Abstract

Over the years, the role of the Chief Information Officer (CIO) has evolved from one of being a Functional Head to a Strategic Partner to today’s demands for that of a Business Integrator and Innovator. Many CEOs now expect their CIOs not just to specify and manage the IT infrastructure but to drive the transformation agenda. However, what our research is indicting is that CIOs are struggling with this new reality. Our data suggests that while many say they are strategic they actually behave tactically; many lack credibility as strategic decision-makers; many have not developed relationships with appropriate parts of the organisation or key stakeholders; and, crucially, many lack the leadership to drive their organisations forward in the use of technology. Yet some CIOs do seem to be having a real business impact. This article will examine our recent research that has studied these, what we have labelled, Hi-Impact CIOs. It will identify their core characteristics and highlight what distinguishes them from CIOs that are not seen by their peers in the business as being up to today’s challenges. Our data strongly suggests that Hi-Impact CIOs are shifting the focus of their conversations with their business colleagues along 8 critical dimensions, which, when combined, have a profound impact on the contribution of IT to business performance. These dimensions, which point towards a new agenda for the CIO, are examined and the implication of these shifts developed.

Keywords: Chief Information Officer, Information Technology, Conversation, Performance, Value Realization

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Today, most organisations are so fundamentally dependent on their information systems and technology that they could not operate for very long if their core systems were not available. Organisations, like Tesco, Fed Ex, ING Bank and Commonwealth Bank of Australia derive competitive advantage from their IT investments while others, such as Amazon, Lastminute.com and eBay, have business models that are totally defined by IT. Many organizations are currently looking at ways to potentially harness technologies such as “the cloud,” Web 2.0, social media and collaborative tools. We also see traditional manufactures like Rolls Royce, BAE Systems and Hilti using IT to deliver new service propositions based around availability and capability rather than selling products. Yet despite this crucial role of IT, research findings are unequivocal: leadership of IT in most organisations is generally weak.¹

Many of the CEOs that we speak to continue to lament that they are disappointed with their IT investments and the contribution they feel is being made to the operational and strategic development of their businesses. They are unanimous that they expect more of their CIOs than merely “keeping the lights on”. Increasingly, many are now demanding that their CIO drive the transformation agenda and are looking for IT to seek out opportunities for integration and innovative. However, what our research is indicting is that many CIOs are struggling with this new expectation. Many are reporting to us that strategic conversations are taking place within their organisations without them being present.

Yet, a lot of the CIOs that we have spoken to say they are strategic but in reality they behave tactically. From our interviews with their business colleagues, many CIOs would seem to lack credibility as strategic decision-makers and consequently are not invited to be part of the “inner sanctum”. Even where they do have a “seat” at the top table, they often do not have a “voice,” particularly one that is readily listened to. Furthermore, we also observe that many CIOs have not developed relationships with appropriate parts of the organisation or key stakeholders.² Consequently they are seen by their business colleagues as being politically naive.³ And, perhaps more crucially, many lack the leadership to drive their organisations forward in the use of technology.

This situation is inhibiting CIOs not only in the performance of their role, but more critically, hindering the business in optimising value from information systems and technology investments. In our research we have talked to dozens of CEOs, CIOs and other C-level executives in order to better understand why it is that some CIOs do seem to be having significant impact on the performance of their organisations and others are not (see Appendix for overview of this research).

The attitude that the CEO and executive team have towards IT does have an obvious impact on what the CIO can and cannot do. Many portray IT “as a pain” see “every body moaning about it” and adopt a “don’t bother me attitude” towards IT. The fact is, the level of IT savvy of many CxOs is weak.⁴ This situation strongly influences their expectations of what CIOs can and cannot be expected to achieve, the extent of their engagement with the incumbent and their involvement in IT projects and programmes. It also shapes their view on the opportunities that technology could potentially provide their organisation. Yet, research findings are emphatic that companies reporting a higher level of business-IT alignment have a shared vision between the CIO and CxO team and a common set of core beliefs regarding IT.⁵
We have also detected a gap between the rhetoric of CxOs and their actions. That is, they typically say that they recognise the crucial importance of IT, yet they behave in ways that do not back up this position. One newly appointed CIO had a conversation with one of the senior leadership team (he reported into the Chief Financial Officer) in which he congratulated him on his work since joining the company “as we [the leadership team] have not had to talk about IT since you came on board!”

While all CIOs grapple with similar issues, what we have found is that some are more adept at meeting many of the contemporary challenges that they all face. These individuals have become extremely effective in helping their organisations deliver maximum value from their IT investments. These are what we have called *Hi-Impact CIOs.*

Hi-Impact CIOs are those CIOs who are seen by their business colleagues as driving the business forward through the use of IT. These CIOs typically have the trust of their business colleagues; they are seen as a respective member of the executive team; and continuously interact with their business colleagues. Perhaps not unexpected, they are also seen as listening to their business colleagues, being empathic to their plight and demonstrating a passion for enabling the business with IT. Their credibility is such is that it enables them to influence business colleagues in IT matters. Not only do they have a seat at the top table, they also have a voice that is listened to.

**Figure 1** Shifts in CIO:CxO conversations: the new agenda for the CIO.

From our data, there is strong evidence that Hi-Impact CIOs have retooled not just how they interact and communicate with their business colleagues but have shifted the nature of that interaction. In short, there is strong evidence that they have reframed the dialogue that they have with CxO colleagues. They report that it is not just about having conversation with their colleagues but having the right conversations. Research shows that high level of communication between IT and business executives is a direct predictor of alignment of business and IT strategies. And CxOs rank communication as the personal skill most pivotal to success as a CIOs.
What we have found is that Hi-impact CIOs have moved the focus of their attention away from the traditional areas of conversation: Hi-impact CIOs place their emphasis elsewhere. What we see are subtle, but nonetheless profound, shifts away from what have traditionally been seen as areas of focus for CIOs. Our research has identified 8 shifts that together contribute to these CIOs having a major business impact.

These shifts are captured in Figure 1. The left hand column lists the traditional areas of CIO attention, illustrating where the focus of their conversations have tended to lie. On the right are the corresponding areas of emphasis placed by Hi-Impact CIOs. These swings point to a new agenda for the CIO. In the remainder of this paper we will have a closer look at these shifts, identifying how each is manifesting itself.

From alignment to co-evolution

For over three decades alignment has been the watchword of the CIO. Indeed, surveys of IT issues over the last 30 years have consistently ranked the challenge of achieving alignment among the top three. CIOs themselves have always seen as one of their primary tasks to aligning their organisation’s portfolio of investments in information technology with the strategy of the business. While this is a laudable objective, it of course assumes that organisations do actually have an explicit business strategy which can be aligned against. Many CIOs have told us that this unfortunately is often not the case; or at least an explicit business strategy that is shared across the executive management team.

Hi-impact CIOs however, don’t see the issue as one of alignment but one of co-evolution: that is, business and IT strategies co-evolving together. Importantly, and this is the critical issue, the focus on alignment gives the impression that it is a task that is undertaken by the CIO and his team; and that IT requirements are somehow subservient to the demands of the business. One CIO spoke about seeking alignment as like looking to align the human ‘heart’ with the ‘body’: what he saw as an illogical demand. Both are mutually dependent. As one CIO expressed it: “just like we don’t have IT projects any more, only business projects with an IT component, similarly, we don’t have an IT strategy but a business strategy with an IT component.”

In a similar way with biological organisms, with co-evolution both business and IT co-evolve together. On Australian CIO defined co-evolution as a “psychological state” with “business and IT working as one towards a common goal.” This, however, demands high levels of trust, cognitive alignment, a shared understanding across all parties and strong collaboration, something that is all too often absent.

Co-evolution recognises that IT can also shape the strategy of the organisation through providing innovative opportunities, particularly with new business models defined by IT. For example, many traditional manufacturing companies are today implementing service-based strategies and these new business models are heavily dependent on IT. For example, in the aerospace sector, engine manufacturers such as Rolls-Royce, General Electric and Pratt & Whitney, all offer some form of performance-based contracts with commercial airlines in which their compensation is tied to product availability and the capability it delivers (e.g., hours flown) rather than selling engines. Such contracts provide the airline operator with fixed engine
maintenance costs, over an extended period of time (e.g., ten years). Yet to deliver such a service both effectively and profitably demands IT: data on engine performance must be collected in real-time, transmitted and analysed by the engine manufacturer at a health monitoring centre using prognostic and modelling tools.

**From IT strategy to business priorities**

A key prescription for the CIO has always been to develop the organisation’s IT strategy. Indeed, this task usually appears in their job specification and is an expectation that their C-level colleagues hold of them. The reality is that many struggle to engage their business colleagues in the IT strategy formulation process and often end up “second guessing” the strategy and future business direction, particularly when one is absent. Our data indicates that Hi-Impact CIOs are shifting their dialogue with C-level colleagues from one focused around developing this IT strategy to having a conversation based on eliciting their business needs and priorities. These CIOs tell us that this approach is more likely to get their attention. One CIO we spoke to prefers to engage with his peers about their “initiatives”, and to use these to validate their priorities and construct the IT investment portfolio. He determines what their initiatives are for the following 6 months, the next year and the next three years and then presents these back to them in a coherent fashion and one that makes sense to them before highlighting how IT can support their achievement. This, he also felt, enhanced his relationship and reputation with the leadership team as they see him as listening to them.

Such is the peril of focusing on the IT strategy that the recently retired Global CIO of a global pharmaceutical company warns that CIOs should “beware the IT strategy”; as it can become an end in itself. This not to suggest that a strategy for IT is not required; on the contrary, one is required now more than ever. However, developing this strategy should not be seen as a central focus of interactions with business colleagues. Focusing on the business priorities of colleagues is more likely to gain their interest and attention. From this dialogue, the basis of an IT strategy can be ascertained. It also gives guidance as to the priorities for IT investment as well as setting expectations for IT. The Head of Technology at one UK retailer commented that “[t]here's no point in us wondering later why IT hasn't delivered what was expected if there hasn't been a clear upfront conversation between IT and the rest of the business about business priorities for the next 5/10 years; in particular what the problems are that the business will need IT to help solve.”

Indeed, CIOs often lament the lack of an explicit business strategy and this absence is often used by CIOs to excuse poor performance. One Non-Executive Director of an Australian insurance company recounted to us the visit he had from a newly appointed CIO complaining about the lack of a business strategy and how this was impacting her in her job and her frustration with this situation. This is, unfortunately, the platform from which many CIOs are working from. Her colleagues do have their priorities and it is hard to imagine an insurance company without IT have a significant impact.

We have also encountered situations where prescribed practices can often dictate that a separate IT strategy be developed. The legislation of the State of Queensland in Australia, for example, mandates that an annual IT strategy plan be developed for all
public agencies, one that is aligned to the strategy of the agency. It even prescribes the process to ensure that this occurs, with the IT strategy trickling down from the business strategy. This can be problematic and reinforces the old orthodoxy of the IT strategy following the business strategy.

From investment to value realisation

Hi-Impact CIOs are telling us that conversations with C-level executives must shift from one centred on determining investments to a dialogue focused on value realisation. They explain that value realisation has a more dynamic and ongoing connotation than merely determining investments in IT. One CIO wryly lamented the fact that IT investments tend to be characterized based on their cost – “the 50m dollar ERP project” – rather than describe it based on the value it will deliver to the business.

This might seem like a subtle shift in emphasis, but its implications are profound. A focus on identifying the investments to make suggests that the decision to spend is made by business executives with delivery managed by the CIO and his organisation. Unfortunately, unlike other investments that a firm makes, the value of IT is not in its possession; if it was, just building and deploying IT-based systems would result in benefits automatically flowing to the business, and we know that this is not the case. Few IT projects fail because the technology doesn’t work. The reality is that generating value through information technology is an organisational wide endeavour with executives and employees having a role to play.

Organisations don’t buy IT per se; what they do buy is value, or at least potential value. Unlike physical assets, IT has no inherent value and the possession of IT itself does not confer any value; this value has to be unlocked. This value emerges through change that the technology both enables and shapes: process change, new work practices, improved decision making. Our research suggests that more business managers are getting involved in building business cases for IT investment, but once the approval for the spend has been received, it is then passed on to IT for delivery. They tell us that they feel comfortable in so doing as IT organisations tend to be driven by methodologies. Yet, they fail to recognise that such methodologies focus on technology deployment not on generating value. By emphasizing the process of value realisation, the focus is not just on getting approval for the spend, but on managing the life cycle of the investment and the process of value realisation. Hi-Impact CIOs also suggest that to promote this behaviour the business case must becomes a living document and accompany the investment through its lifecycle.

From enabler of change to shaping change

To have business relevance, Hi-Impact CIOs look to shape change in their organisation, rather than merely responding to business requests. This is in recognition of the power and capability of IT to enable the organisation to do things differently, both operationally and strategically. Some CIOs have even taken up leadership of the transformation agenda in their organisations. These CIOs acknowledge the power of innovation though IT and relish the challenge of seeking
such opportunities out. However, to do this requires credibility. Hi-Impact CIO tell us that this has nothing to do with one’s CV; it is all about the relationship with CxO colleagues.

Hi-Impact CIOs shape change through innovation; seeking opportunities to marry emerging technical capability with business opportunity. They have typically dedicated budget and resources for innovation, constantly searching out new technologies and assessing their business relevance. They also work in close partnership with business colleagues to stimulate discussions and generate ideas for potential IT application.

We have also seen Hi-Impact CIOs recognising the tension between ‘business pull’ and ‘IT push.’ On the one hand they readily acknowledge the challenges of IT push, but their credibility gives them a strong voice. They realise that most “game-changer” innovations come from technology, that their business colleagues can be slow to spot. But by having the trust of their business colleagues and credibility they have the opportunity to “advocate” the idea to them. Of course, as a member of the leadership team, they also seek to ‘pull’ ideas and opportunities from their business colleagues as well as working with the wider ecosystem of customer, suppliers and business partners.

From IT solution to business capability

In the past, the IT industry was criticized for selling the features and functions of products. In response, CIOs have generally emphasised the provision of solutions to the “problems” of business colleagues. However, what Hi-Impact CIOs are telling us is that the concept of the solution can typically result in business managers abdicating responsibility to the IT organisation to provide the solution to their problems. Too often we hear the comment “SAP will solve our problems.” Even today, project management methodology like PRINCE 2 are designed around building “the product”- the product being “the solution.” Hi-Impact CIOs prefer to emphasis the capabilities they are providing the business. The implication is that the business has to leverage these capabilities if the expected benefits of the investment are to be achieved.

What CIOs are telling us is that in promoting IT solutions, the focus is on “the IT” not “the problem” that requires solving. Consequently, IT is seen as a solver of problems: this is the magic bullet thesis. They report that it can also cause CxOs and other executives to disengage once the programme for execution has been developed as addressing the problem is seen as an IT endeavour. Building the IT capability is just one element of larger programme of work. Focusing on providing a business capability is more likely to get the attraction of business managers as it emphasises business and IT working together to create a capability for the business to exploit.

From technology deployment to information exploitation

Hi-Impact CIOs recognize that while successfully implementing technology is necessary, on its own it is not a sufficient condition to generate value. Ultimately,
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value emerges from usage of information and IT. Yet, if we examine how organisations run a typical IT project it is clearly emphasises the deployment of technology; project metrics such as on-time delivery, within budget and meeting the spec reinforcing this emphasis. While benefits from technology can be achieved through automation of organisation processes, taking out time and cost, and other inefficiencies, the real value is through working with information. This is a neglected aspect of IT investment. It is more than just training, but a conversation around how the new information will be capitalised on.

One CIO expressed this as a shift from “delivering IT” to “delivering business value” but also acknowledged that it demands a shift in mindset that should not be underestimated. Not cultivating the ability to work with information is one of the key reasons why many IT projects fail to deliver expected business benefits. Research on CRM, for example, has found than organizations that did not develop competencies among users to work with information did not see much in return for their investment.

From IT governance as structure to IT governance as behaviour

Over the years, the pendulum has tended to swing between centralisation and decentralisation of IT resources and decision making. This swing is usually driven by a desire to regain control (centralisation) or to ensure that IT and resources are more responsive to local business unit requirements (decentralisation). The pendulum swings towards increased centralisation when unmanaged devolution results in IT costs going out of control, a lack of integration across corporate systems and, ultimately, sub-optimal investments. On the other hand, excessive centralisation usually sees dissatisfaction across business units with decisions too often subject to political interference and negative impact on customers. When organisations seek the best of both worlds, a federal model is generally implemented.

Conversations around IT governance typically focus on the allocation of accountabilities for decisions related to IT. Governance is an inevitable necessity in a devolved environment, particularly with global organisations. The IT governance structure is the framework that governs decision-making and ensure that all lead to maximising the return on all IT investments to the organisation as a whole. Mechanisms of governance include establishing steering committees and other cross organisational forums, chargeback, IT awareness events, and co-location of IT and business staff.

What we find, however, is that many CIOs fail to recognise that governance is ultimately about behaviour not structure. In their conversation with management colleagues they talk about establishing committees and other cross departmental and divisional forums. Hi-Impact CIOs, however, have reframed the agenda to one focused squarely on behaviours. Just as corporate governance seeks to ensure that executive management act in the best interests of shareholders and owners of the business, IT governance should seek that behaviours about information and IT – decisions, protection, usage – are made in the best interests of the organisation as a whole. The challenge that many CIOs face is that business executives often don’t feel...
comfortable making what they perceive as IT decisions; and IT itself making decisions that it shouldn’t.²¹

In emphasising behaviour, for example, that divisional general managers should prioritise IT spend, the Hi-impact CIOs see this as the quest that guides the choice of governance mechanisms to implement. Additionally, they talk to their business colleagues about information as a core resource that requires stewardship, protection and exploitation. They report that this can often necessitate educating them and agreeing with them the kind of behaviours that should ideally be exhibited. This includes everything from involvement in IT decision-making to information usage.

Most governance frameworks that are promoted, such as COBIT,²² focus on “IT governance of IT”. They emphasize the how, rather than providing a deep understanding of the why of governance. What is missing is “enterprise governance of IT”. Indeed, one CIO said to us recently that if the IT governance structure that he had recently instituted works, he will be out of a job as business colleagues would take up responsibilities for IT. He also wryly commented that he saw himself in his role for a very long time, reflecting the difficulty he expected to encounter in getting business managers to take on responsibilities!

**From running IT like a business to running IT for the business**

Over the last decade a popular prescription that has been promoted is for CIOs to be told that to be effective they must run IT like a business.²³ One CIO of a large bank, plagued by problems with IT, recently boasted at a conference that she saw herself as a CEO of her own organisation! Hi-Impact CIOs tell us that this not only sends the wrong message but also strongly influences how business colleagues view the IS organisation and their behaviour towards it. Running IT like a business instils a certain mindset that can be at odds with the real requirements of IT to generate value to the business. The IS organisation can be perceived as wishing to be treated like an other supplier; getting involvement and engagement, particularly for project execution can be difficult. Hi-Impact CIOs also report that there can be issues with funding, particularly for infrastructure investments.

The challenge is not to run IT like a business but rather for the business. While a subtle shift in words, it does illustrate firmly where the focus of the CIOs attention should lie. IT exists to support the business in the achievement of its goals and objectives and to deliver information services. This entails identifying opportunities for innovation, better business integration and ways to increase customer value. The Hi-Impact CIO acknowledges that when he spends money it is on behalf of the business and for its benefit.

**Conclusion**

Few can argue against the importance of IT today. Most businesses couldn’t survive for very long without their IT systems. Yet the history of IT in many organisations is disappointing.²⁴ We also know that generating business value from IT, both operationally and strategically, is a shared responsibility but that non-IT staff don’t
always feel comfortable or confident making what they perceive to be IT decisions and getting involved in IT initiatives. Hi-Impact CIOs recognise this and to improve involvement and engagement have engineered subtle shifts in their conversations with CxO colleagues. These shifts establish a new agenda for the CIO, one built around conversations focused on: co-evolution, business priorities, value realisation, shaping change, business capability, information exploitation, IT governance as behaviour and running IT for the business.

While each shift might seem insignificant, together they represent a fundamental transformation in their dialogue with business colleagues. CIOs report that the outcome is a more rewarding discourse with business colleagues; but more importantly, increases the value their organisations generate from IT investments. Language is important. Some CIOs have already embraced this new agenda. The clear message is that CIOs should look at the language that they use when interacting with their CxO colleagues. This might also change the outcomes they are seeking to achieve from these conversations. What my evidence suggests is that in so doing they are likely to get a better response from their business colleagues.

Appendix 1: About this research.

Over the last 18 months we have spoken to over 80 CIOs about various aspects of the role and the challenges that they face as CIO. We have also spoken to CxOs about IT and their expectations for CIOs. Many of these interviews have been recorded and transcribed. We have also engaged in in-depth discussions with participants on the Cranfield IT Leadership Programme, an executive development programme for CIOs and senior IT executives, where findings from this research, as reported in this paper, have been presented to test its validity.

End Notes


6 B.H. Reich and I. Benbasat, ‘Factors that influence the social dimension of alignment between business and information technology objectives’, MIS Quarterly, Vol. 24, No. 1, 2000, pp. 81–113
10 The term ‘co-evolution’ was coined in the 1960s by the American population biologist Paul Ralph Ehrlich and the botanist Peter Hamilton Raven to refer to evolutionary changes that occur in genetically unrelated species as they interact with each other in their environment. See D.J. Futuyma, Coevolution. Sinauer, Sunderland, MA, 1983.
15 PRINCE2 (P(R)ojects IN Controlled Environments) is a process-based method for effective project management. It is a de facto standard used extensively by the UK Government and is widely recognized and used in the private sector, both in the UK and internationally. The method is in the public domain, offering non-propritiorial best practice guidance on project management.
22 COBIT (Control Objectives for Information and related Technology) is a set of best practices (framework) for IT. Its mission is “to research, develop, publicize and promote an authoritative, up-to-date, international set of generally accepted information technology control objectives for day-to-day use by business managers and auditors.” Managers, Auditors, and users benefit from the development of COBIT because it helps them understand their IT systems and decide the level of security and control that is necessary to protect their companies’ assets through the development of an IT governance model. See www.isaca.org.
23 See, for example, M.D. Lutchen, Managing IT as a Business, John Wiley & Sons, New Jersey, 2004.
24 Surveys and reports continue to confirm that the majority of organizations do not realize significant business value from IT-enabled business projects. One recent paper reported that 74% of IT projects from 1994-2002 failed to deliver expected value. See D. Shpilberg, S. Berez, R. Puryear and S. Shah, ‘Avoiding the alignment trap in information technology,’ MIT Sloan Management Review, Vol. 49 No. 1, 2007, p 52. See also see The Challenge of Complex IT Projects, The Royal Academy of Engineering: London, 2004; National Audit Office Delivering Successful IT-enabled Business Change, Report by the