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Eoin Whelan

BIS Group, NUI Galway, eoin.whelan@nuigalway.ie

Jack Anderson

Chevron IT Technology Management, California, USA

Bart van den Hooff

Department of Information Systems, Logistics & Innovation, VU University Amsterdam, The Netherlands

Brian Donnellan

Innovation Value Institute, National University of Ireland, Maynooth, Ireland

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Communications of the Association for Information Systems



How IT and the Rest of the Business Can Innovate Together

Eoin Whelan
BIS Group, National University of Ireland, Galway, Ireland
eoin.whelan@nuigalway.ie

Jack Anderson
Chevron IT Technology Management, California, USA

Bart van den Hooff
Department of Information Systems, Logistics & Innovation, VU University Amsterdam, The Netherlands

Brian Donnellan
Innovation Value Institute, National University of Ireland, Maynooth, Ireland

Abstract:

With its increasing power and sophistication, IT plays a central role in accelerating the innovation process. As such, almost every industry today is spending billions of dollars in the race to unleash the potential of digital technologies. Yet, many companies are failing to harness their IT capabilities for innovation because of the poor relationship often existing between their IT division and other business units. To aid in overcoming this problem, we present the innovation and IT posture framework. The framework identifies the four different levels of posture IT divisions typically adopt in enterprises and the various stages of maturity in each posture. Our key message is that fertile ground for IT-driven innovation will only emerge when the IT posture aligns with what the rest of the enterprise expects. Based on our research and consulting work, we also offer five key lessons that will enable CIOs and innovation leaders to overcome these collaboration shortcomings and deliver real IT-driven innovations.

Keywords: Innovation, Network Analysis, IT Capabilities, CIO.

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I. INTRODUCTION

With its increasing power and sophistication, IT plays a central role in accelerating the innovation process. As such, almost every industry today is spending billions of dollars in the race to unleash the potential of digital technologies, even in sectors once considered low-tech such as agriculture and mining (Brynjolfsson & McAfee 2011). Yet, practitioners such as those in the Innovation Value Institute (www.ivi.ie) are acutely aware of the importance of relationship between their IT division and other business units. Building on the voluminous IT-value frameworks literature, in this paper, we explore how IT can evolve and become a key player in the innovation game.

The relationship between IT and business has received considerable attention from the IS community, with the majority of this work focusing on strategic alignment issues. Since the 1980s, the importance of aligning business and IT strategies has drawn interest from both academics and practitioners. In this literature, the extent to which business and IT strategies and operations are aligned has consistently been found to be positively related to organizational performance (Byrd, Lewis, & Bryan, 2005; Chan, Huff, Barclay, & Copeland, 2001; Henderson & Venkatraman, 1993; Kearns & Lederer, 2003; Sabherwal & Chan, 2001). A subset of this research has specifically addressed the relationship between business-IT alignment and organizations' innovative capacity. Such research shows that organizations that are able to align their IT strategies and operations with their business strategies and operations tend to be able to make more innovative use of new information technologies, and reap more business benefits in terms of improved innovation (Chan, 2002; Luftman, Lewis, & Oldach, 1993; Peppard & Ward, 1999; Valorinta, 2011). Misaligning business and IT, on the other hand, has been found to lead to costly IT investments, failed implementations, and missed IT innovation opportunities (Sambamurthy & Zmud, 1999; Ward & Peppard, 1996). Typically, however, this research tends to focus on how alignment of business and IT *strategies* affects innovation. Much less attention has been paid to how the actual *collaboration* between business and IT can contribute to organizations' innovative capacity.

In this paper, in order to provide a more detailed insight in the relationship between business-IT alignment and innovation, we consider how IT professionals and their business counterparts can effectively collaborate to deliver on innovation projects. This insight is needed because consumerization and self-service trends mean that IT divisions can no longer control what tools are implemented or how they will be used. Thus, to remain a central function in the organization, IT needs to become an innovation partner. Our research confirms that, when IT and the wider enterprise work together towards a common goal, real IT-driven innovations begin to emerge. But managing this collaboration is fraught with difficulties that have crippled the career of many budding CIOs. Of interest to IS researchers, we conclude that social capital theories have much to offer in trying to understand why IT/business disharmony originates and endures. Building on the social capital message, we offer five key principles that innovation leaders and CIO's can implement to enhance the IT contribution to innovation.

Consider "HealthSci", a medium-sized medical devices company we have worked with and who requested to remain anonymous. A new CIO joined the firm after being headhunted from the financial services industry. Shortly after his appointment, he became alarmed at how much HealthSci was spending on IT, but how little of that spend was actually targeted towards the firm's innovation pursuits. This was startling to the new CIO because medical devices is an industry ripe for IT driven innovations. For example, Medtronic—the world's largest medical devices manufacturer—recently launched a smart phone application that enables physicians to remotely access diagnostic data of the Medtronic cardiac devices implanted in their patients directly from their mobile devices. Such IT innovations enable physicians to deliver positive patient outcomes through earlier intervention, and give firms such as Medtronic a competitive advantage. Yet, at HealthSci, the rest of the business certainly did not consider IT to be an innovation partner. Instead, the IT division's role was limited to keeping the servers running and repairing PCs when they crashed. To understand why this was the case, we used a technique called organization network analysis (ONA) to ascertain how well the various business units were collaborating together (see Figure 1).

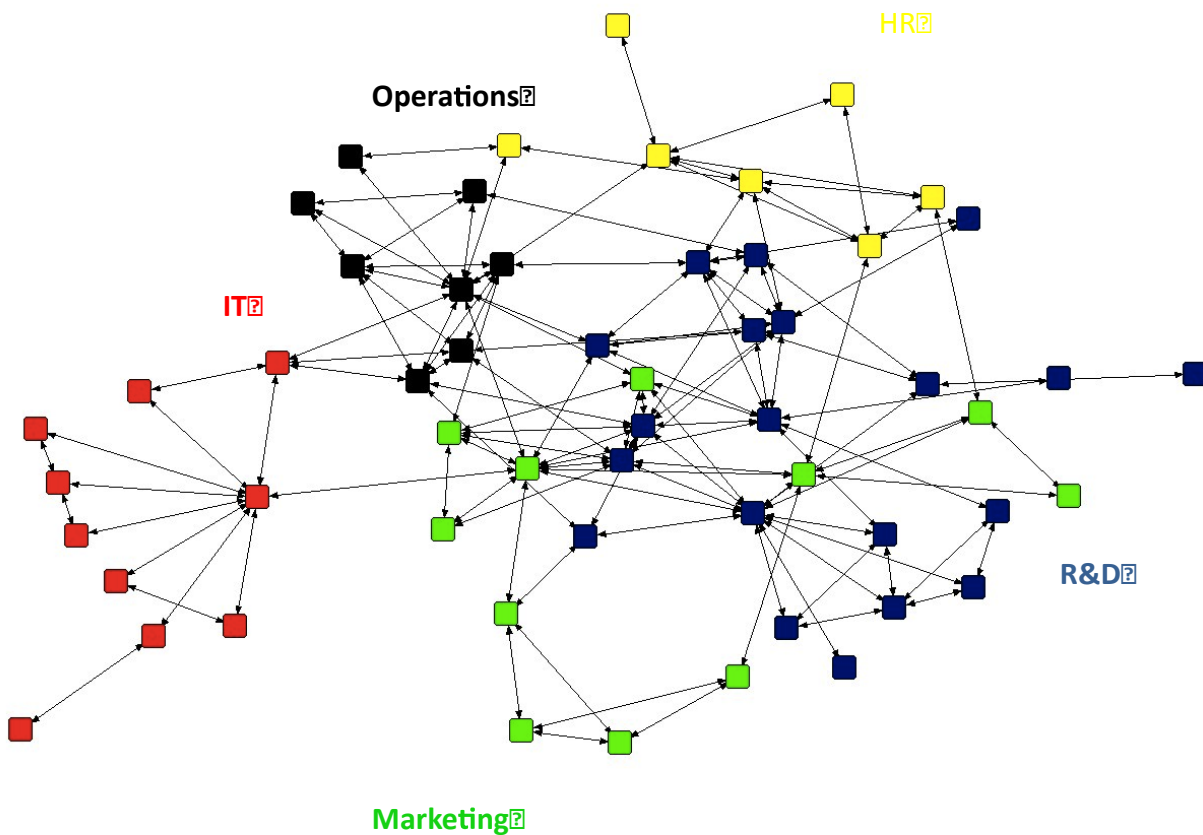


Figure 1. ONA of the Key Business Units in HealthSci

ONA techniques enable leaders to visually assess the health of their organization’s communication structures and diagnose where collaboration challenges exist. We gathered the data used to generate this map through an employee survey that asked various questions about the type and frequency of their interactions with other workmates. The ONA of the key business units in HealthSci identified the significant impediment preventing IT from being an innovation partner. The diagram reveals that IT personnel operated as a clique, with almost no interactions with employees in the business units where IT can contribute most: R&D, operations, HR, and marketing. Even though the ten IT personnel were located in close proximity to their business colleagues, this “x-ray” exposes IT’s clear disconnection. While these other business units were relatively well integrated, the only links IT had to the rest of the enterprise is through two of its members. As we explain in Section 2, this points towards a lack of social capital between IT and the rest of the organization.

II. IT AND BUSINESS: A TROUBLED RELATIONSHIP

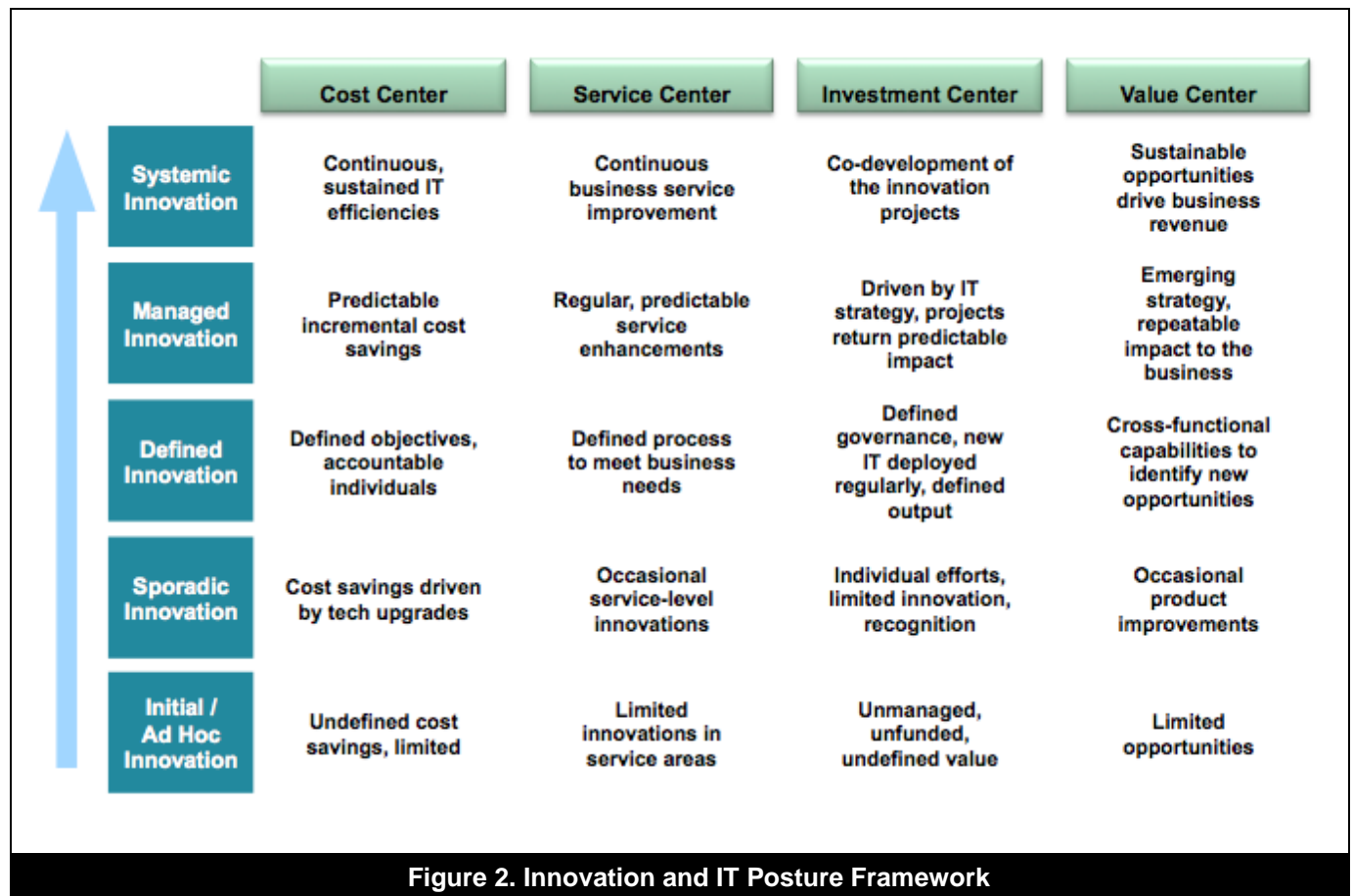
The case of HealthSci is not uncommon. Through our research and consulting work, we have encountered many organizations who are losing out on real opportunities for innovation due to the disconnect between their IT department and the rest of their business. To get a deeper insight into why this disconnect exists and how it can be overcome, we conducted another in-depth study with a large European insurance firm. In this organization, we found that the IT/business divide was essentially due to a lack of a common posture between IT and business (van den Hooff & de Winter, 2011). This refers to the frequent scenario where, on one hand, IT is seen by business employees as having a blind spot for interests other than technical ones, while, on the other hand, IT professionals often regard business employees as insufficiently aware of IT’s complexity and innovative potential. This problem manifests itself in the formation of separate occupational communities with their own cultures and that do not understand each other well or work at cross-purposes (Schein, 1996). In such scenarios, IT and business see themselves as two different “worlds”, with the relationship between them being of a client and supplier instead of innovation partners.

The fact that IT and business occupy different “worlds” is related to low levels of social capital between these communities. Social capital refers to the value of relationships in terms of information, influence, and resources derived from these relationships (Cameron, Bright, & Casa, 2004). To make the concept more concrete, we use Nahapiet and Ghoshal’s (1998) distinction between three different dimensions of social capital: (1) structural social capital, which refers to the overall pattern of connections (who you know and how you reach them); (2) relational social capital, or the quality of personal relationships in terms of trust, shared identity, norms, obligations, and expectations; and (3) cognitive social capital, which refers to shared representations, interpretations, and systems of meaning among parties. In our study of the European insurance firm, we found that a lack of social capital between business and IT led to less knowledge sharing and less mutual understanding between these communities, which resulted in diverging views of IT’s role.

The lack of a common posture only serves to exacerbate tensions between IT and the rest of the business. And where IT and business have diverging perceptions of IT’s role, it becomes almost impossible for successful IT innovation projects to emerge. As we explain in Section 3, when IT and business align their postures, these collaboration barriers can be removed and the innovative potential of IT can be released.

III. UNDERSTANDING POSTURE IS KEY TO MANAGING THE IT/BUSINESS RELATIONSHIP

The core of the troubled relationship between IT and business is the difference in their respective postures (i.e., what IT perceives itself (and its area of expertise) to be, and what the business perception of IT actually is). To aid in overcoming this problem, we present the innovation and IT posture framework (see Figure 2). We developed this framework from the research we have undertaken with the Innovation Value Institute (IVI). The IVI is an industry-led research initiative founded by Intel Corporation, Boston Consulting Group, and NUI Maynooth. The consortium consists of over 100 organizations including Microsoft, Merck, Cisco, SAP, Chevron, BP, and Ernst & Young. IVI researches and develops unifying frameworks and roadmaps to deliver IT-enabled innovation while validating that these frameworks/tools have a broad applicability across differing industries and contexts (see Curley & Kenneally, 2009; Curry, Guyon, Sheridan, & Donnellan, 2012; Donnellan & Helfert, 2010). Three of the authors have worked extensively with IVI industry partners to develop and validate the model we present here. Over a two-year period, we continuously refined the model based on the data we received from interviews, focus groups, questionnaires, and case study investigations with consortium members.



The framework identifies four different levels of posture that IT divisions typically adopt in enterprises, and the various stages of maturity in each posture. As a **cost center**, IT is part of the overhead cost of running the business and is expected to respond to business direction with lowest cost solutions. As a **service center**, IT is a service provider and may structure its processes to meet business needs with service levels often dictated by the business. As an **investment center**, the business invests in IT and expects a return on investment. As a **value center**, IT produces direct value to the business by delivering the product of the business with innovative IT solutions, or by contributing to revenue with the business selling IT products and services. Our key message is that fertile ground for IT-driven innovation will only emerge when the IT posture is aligned with the expectations of the rest of the enterprise. For example, if an organization's IT division acts as a value center but the rest of the organization's view of IT is consistent with that of a cost center, IT's contribution to innovation is likely to be minimal due to diverging expectations¹.

For CIOs and innovation leaders interested in delivering value from their IT spend, a critical first step is to align the IT and business posture. Only then can a firm move up the various stages of IT innovation maturity. Innovations can occur at the lower maturity stage, but these are probably due to chance. At the higher levels of maturity, IT-driven innovation becomes more predictable and repeatable. Innovations can occur at all posture levels but, as we describe in the next subsection, a cost innovation will look a lot different to a value-center innovation.

Sharing a Common Value Center Posture

While there are many companies that strive for the upper echelons of the value-center posture, precious few ever get there. Hewlett-Packard (HP) is one such firm that exhibits all the hallmarks of a value-center posture. Take, for example, HP's recent global authentication service (GAS), which has opened up an entirely new market for the firm. A cloud-based service that links pharmaceutical companies with customers in developing countries, GAS is successfully tackling the \$75 billion counterfeit and stolen drugs industry that also accounts for 700,000 deaths annually.

To authenticate their products, pharmaceutical firms have traditionally relied on holograms and other high-value markings. But this is a costly solution requiring specialized equipment and inspectors. GAS combats drug counterfeiting by enabling consumers to verify the authenticity of medications by simply using their cell phone. Essentially, a unique 12-digit code is printed on the medication packaging. On texting this number to an SMS short code, the customer then receives a return text to verify that the product is genuine. Smart phones could be used to scan the code, but less-sophisticated phones are far more prevalent throughout Africa. HP's cloud then serves as the secure conduit between the telecom carrier and the drug supplier: it ties together data and services. Manufacturers can then analyze data from the authentication efforts to spot patterns and potential hot spots of counterfeit activity. HP are now planning to deploy the technology in other areas where validation is critical, such as event ticketing and food.

GAS's innovativeness was acknowledged globally when the project was named as one of the runners up in the 2011 *Wall Street Journal* innovation awards. The success of this project hinged on the effective partnership between various units in HP; namely, the software professional services cloud service innovation center, HP labs, and its global social innovation unit, but also with external parties such as the major pharmaceutical firms and NGOs. Getting all these parties to accept cloud computing as a value center required much negotiation. As Chris Coughlan, Head of HP's worldwide cloud services innovation center, said: "The key to GAS was pulling all these internal and external partners together and getting them to accept how this new computing platform could provide an innovative solution to a longstanding problem".

Beyond the IT Industry

While game-changing innovations do emerge when IT and business are aligned as a value center, companies that strive for this level tend to be those in the IT industry, such as HP. Non-IT firms can still be very innovative with IT if the posture is aligned as a cost, service, or investment center. For example, Boston Scientific established a significant datacenter investment in its Irish operations as a result of growing business outside the US. It did this to reduce costs through the consolidation of smaller datacenters worldwide. As Head of IT Services, Patrick McDonagh understood that, for the project to deliver the expected cost savings, the IT and facilities departments needed to align their postures and collaborate effectively. Buy-in from facilities was crucial because the datacenter's location in a building has a significant impact in its performance. When located on the ground floor, the building's foundations aid in absorbing vibration away from the datacenter, which significantly reduces construction costs. If the datacenter

¹ The Innovation Value Institute (www.ivi.ie) has developed a robust assessment to determine what the posture of both the IT division and the wider enterprise

is located on an upper floor, this effect is lost. Other aspects of the datacenter design required critical input from facilities: from the number of emergency sprinklers to the supply of power. To ensure the project would be a success, IT needed to view their colleagues in facilities as innovation partners. As McDonagh explained: “Others units have made the mistake of viewing the guys in facilities as little more than furniture removers and probably have never got the level of co-operation as a result.”

To establish a likeminded posture, the organization included facilities in the datacenter planning from the outset. Both the heads of IT and facilities even travelled together to a number of other datacenters to learn about the optimal datacenter design. But this relationship needed to be constantly maintained, and IT made an extra effort to complete any outstanding projects that facilities had requested. The result: Boston Scientific’s datacenter was a major success for the IT division and is recognized in the industry as an exemplar of sustainable datacenter design.

Chevron is another company we have worked with that has managed to successfully align the IT/business posture to deliver valuable IT-driven cost and service innovations. The company’s “Everest” program drove for visible, concrete alignment between IT projects and innovation strategy by establishing a prioritization framework that ensured that IT projects with the highest benefit to the company as a whole would receive funding and support. The global information link (GIL) was one project that was given the green light. GIL’s purpose was to standardize IT infrastructure including desktops, laptops, operating systems, networks, and information management across the firm. Chevron estimates the savings from the phase of GIL focused on standardized network and server infrastructure alone saved the company US\$200 million in the first four years of operation.

While the GIL project has done much to enhance Chevron IT’s reputation throughout the firm, at one point in time, such success stories were a rarity. Leaders of IT operations had to make significant efforts over the years to transform the perception of IT from reactive and inefficient to a reliable and essential partner in innovation. The evolution of Chevron IT is documented in Rainer and Turbain (2009). Aligning the IT and business posture was essential to this transformation, yet there are many organizations who still struggle in this regard.

Differing IT Postures and the Problems that Arise

We have also worked with numerous companies where the IT posture was detached from what the rest of the enterprise required. Such situations lead to confusion, disillusionment, and relationship problems in all business units. Ultimately, the innovative potential of IT is missed.

This was the situation we encountered with a not-for-profit healthcare insurance company. The IT division had a creative workforce with lots of ideas to help transform the business with the latest technology solutions. In contrast, senior management and other company divisions largely expected IT to be seen and not heard, a utility quietly running behind the scenes keeping the business running. IT professionals in the company disclosed how demoralized and frustrated they felt at being underused. This frustration was heightened when management occasionally brought in consultants to drive transformative IT solutions. The IT operations manager responsible for productivity and improvement of IT systems relented that his workforce had provided a queue of ideas to directly benefit the company’s bottom line, but only a few had been accepted and implemented over the years. As a result, he was having trouble retaining the most creative and innovative IT professionals. Many had left the company to pursue environments that would support their desire to contribute creative solutions and add more direct value, even though the employees wanted to be committed to the healthcare-oriented purpose and vision of the company. The cost of losing their best people had a staggering impact on the IT division and only sustained its mediocre reputation throughout the firm. Those with the ability to provide IT-driven innovations were also the most likely to become frustrated and leave when senior management ignored the potential of their existing IT capabilities.

Another healthcare firm we worked with had been recently acquired. The new leadership had ambitious plans for the future and viewed the organization as a value center. The IT division was expected to contribute to this new value-center vision. However, there was a serious misalignment between the business and IT postures. The core competencies of the firm were mental health, psychology, treatment, and certainly not its IT capabilities. The IT division had been established as a cost center to support those core competencies and excelled at that level. When the new leadership were not seeing IT-driven revenue streams emerging, they assumed the IT manager was underperforming and almost decided to fire him. Using the IT posture framework, the company began to refocus on their core competencies. As a result, a new achievable objective was established: to become a service center. The entire organization adopted the posture of a service center with every department conscious of costs and price of services. The IT division was able to align with this posture and began to focus on how they could introduce technical innovations that would reduce travel related costs, one of the highest cost burdens to the firm. Working with the firm’s physicians, IT implemented a portfolio of services—such as upgrading its telecommunications platform with VoIP, and even a state-of-the-art telepresence room—that substantially reduced travel-related costs.

IV. INSIGHTS FOR CIOs AND INNOVATION LEADERS

As the above cases allude to, ample opportunities to drive innovation through IT can be created when an organization's IT division and the rest of it match their respective postures. Yet, there are many firms who struggle to manage the IT/business relationship, particularly those not in the IT industry. We offer five key lessons that will enable CIOs and innovation leaders to overcome these collaboration shortcomings and deliver real IT-driven innovations. These insights are based on the action research undertaken with IVI member companies. Described as a scientific process of collaborative enquiry conducted by and for those taking the action, such approaches are designed to solve real-life problems and are a significant avenue to improve the relevance of IS research (Baskerville, 1999). The insights are all interrelated in the sense that they highlight the importance of a social capital perspective when viewing the relationship between the IT department and the business organization.

- **Use network brokers.** As Figure 1 illustrates, many IT divisions tend to be disconnected from the business units they are supposed to be facilitating in their innovation pursuits. To promote collaboration between groups, managers often resort to investing in a new IT-collaboration system or mandating more cross-functional briefing sessions. From our experiences, such initiatives only have a moderate positive impact at best. Effective collaboration tends to happen organically and the best way leaders can support this is by developing the role of the network broker. In the construction of their seminal theory of social capital, Nahapiet and Ghoshal (1998) pinpoint the importance of the structural component, meaning the presence or the absence of network ties between actors, and an identifiable pattern of linkages. Our action research approaches echo the significance of network structure when trying to solve the IT disconnect problem.

The network analysis of HealthSci showed that two IT professionals were connected to colleagues in other divisions. What differentiated these employees from other IT staffers was their ability to understand the needs of the wider business (both had worked in a variety of business roles before a career in IT). Yet, management had no clue of the valuable brokering function they performed until we reported our ONA findings to them. A program to reconnect IT to the rest of the business was established with these two IT professionals central to the initiative. Some of their administrative duties were reallocated and the extra time allowed them to develop their network of connections to the business functions they understood best. This ensured that IT were not left out of the innovation conversation and were also ready to react to what was coming downstream. A follow-up analysis four months later showed that connections between IT and other business units had grown by almost 40 percent as a result of this simple initiative.

But we also add an important caveat: leaders must take care in appointing the right people to the IT/business brokering role because only a small number of employees will have the disposition to perform these activities (Whelan et al. 2013). The challenge is thus to identify potential intermediaries who should have knowledge of (or at least affinity with) both the IT and the business domain. ONA can be a very effective tool for this purpose. Once potential brokers are identified, they need to be given the training to enable them to excel in this role. For example, in the insurance multinational we worked with, underwriters were trained in IT knowledge to enable them to function as brokers; that is, to translate user needs to the IT division and IT suggestions to users.

The ongoing challenge for leaders will be to ensure that the individuals performing these roles are perceived as being "honest brokers" and not overly assimilated by either business or IT. This turned out to be the exact problem for one electronics company we worked with where the brokers groomed for the role were perceived by IT as showing decreasing awareness of the complexity of technology.

- **Co-develop innovation projects.** Talk to any CIO about strategy and the conversation will almost certainly lead to the IT and business "alignment" conundrum. However, if innovation is what an organization strives to achieve, then aligning IT to the business strategy is the wrong goal to be pursuing. The reason for this is that few companies have clearly established business goals. A recent survey shows that only 47 percent of companies have a clearly defined set of business strategies (Forrester, 2012). How can IT align to something that is non-existent? Instead, IT and its business partners should focus on co-developing innovation projects with technology components. It makes little sense in today's information age to develop an innovation project without considering the contribution of IT. Likewise, in few companies, in any industry, can IT alone develop an innovation of any kind. This means that IT can accept joint responsibility for innovation projects while also retaining ownership of the IT component. The added benefit of co-development is that the best IT professionals will be stimulated and less likely to leave the firm.

The co-development philosophy is one that the IT division of CVS Caremark religiously adheres to. Widely recognized as a leader in IT innovation, CVS begins with the premise that there is no such thing as a technology project, only a business project that IT can add value to. The success of its Rx Connect system is an excellent example of the positive outcomes that result when IT and the rest of the business collaborate on innovation from

the outset. To stay ahead of its competition, CVS has focused its innovation efforts on customer experience and customer services at its 60,000 pharmacies. Those who engage with customer's every day, the pharmacists, collaborate with their IT counterparts to improve how they dispensed prescriptions, but also to get a more-complete view of the patient from all CVS touch points. The resulting Rx Connect system led to a dramatic 15 percent improvement in prescription processing time. In addition, it also provided CVS with the capability to leverage its clinical intelligence to offer tailored in-store programs to enhance patient care.

- **Constantly maintain relationships between IT and the business.** The relational dimension of social capital refers to the quality of inter-personal relationships, such as the levels of respect and friendship, that influence people's behavior. This aspect of social capital explains why a positive and trustful relationship exists in some IT/business collaborations but not in others. Through project co-development and network brokers, relationships between IT and the business can be established and strengthened. Yet, leaders need to be constantly monitoring this relationship for signs of potential trouble and be ready to intervene when needed. The truth of the matter is that there is always going to be a natural tension between IT and other functions. Successful leaders will manage this tension to deliver innovative products and services. This is at the heart of relational social capital.

In another high-technology engineering firm we worked with, the IT posture was at the investment center level. Almost all other divisions of the company expected IT to perform this role, and a harmonious and productive relationship existed. However, HR was the one division that had a poor perception of IT. Interactions between the two departments had grown sour over the years and the HR leadership openly admitted that they were not happy with IT's level of influence throughout the firm. While inter-department projects were often fractious, the lines of communication remained open. But as the IT director explained to us, "When HR went dark, that's when the problems really started to emerge." No one in IT wondered why requests from HR suddenly stopped. Indeed, they were secretly relieved to be free from these difficulties. This was a major oversight by IT. During the apparent truce, HR had used an external vendor to implement a new system that every department head had to use when one of their direct reports left the firm. The system turned out to be a disaster. As soon as it was launched, department heads began complaining about the cumbersome interface and its incompatibility with existing systems. Even though it had no involvement with this system, IT's reputation took a nose dive throughout the firm. As it was an IT product, it was inextricably linked to the IT division. IT leadership learned a valuable lesson from this painful event: IT needs to be constantly maintaining relationships with other business units.

- **Converse in non-technical business language.** It continues to surprise us how often it is the case that the origins of the IT and business divide can be traced back to the lack of a common language, or a lack of cognitive social capital. IT professionals are constantly accused of communicating too much in technical terms for the business to be able to understand them. While acronyms such as TCP/IP and MPLS or terms such as "virtualization" and "caching" may roll off the tongue of the IT staffer, such language can be double-dutch to the marketing or finance specialist. Indeed, we have encountered many innovation projects that could have been significantly enhanced with the inclusion of IT from the outset, but business people did not consult with IT because of the worry that they needed to understand the technical complexities before they could have the IT conversation. Again, our action research investigations heighten the importance of social capital (in this case, the cognitive dimension) in improving IT and business collaborations.

Merck is one firm that has successfully overcome this language problem and can demonstrate measurable improvements in its R&D capabilities as a result (Ray, 2008). IT at Merck is identified as an investment center, with the company expecting a return on its technology investments. Realizing that the continuous advances in IT could significantly enhance the development and delivery of novel therapeutic solutions, Merck set about bridging the gaps between IT innovators and its R&D personnel. It did this by framing IT innovations in the language used throughout the business (i.e., science) (see Figure 3). Similar to how its R&D professionals would conduct a scientific experiment, once a compelling new information technology is identified and applied to a business challenge, hypotheses are developed about the possible outcomes, and short agile experiments are conducted to test those hypotheses. Before and after measurements are rigorously calculated to enable the differential value brought by the new IT to be determined. These experiments are designed to be widely collaborative to ensure cross-disciplinary exposure and evaluation. This approach provides business leaders with evidence of the capabilities of IT, which can often challenge their initial assumptions. Likewise, the scientific methodology requires an explicit focus on the business challenge and this prevents IT from investing in technology for technology's sake.

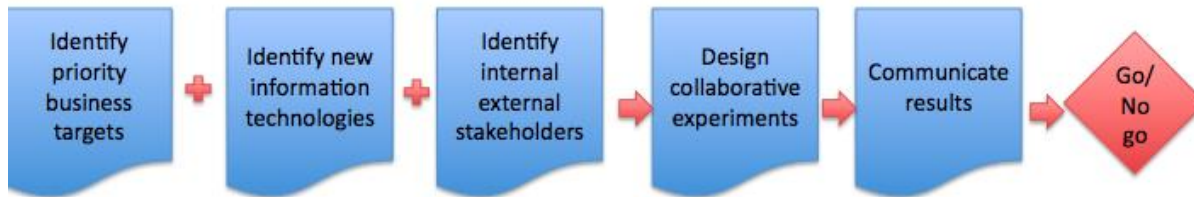
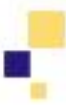


Figure 3. The Merck Methodology to IT Innovation

The lesson here for CIOs is that IT needs to be able to converse in every area of the business, which may be many. This is no small challenge. While network brokers may be the primary conduit between IT and the business, all IT professionals should have some knowledge of other functions so that they can participate in those conversations intelligently. Crucially, when sharing knowledge and collaborating on innovation, IT staffers should speak the language of the business and avoid technical jargon.

- **IT leaders as innovation role models.** The importance of IT leadership in igniting innovation programs cannot be overstated. Only when IT leaders are a role model for innovation will an organization advance to the upper echelons of the IT and innovation posture framework. While we have occasionally witnessed breakthrough IT-driven innovations in firms lacking innovation role models, this is never sustained nor systematic.

In companies where IT is the business, we can expect that the CIO will have an influential voice in the innovation discussion. But how does the CIO from a non-IT firm get the same level of representation? Understanding the IT and innovation posture is a critical first step. If the CIO is focused on value-center type innovations when IT is viewed as a cost, it is unlikely that the CIO's initiatives will gain much traction in other business units. Instead, the CIO's exploits will yield far more return when they start with the basics and focus on being a catalyst for innovation in the existing posture. This was the experience of a CIO of a food ingredients company we worked with. On learning that senior management were considering outsourcing the IT function, the CIO demonstrated considerable courage and led the way in maturing as a cost center. The CIO was ultimately able to demonstrate how IT was effectively collaborating with other units to reduce their costs. A visibly committed CIO drove this inter-unit collaboration and senior management recognized that an outsourced operation would not achieve the same results. The IT division gained credibility throughout the enterprise and has been rewarded with more varied and exciting projects.

CIOs cannot afford to wait for an invitation to become involved in the innovation discussion and need to build all aspects of social capital: structural, relational, and cognitive. Being an innovation catalyst means that IT leaders need to be armed with specific ideas about how IT can drive innovation at the correct posture, and actively seek out other business executives to discuss those ideas with. Indeed, leadership is often characterized as the ability to influence, and smart CIOs will develop and execute a plan of how they can influence other executives. While the art of influence may come naturally to some CIOs, most will have to develop and hone these skills. A tactical plan to promote the innovative potential of IT would involve: (1) identifying and connecting with the business executives who lead the units where IT can contribute most, (2) gathering the information necessary to make an effective "pitch" to the target executive (consulting with network brokers will prove invaluable in this pursuit), and (3) convincing the target to adopt an IT innovation (Enns & McDonagh, 2012). Providing genuine evidence of IT's value, such as in Merck's IT experiments, will go a long way to influencing another executive to become an innovation partner

V. CONCLUSION

In almost every industry today, continuous innovation is a prerequisite to survival and success. The IT division is an extremely powerful asset that can be leveraged to release firms' innovative potential. While IT continues to consume more and more of the overall enterprise budget, demonstrating real IT-driven innovations is a difficult task for many CIOs. These difficulties stem from the disconnect that often exists between IT and the rest of the enterprise.

In this paper, we present the IT and innovation posture framework, and explain how this disconnect can be resolved when the IT posture is matched to the business units they serve. Aligning the IT and business posture is a considerable task, and we also offer five guidelines that IT divisions should follow if they want to become a central hub in their firms' innovation pursuits.

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Editor's Note: The following reference list contains hyperlinks to World Wide Web pages. Readers who have the ability to access the Web directly from their word processor or are reading the paper on the Web, can gain direct access to these linked references. Readers are warned, however, that:

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ABOUT THE AUTHORS

Eoin Whelan is a Lecturer in Business Information Systems at the National University of Ireland, Galway. He is also a visiting professor at IESEG in France. He received his PhD from NUI Galway in 2010. His research interests focus on understanding how technologies such as social media and big data influence productivity, innovation, and decision-making. His publications on these topics have appeared in *MIT Sloan Management Review*, *Information Systems Journal*, *R&D Management*, *Journal of Information Technology*, and *Information & Organization*.

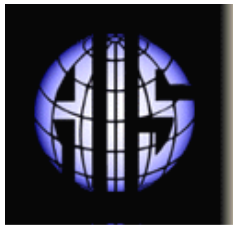
Jack Anderson is currently the Senior Innovation Capability Strategist in Chevron's Global Innovation Services Group, responsible for leveraging innovative tools and techniques to solve business problems, enable emerging technology transfer and Chevron's corporate culture of Ingenuity. Jack is a Principal of the Innovation Value Institute (IVI). He chairs IVI's Innovation Management (IM) Workgroup composed of industry and academic participants and responsible for research, identification of best methods, development and application of IVI's Innovation Management Capability tools and processes. Business-focused Innovation has been Jack's primary focus for the past 13 years.

Bart van den Hooff is Professor of Organizational Communication and Information Systems at the VU University Amsterdam, Faculty of Economics and Business Administration. He has a PhD (with honors) in Communication from the University of Amsterdam. His research interests focus on the interaction between ICT, organization and individuals. His work has been presented at international conferences and published in (among others) *Journal of Management Studies*, *Organization Studies*, *Journal of Information Technology*, *Journal of the AIS*, *European Journal of Information Systems* and *Communication Research*.

Brian Donnellan holds the chair of Information Systems Innovation at the National University of Ireland Maynooth (www.nuim.ie) and is Co-Director of the Innovation Value Institute (www.ivi.ie). Prior to joining NUI Maynooth, Prof. Donnellan was a faculty member in the National University of Ireland, Galway. He has spent 20 years working in the ICT industry where he was responsible for the provision of IS to support Product Development. He is an expert evaluator for the European Commission and has been guest and associate editor of several leading IS journals including *Journal of IT*, *Journal of Strategic Information Systems* and *MIS Quarterly*.

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