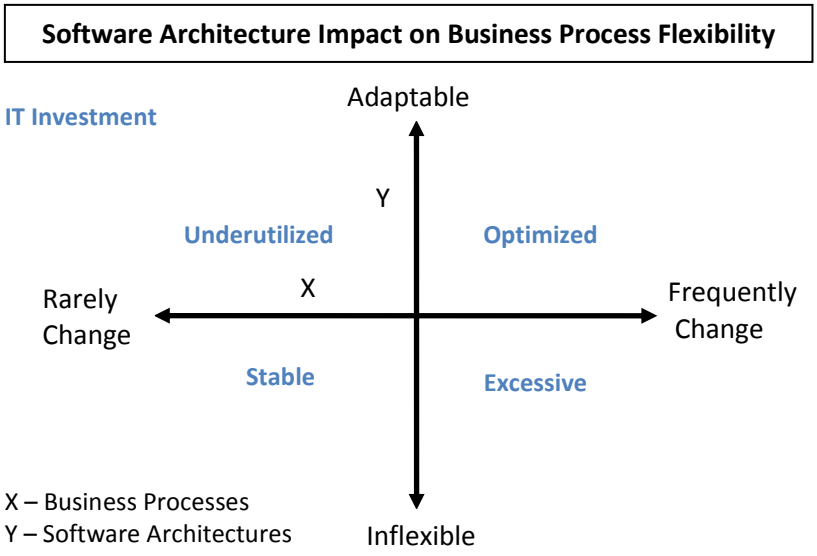
Enabling Business Agility with Business Friendly Software

Executive Summary

Commercial software vendors historically wrote software code that represented their interpretation of business and industry best practices, and according to their internal technology architecture, requirements and development standards. This practice often left their customers with inflexible business software, and inadequate features and functionality. Since business software frequently fell short of supporting changing business requirements, customers had to incur additional costs for customizations required to meet their specific business needs, which in turn created software that became difficult to maintain and upgrade, furthering the gap between software flexibility and business agility.

Software architecture's impact on an organization can be illustrated by use of an X-Y axis graph. Along the X axis, you have business processes ranging from those that change rarely to those that change frequently. Along the Y axis, you have the supporting software architectures ranging from those that are "inflexible" to those that are "adaptive." The greatest negative impact on the organization occur when the business processes change frequently but the software architecture is inflexible, requiring excessive IT expenditure to bridge the gap. Conversely, where the processes do not change often, but the software architecture is highly adaptable, you have underutilized capabilities representing an over-investment in technology.



Where you have critical business processes that change often and inflexible software architecture requiring IT projects for all business enhancements, there is considerable "lost opportunity costs" as the need to change the software delays the business as it responds to competitive pressures, regulatory issues and market opportunities[i]. In addition, the costs resulting from inflexible software also include poor business intelligence, as the business strives to work around the problem with inadequate functionality and data.

Going forward, any organization conducting a vendor/software selection process should include an analysis of each vendor's approach to delivering technology solutions where the end state of

the deployed solution, serve the customer as a "business configurable" application. This approach will further enable their IT departments to provide technology solutions that are more "business friendly" and conducive to business agility.

The Issue: Inflexible Vendor Software Creates a Disconnect between Business and IT

There is a Business-IT disconnect that result from the inability of traditional vended software architecture to provide "business friendly" systems flexibility. There is also the availability of modern software architecture that result in simpler, more flexible, less expensive systems to change and support, opposed to systems that are rigid and complex.

Inflexible commercial software also promotes the Business-IT disconnect when the vendor organization's focus and efforts are either out of sync with their customer's priorities, or the delivery of new features and functionality are not timely or cost-effective enough to support changing business needs.

There are multiple contributors to the Business-IT disconnect including (but not limited to):

- Vendor Software Architectures designed without enabling flexibility
- Vendor software complies with generic industry practices not your specific practices
- Software vendors release new functionality independent from your business priorities
- Inflexible software results in strained communications between Business and IT
- Heightened politics between Business and IT when business needs are unmet
- Conflicting demands on IT as a "Shared Service" is compounded with inflexible SW
- Vendor product strategy may impact Business and IT Strategic Alignment
- Inflexible vendor software increases Business/IT Projects and resource demand
- Inflexible vendor software increases enhancement and maintenance governance

Business managers get very frustrated when IT is not responsive to their technology support needs. The fact that a vendor's inflexible software architecture is the underlying issue is not of concern to a business manager facing a business environment threat. Business managers simply want the technology to work and evolve to support their ever changing needs.

When vended software solutions are out of sync with business processes, the IT organization suffers. IT is seen as a liability rather than an asset when their systems cannot quickly support changing business needs. Keeping IT aligned with business needs and issues helps IT retain credibility and trust with their business partners.

Why it Matters? Flexible Business Software Increases Business Agility

Business Agility - the ability of a business to adapt rapidly and cost effectively to changes in the market place and business environment. It incorporates the idea of ease of flexibility, balance, adaptability, and coordination, all in concert to achieve faster "time to market" with improvements to business operations, products and services, resulting in increased revenue, avoided cost and improved customer services.

Historically, the gap that exists between changing business needs and the ability of IT organizations to support of those changing needs, stifle business agility. In all industries,

business environments are evolving at an ever increasing rate. It has been rare to find business application software that can easily change once implemented. This reality results in dissatisfaction with business systems, frustrated business system users, and business systems that become a drag on business agility. The gap between changing business needs and vended business software inflexibility hampers efforts to rapidly evolve the business to respond to regulatory and compliance issues, or to capitalize on time sensitive opportunities. It also costs the business time, money, and reduces employee morale. Business application software needs to be the agent of change, not a hindrance to change.

Businesses require the next generation of software architectures and technology solutions to allow for on-demand change of features and functionality as the business evolves. They can no longer afford to be "penalized" for requiring modifications in support of ever changing business needs. The business reality of forgoing all but the most important changes due to prohibitive costs and/or delays can no longer be tolerated.

Software Architectures must enable technology solutions that allow rapid and low cost implementation of feature/function changes as demanded by the changing business environment. Business Systems must continue to provide functionality conceived by industry best practices, but they also need to be receptive to the unique practices of the business, and their need to respond to customers, partners and others. If functionality was not initially built in the software, the business should have the ability to configure it in a timely and cost effective manner. Business systems design leveraging this approach offers improved ROI to the business as they respond to business change with more timeliness and agility.

Business Case - $300M Workers Comp Company Quoted $300k for a Simple Change

Company X, a $300M Workers Comp Provider, operates their business with a traditionally architected commercial software package. The company needed to enhance their billing module to accommodate changes resulting from the acquisition of a new major client. Their traditional software vendor quoted $300k to develop and implement the change, and a nine month implementation cycle before the change would support the business operation.

Company X introduced the business scenario to a "next generation" software vendor whose business systems are architected to provide the flexibility demanded by today's rapidly changing business environment. The "next generation" software vendor leveraged their Business Rules capability to implement the exact change required by Company X into their billing module. The change was accomplished within 24 hours and at no additional cost. The next generation software was architected to be easily configurable and "business friendly". Needless to say, Company X is taking a hard look at switching to the business system provided by the "next generation" software vendor.

The potential ROI derived from increased business agility, business system ease of use, and functionality time to market gains, will not only reduce Company X's Business-IT disconnect, but will help Company X increase revenue, avoid costs and improve customer service.

The Future – "Business Friendly" Software Capabilities

Today, advancements in Information Technology including Object Oriented Design, Component Based Development, and Service Oriented Architecture, to name a few, now enable customers

to expect seamless, transparent and configurable solutions that allow the business to quickly react to their ever changing business environment and market conditions. This is made possible by the maturing of the IT industry based on considerable public, private and academic research and development, lessons learned from past endeavors, and better thought-out processes and methodologies leading to key "business friendly" software enablers like:

- Service Oriented Architecture (SOA)
- Work Flow Automation
- Business Rules Engines (BRE)
- Business Process Management (BPM)
- Configurable Role Based Dashboards, Portals, User Interfaces (UI) and Reports
- Business Intelligence (BI) and Business Activity Monitoring (BAM)

Modern business systems that leverage technology advancements in business software development will provide the following benefits to business:

- Lower the penalties for modifications
  - Faster Time to Market
  - Reduced Implementation Cost
  - Increased Software Quality
- Flexibility options beyond Industry Best Practices
- Ability to better respond to customers, partners, and others
- On-demand change reducing the delay in business system changes
- Ability to try different functions and features without fear of getting "stuck" with it
- Quicker Change Control Process more directly tied to actual business results
- Ability for business users to visualize, implement and evaluate modifications faster
- Business applications can evolve from a steady stream of requirement updates

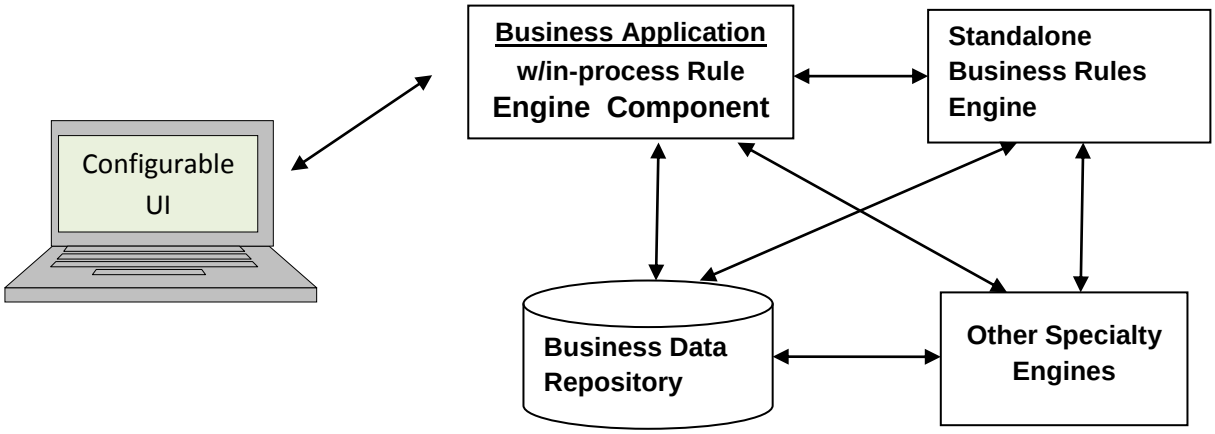
While the gap between business agility and technology inflexibility plays out in many ways across a business operation and technology environment and there are many capabilities architected to enable "business friendly" business systems, this paper will outline the advantages that can be derived by implementing a Business Rules Engine capability. A Business Rules Engine is one capability that enables "Business Friendly" commercial software.

Business Rules Engine Implementation – A "business friendly" Capability

A Business Rules Engine capability is by design "Business Friendly" in that it enables the business to register, define, classify, and manage all business rules, verify consistency of rules definitions, define the relationships between different rules, and relate rules to IT applications that are affected by or need to enforce one or more of the rules[ii]. This approach improves the cost, time and quality factors when making business system changes without having to launch a small IT project every time. Changes to business logic introduced by new conditions, parameters and variables to accommodate a new customer, regulatory compliance issue, or method of doing business would easily be determined and implemented by the business area responsible for the business process.

A Business Rules capability allows an organization to automate and manage their policies and procedures, and associated business logic, so that the business can immediately respond to changes in the business environment. Generally, a business rules system is an automated system in which the business rules are defined and stored separately from other aspects of the

system, but shared across data stores, user interfaces, and applications. The business rules capability enables a "de-coupling" of much of the business logic that drives the applications, and renders it via a user interface in a "user friendly" format so that a knowledgeable business user can define and/or change the rules directly. As a result of this capability, the business area has immediate access to manage and implement business changes. In addition, communication and timing problems are eliminated between the business area and their IT delivery organization. A sample architecture that incorporates a business rules capability is illustrated below consisting of the following components:



Component Descriptions

- **Configurable User Interface (UI) -** The User Interface would be easy to use and have the power and flexibility to cross all relevant business applications and data. The business can "bypass" IT and have direct access to the rules management mechanism, enabling specific dashboard functions based on user roles.
- **Data Repository:** The data repository stores business operation data. External applications, the rule engine and the specialty engines retrieve data by invoking services implemented by the data repository.
- **Standalone Rules Engine Service:** A standalone rules engine is implemented using a leading business rules capability. On receiving a request, the rule engine service executes methods in the business object model and performs rule based inferences. The results obtained will then be returned to the invoking application.
- **In-process Rule Engine Component:** This component provides similar functionality to the rules engine service, except that this rules engine component is loaded in the same process space in which the application is executing. This might be the case where the rules are specific to an application.
- **Other Specialty Engines:** On receiving a request, the specialty engine performs inferences on data to determine special cases (i.e. Workflow, Rating, Logistics, etc).

The advantages of implementing an effective business rules capability compared to a traditional approach to modifying applications for business change can be summarized by following:

- **Lower cost of modifying business logic** – Using a simple yet powerful rule definition UI, experienced business users defines the rules logically in English and approves them for implementation.
- **Shortened development time -** Practically unlimited modifications can be implemented rapidly to support changing business requirements.
- **Externalized rules that are shared among many applications and data stores -** Rules remain separated from application code and thus any sensitive rules (i.e. related to pricing, compensation, commissions, etc) can remain proprietary.
- **Faster changes made with less risk -** All associated technology is contained within the business rules application tools and DBMS and accessible via a business UI.

The specific value points that are enhanced when the business controls how and when to change the underlying business logic in their applications are identified as follows[iii]:

- **Cost -** It is more cost effective to maintain business rules representing business requirements than to have customized software code for those changing requirements.
- **Functionality -** A well designed business rules capability will allow the business to implement limitless changes to their application business logic. The business can "try" different scenarios and change them at will to meet their objectives.
- **Delivery time -** Business requirement changes can be implemented by the business in hours where it traditionally took weeks or months for the IT organization to deliver custom program changes.
- **Reliability -** The Business Rules capability delivered via commercial software goes through a stringent QA and testing process. New features are regression tested and made available in software updates.
- **Support -** The commercial software vendor is responsible for the ongoing maintenance and support of the underlying code. Their customer's programmers are removed from the process of customizing code.
- **Flexibility and expandability -** The commercial software vendor will periodically offer new features that are compatible with all versions of the software and easily upgradeable, unlike internal programming changes.
- **Scalability -** An effective business rules capability provides business change support that is not only immediate, but can reach broad and deep across business applications.

Conclusion

Leading Commercial Software Vendors architect business systems that enable ease of change by their business customers. Likewise, leading IT organizations embrace vended business systems that provide increased business agility and decreased dependence on IT for system changes as the business environment evolves. Software buyers should look for the 5/6 key enablers of 'business friendly software' to determine if your software vendor is on the right track.

About the author: Kyle Cramer is an IT veteran who has helped Fortune 500 companies align business and IT strategy, and led major IT projects at leading Insurance companies. *Kyle wishes to thank Rick Madock of Paradox Technology Solutions (PTS) for his insight in preparing this article. PTS specializes in fully integrated on-premise and SAAS based insurance technology solutions.*

[i] Making the case for BPM: A Benefits Checklist, Jim Rudden, January 2007
[ii] Forrester Research: Best Practices In Implementing Business Rules, October 2008
[iii] Gartner: Justifying a BPM Project, 2004