When the Going Gets Tough…
The Critical Role of IT Governance in Turbulent Times

Findings from Multi-industry Case Studies

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Introduction

In the aftermath of the dotcom implosion, adverse economic conditions have added to the problems faced by senior information technology (IT) executives and managers as they face renewed calls to reduce their IT spending and to otherwise clarify the return their corporations receive from IT investment. Despite the fact that prior research has shown that IT investments contribute handsomely to firm-level productivity, skepticism abounds that IT is truly delivering on its promise, fueling the need to improve existing means of measuring IT business value and, more importantly, to discover ways of enhancing payoffs from IT.

One area of research that has shown increasing promise focuses on the link between IT capabilities and firm performance. Rather than try to explain firm performance in terms of actual spending on IT servers, PCs or other tangible elements of an IT infrastructure, researchers have turned to how these resources, when embedded within organizational processes, give rise to critical capabilities or core competencies. While it is relatively easy for any firm to duplicate the physical IT holdings of another company, it is a much more difficult task to duplicate its IT capabilities. Accordingly, a firm's competitive advantage can be protected to the extent that that advantage is driven by inimitable IT capabilities. The question for IT research, however, is what capabilities should firms emphasize, and to what extent are those capabilities shaped by differences in environmental conditions that separate intense, fast-paced industries from more traditional slow-paced and predictable industries?

IT Flexibility – the Quintessential IT Capability

To begin our search for IT capabilities and to learn how such capabilities might shape firm performance, we first undertook a survey of 241 small and medium size U.S. firms in 2002. The results of this survey reveal a critical role for IT flexibility, particularly during periods of intense change. Where IT flexibility is based on issues of connectivity, compatibility and modular design, we found that IT flexibility is key to being able to support business strategy during periods of intense change. If for whatever reason, firms have forfeited flexibility by, for example, selecting investments that enforce rigidity – in effect, locking the firm into a particular way from doing business – then they will not be able to support their business strategy and will suffer a decline in firm performance.

While these findings answered many questions for us, we were still curious as to why some firms had been able to achieve IT flexibility, whereas others had not. It was not uniformly the case that firms in all fast-paced industries such as electronics or financial services had openly embraced IT flexibility, nor was it the case that firms in slower industries had opted for inflexible systems. There was clearly some other factor that was motivating firms to make decisions.

To explore IT flexibility in greater depth and to discover what factors were motivating firms' decision to pursue IT flexibility, we decided to complete a series of detailed case studies of firms in different sectors. Over the course of a 12-month period, we completed case studies at 28 firms, ranging in size from $60 million in sales to over $9 billion, and covering sectors as diverse as electronics, healthcare, financial services (insurance, banking, and stock trading), retail, career services, pharmaceuticals and utilities.

Case Study Findings

While it is often difficult to distill common traits from idiosyncratic case studies, our observations point to several common themes that pervade all firms, regardless of size or industry composition. Our study was also influenced by the fact that as we completed each company visit, we were motivated to address new issues that we had just discovered. Therefore, our approach to each case study was cumulative as we sought to build on our findings at each stage. A summary of our findings from is as follows:

Summary Findings

- Decentralized IT operations, inherited legacy systems from acquisitions, and an absence of common, firm-wide IT purchasing standards have given rise to significant problems with IT inflexibility.
- IT flexibility is critical for firms who define their business strategy in terms of customer intimacy. For firms attempting to launch a customer intimacy strategy for the first time, inherited IT flexibility from a different business strategy can complicate and delay the transition.
- Even in high clockspeed industries, firms' definition of IT flexibility tends to be bounded. Firms define IT flexibility as helping them to react to external challenges in a number of predefined ways. Bounded flexibility is especially prevalent among firms who have invested in ERP systems. Others – aware of the somewhat restrictive nature of ERP – have decided to pursue flexibility through a best-of-breed strategy.
- Firms tend to define IT flexibility in terms of scalability and integration. In the case of scalability, IT flexibility is usually associated with ease-of-expansion in response to business volume growth. In a few instances, IT flexibility is also interpreted as the ability to scale back IT investments, reflecting the ebb and flow of business activity or the boom-bust nature of economic cycles.
- Although we did not initiate this research with the intent of including IT governance in a discussion of IT flexibility and strategic alignment, IT governance repeatedly emerged from our interviews with business and IT executives as a key variable in the design of IT infrastructure and applications that can offer both IT flexibility and the ability to deliver greater strategic alignment.

IT Governance

As our research progressed, we noticed that IT governance – a factor that we had not initially set out to investigate – was playing an increasingly important role in explaining why some firms were able to use IT in a flexible manner whereas others struggled to react to changes in their business strategy. We found in one company, clear evidence of how IT governance had emerged as a pivotal firm-wide competence as the firm moved from being global decentralized and reactionary to globally centralized and proactive. Adopting a "love-hate relationship", the CIO had battled to wrench control away from regional managers who had succeeded in building an inflexible IT architecture. Although IT was adequate for their local purposes, at a corporate-level, the architecture was highly rigid and inflexible.

In drawing conclusions as to IT governance from our collective research at 28 companies, it is clear to us that IT governance is a critical IT capability that will guide firms safely through turbulent times. Overall, when we found IT inflexibility, we tended to find a weak IT governance structure – a tendency to please business managers at all costs even if it meant installing different systems that could only be integrated with extreme difficulty. When we found IT flexibility and signs that IT was benefiting firm performance, we found a strong IT governance structure where policies and procedures were carefully managed to find a balance between global flexibility and local autonomy.

We also concluded from our results that while business managers often complain that IT is unresponsive to their needs and that IT is much too inflexible to provide service levels that they have come to expect, that IT inflexibility represents the symptoms of the problem, but IT inflexibility is not the problem itself. The causes of IT flexibility or IT inflexibility – to the extent that our work can help to uncover causes – lie within IT governance. However, to understand IT governance is to understand a complex web of IT and non-IT activities. For example, IT governance will only succeed if the CIO has a mandate to make tough decisions that might cause friction among business managers who have created personal fiefdoms. A CIO must also have vision to communicate the realities of meeting business needs during turbulent or more stable times to managers who only think in terms of meeting quarterly or annual goals. CIOs must sometimes be willing to forfeit some battles in order to win the war. This might mean allowing regions

some degree of local autonomy (to create their own proprietary systems) is local laws or marketing needs cannot be addressed within the overall firm-wide structure.

Moving Forward: Critical Steps

Although it is difficult to issue prescriptive advice based on case study research, we felt it was important to help CIOs and IT managers to understand the next steps as they try to build an IT governance structure that will help them to build a more adaptive organization. We briefly summarize these steps as follows:

- Understand where your business is going. Can IT assist you in reaching your goals?
- Locate bottlenecks where IT support for business activities is weak – these bottlenecks are common sources of inflexibility.
- In crafting a plan to build an agile and adaptive IT architecture, do not automatically revert to a plan of "rip and replace". That will likely please IT vendors but it will cause chaos within your firm and increase your changes of failure. Build rapport and understanding with business managers before you even begin. Architecture IT flexibility into policies and procedures.

About the Sponsor
The Center for Research on Information Technology and Organizations (CRITO) is a multidisciplinary research unit at the University of California, Irvine. CRITO conducts theoretical and empirical research to answer a broad array of questions related to the use, impact, and management of IT in organizations. CRITO researchers study the organizational implications of IT, management of IT, technology policy and societal issues.

In 1998, CRITO was designated a National Science Foundation research center due to its development of an Industry/University Cooperative Research Center, known as the *CRITO Consortium*. The Consortium aims to facilitate collaboration and information sharing between industry and university faculty. Through a combination of National Science Foundation, University and private industry funding, the Consortium supports academic research projects, which promote meaningful dialogue with industry.

CRITO Consortium Research Areas
E-Commerce: Research in how firms compete in the electronic commerce arena, examination of business models, organizational and technical structuring and measurement standards for the ``New Economy".

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Management of IT: Research in how to effectively manage an organization's IT infrastructure and data.

User Environments and Product Design: Research in how user IT environments are changing and the implications for design of new products, services and information systems.

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