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Analyze the Future

INSIGHT

Business Navigation Systems Combine CEP with BPM

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IDC OPINION

SITUATION OVERVIEW

Enterprises invest in packaged applications, development systems, testing, services oriented architectures, middleware and analytics to align process automation with business cycles. When IT is successful in this alignment, cycles accelerate and we see improvements in business flexibility that we now take for granted. Examples include point-of-sale electronic payment systems such as credit and debit cards, instant loan approvals and immediate provisioning of a new mobile phone.

The problem with speed is that errors accelerate in parallel with the accelerating business cycles. This causes control problems, despite governance and analytics systems that help mitigate risk. For instance:

- Loans can be quickly approved – to unqualified borrowers
- As consumers, we can download ringtones, music, and movies – but don't see the financial impact until we get the bill at the end of the month
- Companies offering speedy services and bundled offerings easily sign up customers and bill them; but managing exceptions, auditing performance, and supporting customers are more difficult and costly.

The lack of control is caused by increasing complexity. For the past 30 years, enterprises invested in point applications that automate activities tied to business processes. Increasingly, we are also outsourcing portions of our processes.

As Figure 1 illustrates, a trend away from vertical integration into partnering for lowest cost or best-of-breed capabilities means that enterprises manage fewer activities within their end-to-end processes. It also illustrates the increasing difficulty and complexity of providing a satisfactory experience to customers – even as customers demand greater accountability.

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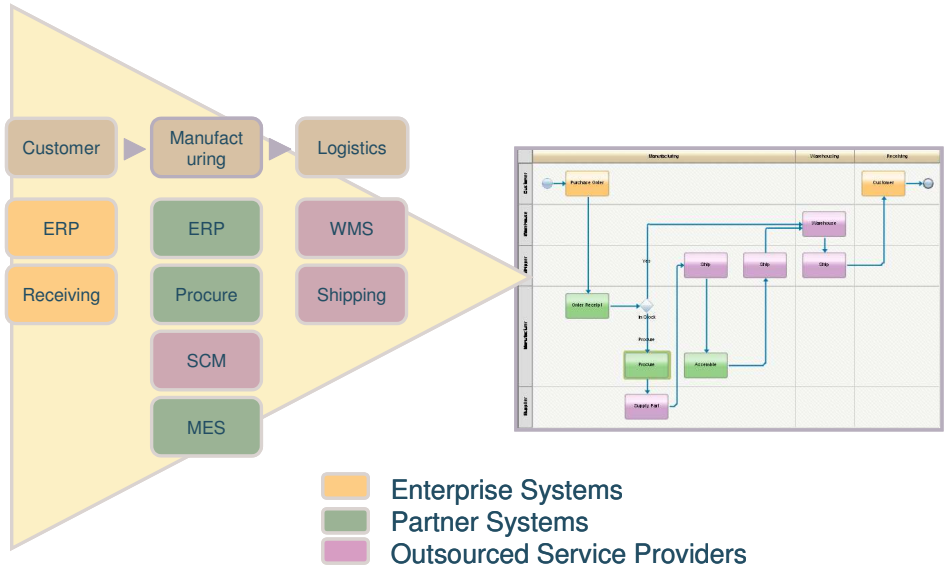
FIGURE 1

High-Level View of Order Fulfillment Process Illustrates Lack of Single Company Control Over Process



Source: IDC, 2009

The Problem with Speed

Innovations in braking systems came from automotive racing and then were applied more broadly to the automotive market. Even though there are crashes in racing, they are unusual. Even more unusual is a racing death. Innovation around key risk areas – such as advanced braking systems – kept pace with innovations that boosted speed.

In business, investments in the development of an equivalent braking system to manage speed and complexity has not occurred.

Problems Are Noticed Too Late

Often, the first understanding of a problem occurs when a customer contacts the enterprise by calling, complaining on a web site – and increasingly, complaining using social media. Examples include mobile phone bills that were higher than anticipated resulting in a complaint or late arrival of an order. In business-to-business, a truck is waiting for approval to make a delivery because there is no record of receiving an advanced shipping notice; meanwhile, the production line is slowed down because the part is waiting in the truck that is waiting for approval to unload.

There is an explosion of anger about negative surprises that cost money to resolve and where customers are complaining in their social networks, which has great potential to hurt the reputation of the business. There is also a huge amount of waste as workers sit idle because of unanticipated problems.

Passively waiting until a plan is missed or customers complain is an expensive way to solve a problem and is increasingly risky to the brand and reputation of a business, particularly when prevention and problem optimization can be designed into the process.

Applying a Navigation System to Business

One way to solve the problems is to apply what we've learned from car navigation systems to business systems. With a personal GPS system:

- The driver enters an address
- Embedded optimization software calculates the best route
- The GPS device compares the location of the automobile with the planned route
- The device continuously maps the car's location, adjusts the estimated arrival time, and alerts drivers before and when they need to turn or change directions
- If a turn is missed, the device notifies the driver and calculates a new route

GPS devices have significantly reduced the risk of traveling to an unknown destination. Anyone who has been late for a business meeting or a child's soccer game understands the importance of this technology.

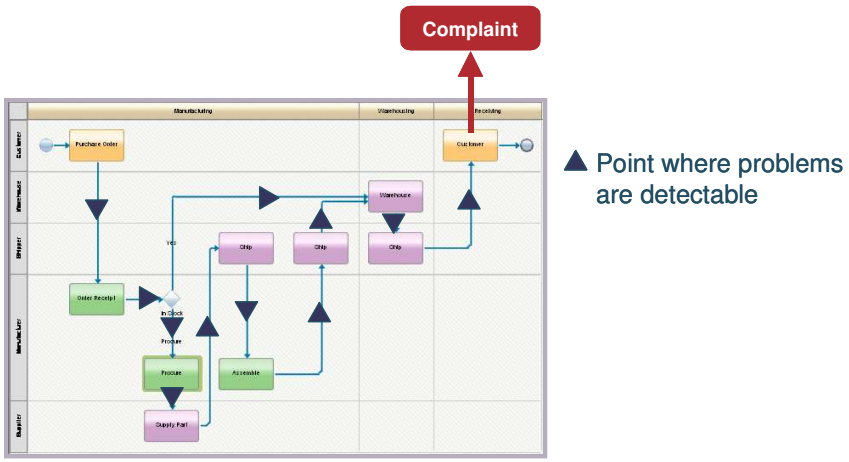
Businesses have the same opportunity to remove the risk of the unknown by building their own form of navigation systems with complex event processing and leveraging their existing investments in business intelligence and process automation software.

Business Navigation Systems

The goal of a business navigation system is to identify the first moment a problem or opportunity is predictable and make an effort to improve the end result. Figure 2 shows the process from Figure 1, with blue dots that show handoffs between systems. Each of these handoff points represent the availability of data that can be used to compare current state with desired state. When there is a difference between the actual and expectation, there is an opportunity to detect a problem with an outcome and systematically manage the outcome to a better resolution.

FIGURE 2

Using Customers to Detect Problems Is Increasingly Expense



Source: IDC, 2009

Business navigation systems manage business-relevant events in real-time. By comparing a model of a problem or opportunity with each new event, these systems are able to instantly detect and notify other applications or users that action is required. Once notified, the navigation system automates or assists the decision-making process and automates how the application takes action

Business navigation systems minimize costs when applied to a problem and maximize revenue from early detection of an opportunity.

Key Components

Figure 3 shows the components of a business navigation system. The boxes at the bottom correspond to the order fulfillment process described throughout this report. Business navigation systems include systems used for customer service and event feeds that can be used to create consumer services.

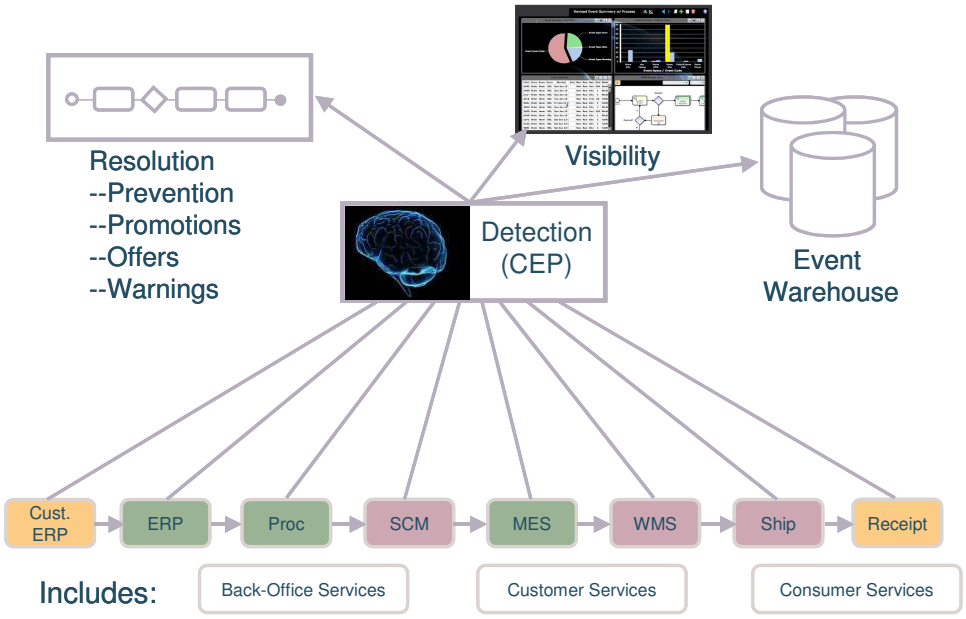
A business navigation system requires:

- A way to emit events from enterprise systems in addition to all of the location aware sources
- These events flow to a detection engine by attaching push-style adapters to enterprise applications or publishing from other event collectors, such as RFID servers and enterprise service buses
- The engine parses and correlates events to look for patterns – or maps – that describe problems or opportunities
- If a pattern is matched, a new event is published to a person or application designed to resolve the issue

- Monitoring software updates users to maintain situational awareness in their domains
- Event warehouses maintain event histories.

FIGURE 3

Components of a Business Navigation System



Source: IDC, 2009

Event-Driven Customer Service Is a Frequent Starting Point

Enterprises interested in the benefits of event-driven applications make decisions about where they should pilot the approach. Increasingly, we are seeing investments go toward event-driven customer service, where the system warns customers that they are approaching a problem condition.

Examples include a notification that monthly minutes will exceed the plan for a mobile phone customer or a power outage is predicted for energy customers in a service area. With these warnings, customers change their usage or do on-the-spot negotiations with the provider for better rates. The point is delivering important information to customers to give them time to respond in an optimal way.

In some cases, event-driven customer service is even more sophisticated in that a solution is embedded in the problem notification. Automatic rescheduling of flights, special offers that help a customer when their usage is higher than normal and other efforts are underway, particularly where in highly competitive markets, where the business is looking for a way to provide competitive differentiation.

Conclusion

- As business cycles accelerate with the assistance of supporting IT systems, risk and waste accelerate with the business cycle even as business processes become more complex
- Enterprises have not invested in the methods needed to apply brakes to these highly complex, ever-faster business cycles. Without a way to slow down a process when necessary to resolve problems, costs are needlessly high and customers needlessly dissatisfied
- Borrowing from what we've learned about the way GPS devices are used for navigation, enterprises have the opportunity to attach business navigation systems to their key processes
- By harnessing existing data and complex event processing, business navigation systems minimize costs when applied to a problem and maximize revenue from early detection of an opportunity
- Event-driven customer service built on the principals of a business navigation system are providing a way for businesses to offer cost-effective differentiation, particularly in highly competitive markets