

The Agile Enterprise: Fertile Ground for Innovation

Enterprises with malleable IT infrastructures enable organizations to profit from organic innovation and make it easier to achieve new composite products not yet conceived

InfoManagement Direct, July 14, 2011

Nigel DeFreitas

Peter Drucker's book "Innovation and Entrepreneurship" introduces a systematic means of achieving innovation. Drucker states that innovation stems from "purposeful tasks that can (and should) be organized." He also argues that innovation and entrepreneurship should be "a normal, ongoing, everyday activity" for organizations.

Like what you see? [Click here to sign up for Information Management's daily newsletter to get the latest news, trends, commentary and more.](#)

However, recognizing opportunity does not mean that a company will be able to take advantage of it in a climate of ever-changing business needs. To leverage opportunities, enterprises must have a degree of nimbleness, including loosely coupled software, sound engineering processes, good data governance and agile infrastructure assets.

Enterprise Evolution: A Collection of Puzzles

Popular growth strategies of many successful corporations include acquisition roadmaps. It is lucrative for a large enterprise to buy smaller, promising businesses that align with its core strengths and to cross-sell products and services to larger, well-established customer channels. Once-small organizations now undergo growth spurts to accommodate this increased demand, which brings new revenue dollars to the enterprise more quickly than it would have taken to build a competing product or service from the ground up. However, these smaller businesses commonly have tightly coupled monolithic applications that grew out of necessity, rather than being engineered from the beginning to be loosely coupled and highly scalable.

ADVERTISEMENT

[Integrating Data: An Open Source Approach](#)

Any technology deployed in the information system needs to interoperate with existing applications or databases. Learn through real-life scenarios how Open Source data integration solves the interoperability challenge. [Free White Paper.](#)

Investments in new acquisitions are often necessary to ensure that products and services scale and integrate with other systems seamlessly to meet new demands. Compounding the problem, the acquisitions frequently carry their own share of operating expenses, as well as additional data centers and other redundant infrastructure such as payroll and email.

In most cases, small investments are made to integrate or scale these largely siloed systems,

and attempts are made to keep operating expenses at a minimum. It's much like a picture puzzle where each piece of the system fits in exactly one place and is not reusable elsewhere within the same system or in any other system within the enterprise. This model of systems integration is expensive, and the parent company may struggle to plan and execute strategic integration projects within budget.

Innovation and Innovating

How are these rigid enterprises going to innovate and create new products? There are two widely accepted types of innovation that companies can use: disruptive and organic. Disruptive innovation is the type most often thought of as the "bright idea" — a "flash of genius" that creates new markets and displaces previous business models. But disruptive innovation is not as common as one might think. As Drucker notes, it requires empathy, personal creativity, social networks, prior knowledge of several industries or interests, and entrepreneurial awareness to recognize opportunity. Not all opportunities have the potential to disrupt markets, and once recognized, the opportunity needs to be implemented.

Organic innovation, on the other hand, is much more common. It is the combination of already well-known products and services to create incremental value to existing customers and markets. An example of this can be found in a package delivery company's mapping of doorsteps: As each delivery truck driver drops off a package, a scanner would be used to mark the latitude and longitude of the address. The data can then be sold to vendors, earning the delivery company additional revenue. This is how most corporations innovate today. However, to leverage organic innovation, organizations will need to overcome the barriers introduced by monolithic, siloed systems.

Fostering Open Innovation

From time to time, an organization's strategy will include building new products for new markets. To do so, many companies may choose to launch an innovation drive, where groups of the brightest individuals are assembled into teams and tasked with conceiving of a new product or service. These groups rarely persist beyond the scope of a project; they eventually lose steam and dissipate until the next innovation initiative comes around. Systematic innovation needs to be institutionalized for it to be effective.

In recent years, social networking has given rise to new collaboration tools that help organizations innovate. The ideagora (or idea marketplace) — a website that allows employees and customers to post problems and leverage the crowd of users to solve these problems — is one such concept. Conversely, employees can also post new product ideas or suggestions and other employees can vote on the validity of the idea. The most economically viable ideas can then be distilled into the company's project portfolio to match current finances, strategy or customer needs. Employees who own these ideas (either by conception or investing in the idea) are then rewarded when the idea goes to production. The rewards could be as simple as privileged parking spots, extra vacation days or an opportunity to meet with senior executives.

Ideagoras enable innovation, but a company needs to incubate them and gain the support of senior executives to institutionalize them within the organization. Support could include funding the ideagora's rewards system and recognizing innovative employees and

customers. In addition, it is important for the organization to find and foster their open leaders – individuals who enthusiastically support the innovation program and frequently leverage it.

Build LEGO Bricks, Not Puzzle Pieces

In today's competitive market environment, organizations are under considerable pressure to increase shareholder value while limiting operating expenses. This means that enterprises cannot expect to integrate large monolithic systems to create new products and revenue. Doing so is simply too expensive and takes too long. Additionally, it is impractical simply to mix combinations of existing products to create new innovative ones.

The solution lies in creating smaller, more atomic components of reusable functionality, which can then be rearranged in new compositions to create products. Think of these atomic components as LEGO bricks as opposed to puzzle pieces. Each brick can be easily plugged into others because it was built using a standards-based approach, designed to be interchangeable by limiting its functionality and interfaces to a specific purpose.

Achieving this level of standardization requires hard work, proper governance and, most importantly, collaboration at the enterprise level. Standards should drive messaging protocols, especially within clusters of systems in the same business vertical where the chances of integration are highest. All system components, particularly shared ones, need to be thoroughly stress-tested and parallel-process capable to meet growing volume demands. Strict policies on open source license adoption need to be governed properly so that development teams aren't exposing the organization to litigation risks. In addition, all of these tasks need to be executed with the organization's strategic vision in mind. Customer demands aren't always predictable – a company doesn't know which composite product it will need to build next – so having a collection of loosely coupled components allows it to assemble the system from existing inventory and build new components as needed.

In addition, it's not enough to create reusable software components since the components are frequently anchored by the data on which they operate. Components that do not need to persist data or read persisted data are the most nimble and can be easily recomposed in new ways. Those components that depend on a fairly static data set are more agile than components that depend on dynamic data sets because static data can be cached where needed in the enterprise. Business and legal rules that govern data sets can also make it difficult to reuse components and data sets in new ways. Thus, it's important to have well-understood documentation and data governance processes in place to achieve a nimble portfolio of components.

Enterprises with malleable IT infrastructures enable organizations to profit from organic innovation and make it easier to achieve new composite products not yet conceived. The opposite is also true: Organizations with rigid infrastructure and software inhibit organic innovation because they are very expensive to rearrange into new compositions. The lack of standardization due to natural evolution makes it tough for these systems to be integrated with each other in a cost-effective manner.

Organizations that bank on disruptive innovation have a "go big, or go home" attitude, which may signal an enterprise in distress. Both disruptive and organic innovation requires a systematic approach and empathy toward customers' needs.

No one knows what the future will bring other than certain change. Being flexible and adaptable is the best an organization can do now to prepare for the future. It requires diligence and commitment to create and sustain a culture of building loosely coupled atomic functionality. It could mean the difference between taking advantage of innovative opportunities and going out of business.

Nigel DeFreitas is a managing architect at ISO, the flagship subsidiary of Verisk Analytics.

For more information on related topics, visit the following channels:

- Business Activity Monitoring (BAM)
- Business Intelligence (BI)
- Business Process Management (BPM)
- Content Management
- Customer Experience
- Customer Relationship Management (CRM)
- Customer Data Integration (CDI)
- Customer Intelligence/Marketing
- Data Integration
- Data Management
- Data Modeling
- Data Quality
- Enterprise Architecture
- Enterprise Resource Planning (ERP)
- Information Management
- Performance Management
- Search
- Social Media/Web

©2011 Information Management and SourceMedia, Inc. All rights reserved.

SourceMedia is an Investcorp company.

Use, duplication, or sale of this service, or data contained herein, is strictly prohibited.