i.e., the point at which the majority of a customer interaction takes place, have changed. They have been pushed out to the customer or to those serving the customer. This has been driven by trends in mobility and social media that have radically changed customers' expectations and their ability to interact with a business in many different ways. Much less of the activity is performed behind the company's firewall or with events received in the back office. These changes are the catalyst for many processes being redesigned today. In fact, Forrester estimates that enterprises will spend $56 billion redesigning processes by 2015.

For example, it's far better for an employee to complete an application at the point of service, capturing documents with a tablet or smartphone or a local scanning device, than send a packet of information to the back office. Field surveys, background investigations, insurance claim assessments, crime reports, and healthcare and social worker assessments case processes can benefit from being able to access information, receive real-time guidance, and complete more of the transaction from a mobile device. Processes, more and more, will start at these outer edges, with the processing more balanced with central office applications in many industries. And with these come more advanced exceptions and more unstructured work streams.

Traditional Process Approaches Do Not Support The Emerging Process Landscape

Respondents cited fast-moving requirements, communication with the business, and information access as barriers to achieving i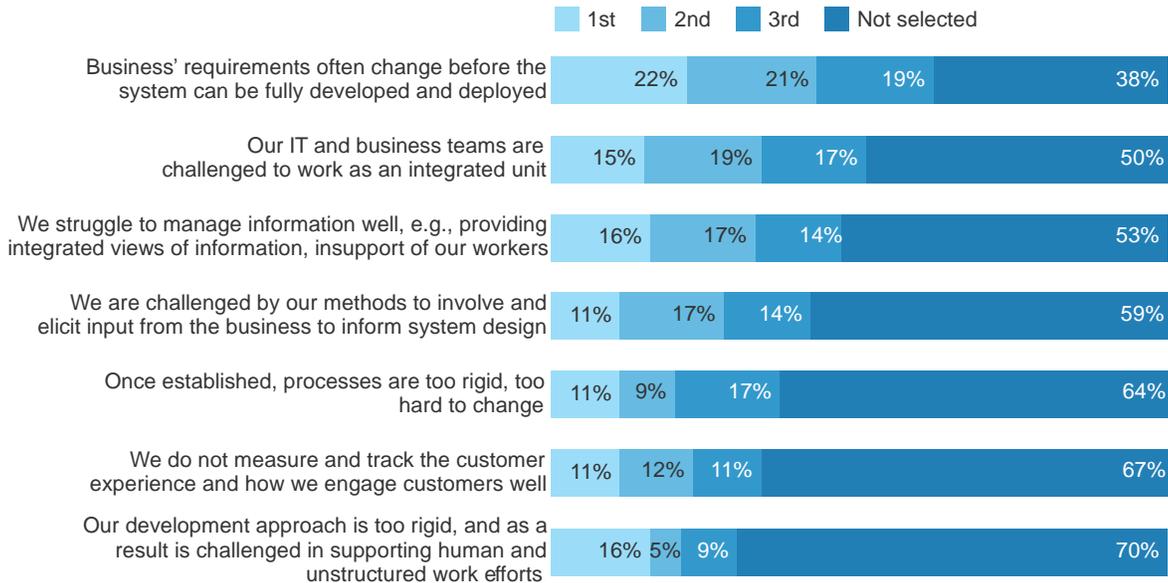mplementation goals. The top barriers continue to be nailing down system requirements. Enterprise requirements often change before the system is developed and deployed. The second most selected challenge is the inability for IT and business to communicate, which further exacerbates the requirements dilemma. To Forrester, this suggests that traditional application development approaches that design, develop, compile, and deploy — based on a "frozen" set of requirements — may be insufficient to support our new process boundaries and the faster pace of business. The third selection is the inability to gather holistic and comprehensive information (see Figure 2).

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FIGURE 2

Nailing Down Business Requirements Still Plagues Enterprises

"What are the top barriers to your organization achieving its application development goals?"

	1st	2nd	3rd	Not selected

Barrier	1st	2nd	3rd	Not selected
Business' requirements often change before the system can be fully developed and deployed	22%	21%	19%	38%
Our IT and business teams are challenged to work as an integrated unit	15%	19%	17%	50%
We struggle to manage information well, e.g., providing integrated views of information, insupport of our workers	16%	17%	14%	53%
We are challenged by our methods to involve and elicit input from the business to inform system design	11%	17%	14%	59%
Once established, processes are too rigid, too hard to change	11%	9%	17%	64%
We do not measure and track the customer experience and how we engage customers well	11%	12%	11%	67%
Our development approach is too rigid, and as a result is challenged in supporting human and unstructured work efforts	16%	5%	9%	70%

Base: 151 North American application development and implementation process decision-makers from firms with 1,000 or more employees

Source: A commissioned study conducted by Forrester Consulting on behalf of MicroPact, December 2013

TWO-THIRDS OF ORGANIZATIONS' CURRENT SYSTEM DEVELOPMENT APPROACHES DO NOT SUPPORT UNSTRUCTURED PROCESS NEEDS

Structured processes parcel out work in a sequential progression to service workers on an imaginary assembly line. Businesses today, more and more, leverage unique employee expertise and use more skilled workers to accomplish a greater variety of tasks with relatively fewer resources. Work has become less structured. For example, today's workers manage increasingly harder exceptions related to a loan request, a benefits claim, or a disability claim at the Social Security Administration. Further, the workforce has shrunk while the sheer amount of information consumed by a single worker has increased.

Respondents were very clear. Today's development environment is good for highly structured processes but does not meet the needs of less-structured activities, i.e., where tasks, information, and milestones vary significantly (see Figure 3).

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FIGURE 3

Current Approaches Are Not Suited For Accelerating Unstructured Process Needs

"How do the below descriptions describe your organization's ability to implement new processes today?"

Describes my organization perfectly — 1　　2　　3　　Does not describe my organization at all — 4

	1	2	3	4
The current development environment is good for highly structured processes but does not meet process needs for less structured activities, i.e., where tasks, milestones vary	14%	54%	29%	3%
Current approach and systems do not adequately extract the context of the work item (or related document) and use that information to model and to guide work, support better process decisions, routing, and rule invocation	17%	50%	26%	7%
Structured data and document artifacts of the business domain are not adequately reflected and accounted for during initial information gathering sessions with business	11%	41%	36%	12%

Base: 151 North American application development and implementation process decision-makers from firms with 1,000 or more employees

Source: A commissioned study conducted by Forrester Consulting on behalf of MicroPact, December 2013
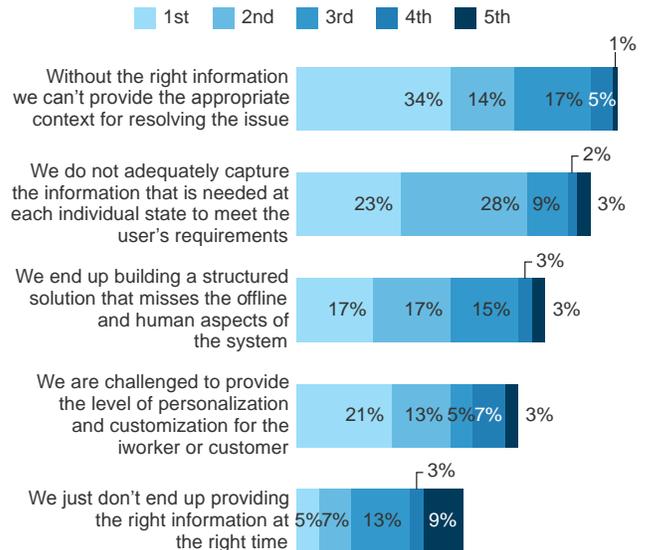
CONTEXT IS KING

Process-first modeling has been a mainstay of process improvement for almost two decades. This approach starts with a blank process map and a series of task icons that define a process as a series of connected steps, assigns steps to users, and creates rules to route work among steps. We wanted to see if this was still the case, what challenges existed, and whether in fact a "process-first" approach was a barrier to implementing systems. Overwhelmingly, respondents reported the biggest challenge is providing information in the best context to support the knowledge worker.

One-third of organizations indicated the biggest challenge in taking a "process-first" approach is getting the right information to provide appropriate context for issue resolution; over half of organizations reported their biggest or second biggest challenge is capturing information at each individual state to meet users' requirements (see Figure 4). For example, a knowledge worker will transition through hundreds of stages in meeting a business goal. Each stage, to be most effective, should have relevant information, tasks, and progress displayed. Most system implementations today do not support an underlying data or information model that allows adaption to evolving states; rather, they require the user to step out of the process and search for required information.

FIGURE 4

The Right Information At The Right Time Challenges Organizations

"What are the biggest challenges you see by taking a 'task-based' approach to application modeling and development?"

1st　2nd　3rd　4th　5th

	1st	2nd	3rd	4th	5th
Without the right information we can't provide the appropriate context for resolving the issue	34%	14%	17%	5%	1%
We do not adequately capture the information that is needed at each individual state to meet the user's requirements	23%	28%	9%	3%	2%
We end up building a structured solution that misses the offline and human aspects of the system	17%	17%	15%	3%	3%
We are challenged to provide the level of personalization and customization for the iworker or customer	21%	13%	5%	7%	3%
We just don't end up providing the right information at the right time	5%	7%	13%	9%	3%

Base: 151 North American application development and implementation process decision-makers from firms with 1,000 or more employees

Source: A commissioned study conducted by Forrester Consulting on behalf of MicroPact, December 2013

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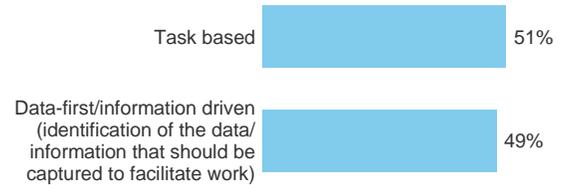# Enterprises Weigh New Implementation Approaches

More than half of respondents had a neutral — neither positive nor negative — attitude toward a process-first approach for implementation. However, those that had a negative view overwhelmingly cited the inability to communicate with the business using task templates and diagrams.

INFORMATION-LED APPROACHES CITED AS POTENTIAL FUTURE

Respondents were asked which they prefer: traditional process-first approaches or emerging information-driven implementation approaches. Overall, respondents were split (see Figure 5). Given that information-driven approaches (that emphasize data associations and data modeling) are an emerging software area, this reflects a strong desire for a different approach. We can conclude that enterprises feel that alternative implementation approaches may work better in their organization than long-standing process mapping approaches. In short, alternative implementation approaches in many organizations are thought to work at least as well as traditional process mapping approaches (see Figure 6).

FIGURE 5

Data-First Implementation Draws Even With Process First

"In the future, which system development approach would you find most advantageous in the way your business develops applications?"

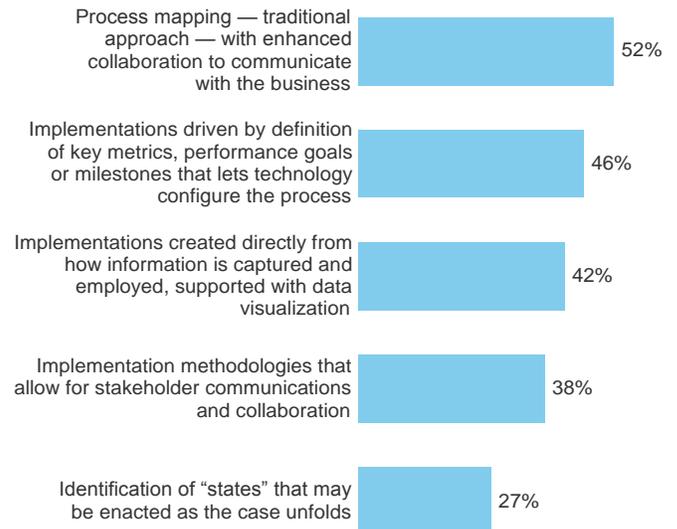|	
Task based	51%
Data-first/information driven (identification of the data/ information that should be captured to facilitate work)	49%

Base: 151 North American application development and implementation process decision-makers from firms with 1,000 or more employees

Source: A commissioned study conducted by Forrester Consulting on behalf of MicroPact, December 2013

FIGURE 6

Better Communication With Goal Driven Approach Cited As Remedy

"Which alternative implementation approaches in your organization may work better than process mapping approaches?"

Process mapping — traditional approach — with enhanced collaboration to communicate with the business	52%
Implementations driven by definition of key metrics, performance goals or milestones that lets technology configure the process	46%
Implementations created directly from how information is captured and employed, supported with data visualization	42%
Implementation methodologies that allow for stakeholder communications and collaboration	38%
Identification of "states" that may be enacted as the case unfolds	27%

Base: 151 North American application development and implementation process decision-makers from firms with 1,000 or more employees
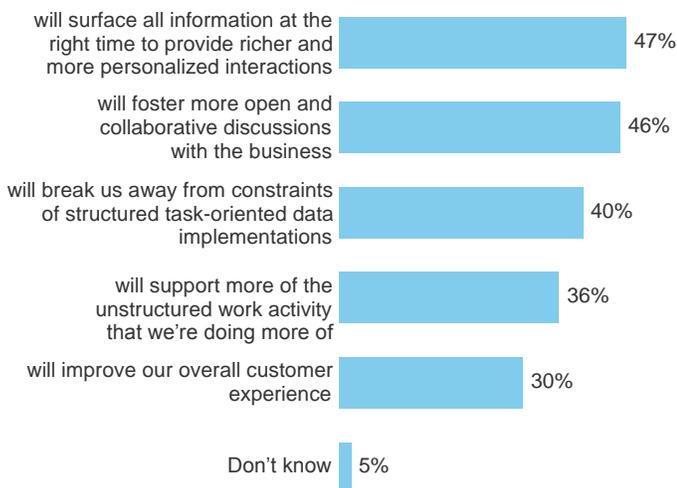
Source: A commissioned study conducted by Forrester Consulting on behalf of MicroPact, December 2013

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In fact, nearly half of organizations think a "data-first" approach will surface information at the right time to provide richer and more personalized interactions. To do this, different implementation approaches are required. These will focus more on data associations rather than task mapping. Data associations connect data elements (structured and unstructured) and process artifacts from disparate systems into logical entities that reflect the business. This allows changes in the process through information changes, to dynamically alter the case view and hence provide the appropriate context to the knowledge worker.

The potential of a data-first approach should not be underestimated and could help solve the biggest barrier found in this research, i.e., the inability to communicate with the business using task templates and diagrams. In contrast to a "process-first" approach, an information-driven or data-first approach provides practitioners with a language that lets them better connect with business users — 46% felt a data-first approach will facilitate conversations between system designers and business users (see Figure 7).

FIGURE 7
Data-First Approach To Provide Richer Experience

"What effect would a 'data-first' approach have on implementations in your organization?"
A data-first approach . . .

will surface all information at the right time to provide richer and more personalized interactions — 47%

will foster more open and collaborative discussions with the business — 46%

will break us away from constraints of structured task-oriented data implementations — 40%

will support more of the unstructured work activity that we're doing more of — 36%

will improve our overall customer experience — 30%

Don't know — 5%

Base: 151 North American application development and implementation process decision-makers from firms with 1,000 or more employees

Source: A commissioned study conducted by Forrester Consulting on behalf of MicroPact, December 2013

ADAPTIVE APPROACHES TAKE PRESSURE OFF TRADITIONAL REQUIREMENTS CHALLENGES

But there may be an answer. Implementation approaches are now possible that allow behavior to evolve as the system is running. These approaches allow "emergent" requirements to be met by users who can independently add features as they need them. The end user can create tasks, add users to the process, alter business rules, and collaborate with peers in real time. These "emergent" approaches take the pressure off designing all capabilities ahead of time.

Traditional implementation tends to lock users within a set of screens and forms; they get stuck. The only avenue is to break out of the process — into email, spreadsheets, sticky notes, phone calls. Standardization, control, transparency, and auditing are largely lost for these "out of process" activities. Emergent approaches allow the user to search all artifacts and metadata related to the effort; communicate within the system boundaries, with the flexibility to add features.

Knowledge workers can retrieve an existing process template, save it as a new one, and then alter business rules, business outcomes, and data associations. Traditional process mapping is often a subset of the overall case design environment — just not the main vehicle for communication or execution.

Future Dynamic Process Support Should Focus On Goals And Knowledge Worker Adaptability

For future, more dynamic process improvement, the top capability selected was to intelligently route work based on best available resource for completing a particular task (e.g., based on cost, skill set, and competency). This harks back to the current approach to process-first management.

However, the second was incorporating goals and outcomes fundamentally in the system; this points to emerging approaches that provide more process adaptability to the system user. The more adaptive a system is the more goals or outcomes become the stabilizing and driving force.

The third selection also points in the emerging and adaptive direction, i.e., the ability for a knowledge worker to adapt the running process, essentially composing a valid and unique "process" — on the fly (see Figure 8).
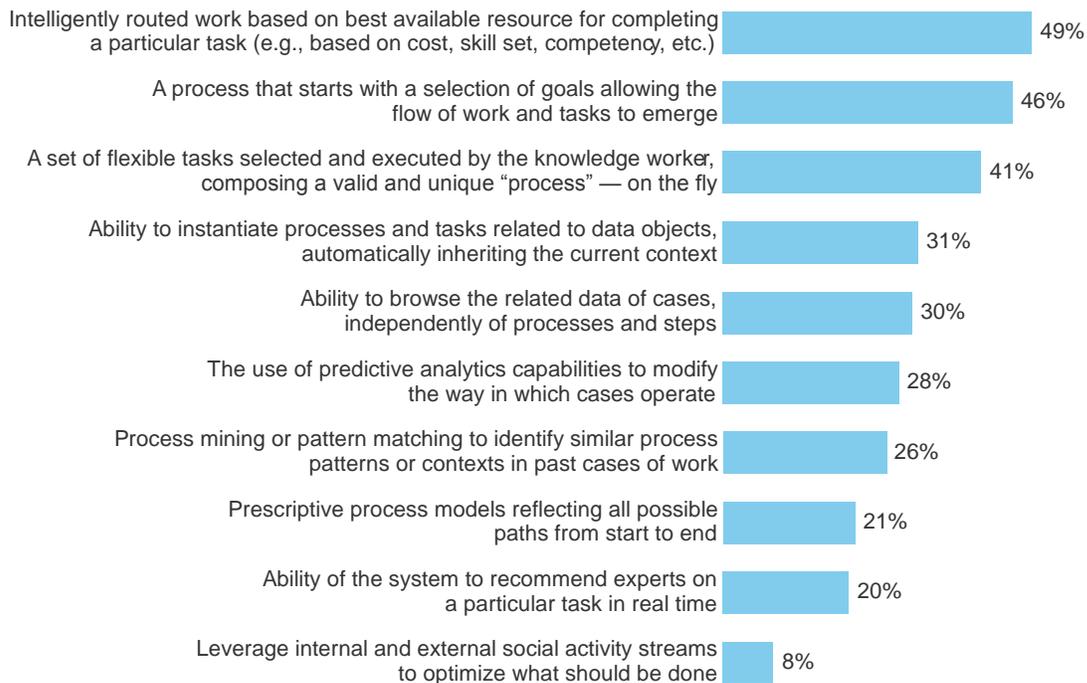
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Overall, a data-first approach supports dynamic processes in a new and productive way by incorporating intelligent work routing, adapting to more loosely constructed goals and outcomes, and allowing freedom for the knowledge worker to innovate during the running process. In short, 36% of respondents felt a data-first approach will support more of the unstructured work activity that they're doing consistently more (see Figure 7).

FIGURE 8

Intelligent Routing, Goal-Driven Processes, And Knowledge Worker Flexibility Will Form Next-Generation Solutions

For future more dynamic process improvement, please select the top three most important capabilities:

Capability	%
Intelligently routed work based on best available resource for completing a particular task (e.g., based on cost, skill set, competency, etc.)	49%
A process that starts with a selection of goals allowing the flow of work and tasks to emerge	46%
A set of flexible tasks selected and executed by the knowledge worker, composing a valid and unique "process" — on the fly	41%
Ability to instantiate processes and tasks related to data objects, automatically inheriting the current context	31%
Ability to browse the related data of cases, independently of processes and steps	30%
The use of predictive analytics capabilities to modify the way in which cases operate	28%
Process mining or pattern matching to identify similar process patterns or contexts in past cases of work	26%
Prescriptive process models reflecting all possible paths from start to end	21%
Ability of the system to recommend experts on a particular task in real time	20%
Leverage internal and external social activity streams to optimize what should be done	8%

Base: 151 North American application development and implementation process decision-makers from firms with 1,000 or more employees

Source: A commissioned study conducted by Forrester Consulting on behalf of MicroPact, December 2013

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Key Recommendations

The study indicates that process professionals understand process mapping challenges (e.g., rigidity, flowcharts) and opportunities (i.e., goal-orientation, decision management). They 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 semi-structured, driven by business events, and require embedded decision-making. Based on this study, enterprises should:

› **Make adaptive solutions center stage.** Solutions such as dynamic case management allow a business analyst to combine prebuilt process models with other prebuilt process models and process fragments to quickly create new processes. The ability to leverage "widgets" and allow mashups will be a boon for case management applications that can reuse and snap in capabilities. Portions of many case management processes have similar sequence components (i.e., process snippets or process fragments) that can be leveraged. But the ability to rapidly bring up new case management applications was firmly cited as a requirement.

› **Look to an data-first approach.** Put the task mapping tool away and start with how users manipulate and consume information at various stages in a process. Think about "context" first and embrace emerging platforms that support context adaption by building rules and logic around "object" models.

› **Focus on goals and outcomes in system design.** 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. Manage the resulting dynamics by organizing processes by goals and optional/alternative sub-goals with handover criteria, resembling encapsulated objects (goals) that are organized as data and metrics in the system.

› **Empower all levels of the hierarchy to create and improve the high-value, semi-structured knowledge work of business professionals.** The evolution in mindset of the people responsible for process management can be sped up by the use of technology that steps beyond the simple case folder or flowchart paradigm. It is most likely a combination of both concepts as either integrated or consolidated platform that combine change management, content, process, rule, and portal functionalities.
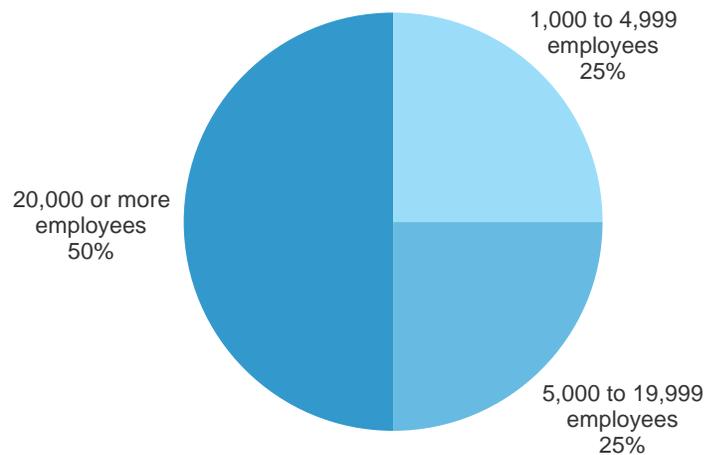
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Appendix A: Methodology

In this study, Forrester conducted an online survey of 151 North American application development and implementation process decision-makers from firm's with 1,000 or more employees to evaluate emerging process needs in the enterprise. All industries were included with relatively even distribution. The study was conducted in December 2013.

Appendix B: Demographics

FIGURE 9

Firm Size By Number Of Employees Surveyed

"Using your best estimate, how many employees work for your company worldwide?"

1,000 to 4,999 employees 25%

5,000 to 19,999 employees 25%
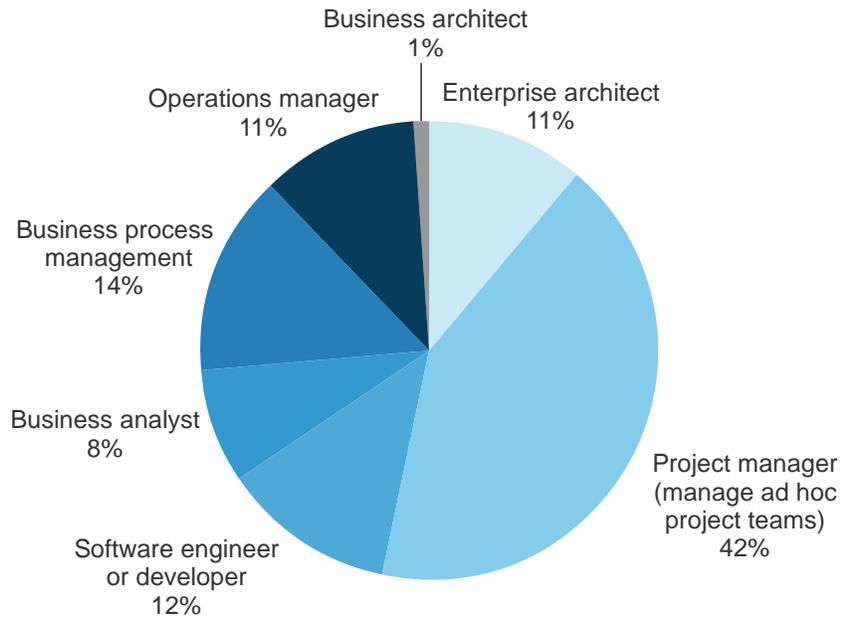
20,000 or more employees 50%

Base: 151 North American application development and implementation process decision-makers from firms with 1,000 or more employees

Source: A commissioned study conducted by Forrester Consulting on behalf of MicroPact, December 2013

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FIGURE 10
Roles/Positions Surveyed

"Which title/role best describes your position at your company?"

Base: 151 North American application development and implementation process decision-makers from firms with 1,000 or more employees

Source: A commissioned study conducted by Forrester Consulting on behalf of MicroPact, December 2013

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