Board-level IT Governance

What your company should know and how it should act

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Abstract:

This paper suggests that boards’ involvement with information technology (IT) governance is often not at the needed level. It illuminates the differences between board-level and executive-level IT governance, explains why both the board and executives should be motivated to engage in IT governance, and provides board-level IT governance structure, action and style suggestions. Building on a categorization of different board governance styles, this paper also offers practical recommendations including IT related areas and questions the board should focus on, as well as a set of tools to choose and switch between governance styles.

STATUS QUO: BOARDS OF DIRECTORS STILL DO NOT GOVERN IT TO THE NEEDED EXTENT

Information technology (IT) can create business value. However, successful outcomes of using IT are not guaranteed; especially when IT is not governed properly. Poor IT governance can lead to value destruction through lost opportunities or innovation lag, and increased exposure to IT risks. The good news is that many companies started discussing IT issues in the boardroom. In fact, the board of directors has a fiduciary duty to govern IT in order to create business value and mitigate IT-related risks. The board of directors represents the shareholders and other key stakeholders of a company. It is generally considered to be responsible for all corporate governance matters, which include IT governance. Legislation such as the Sarbanes-Oxley and the Dodd–Frank Acts have shaped the structure and actions of board corporate governance. They also mandated at least some IT governance as a means to ensure the accuracy of financial reporting. Nonetheless, many IT governance domains, such as value creation and performance measure, have been left out from this reform, despite their importance. Indeed, several of our studies revealed that many board members still see IT as an operational issue they should avoid. For example, one board member stated:

“IT is an operational matter and we leave it to management to make it work. If it fails we hold management accountable. As long as it doesn’t bring the company down, why should we get involved?”

This avoidance-by-the-board partly stems from embarrassment, different priorities and preferences, but also partly because board members often lack awareness, knowledge, skills, or a combination of these factors to govern IT. Many are trained in accounting, finance, law and strategic management and therefore tend to adopt a limited governance perspective. Indeed, for
this study we analyzed Standard & Poor’s 500 companies; as of 2017, twelve years after the seminal recommendations of Nolan and McFarlan were published, only 4.4% had a board-level IT committee. While this may not be indicative of the existence of IT governance, it is indicative of the emphasis boards put on IT. Boards’ low involvement with IT governance seemed to be out of step given the increased strategic importance of and risks presented by IT.

The objectives of this paper is to examine the status-quo in board IT governance research and practice and provide additional recommendations derived from our research. In the sections that follow, we illuminate the differences between board-level and executive-level IT governance, and provide board IT governance structure, action and style suggestions.

## IT GOVERNANCE BY THE BOARD OF DIRECTORS

IT governance includes organizational authority, structure, actions, relations and leadership to ensure that IT sustains and extends the strategies and objectives of an organization. It is worth noting that IT governance is different from IT management. While IT governance includes making strategic IT decisions and providing guidelines for IT management, IT management involves making specific IT decisions and supporting goals defined by governing bodies.

IT governance is the responsibility of a company’s board of directors and top management team. While symbiotic, the IT governance responsibilities of the top management team and the board are distinct. Top management’s responsibilities include strategizing, planning, budgeting, executing, controlling, communicating and reporting on IT projects and operations. They can use one or more IT governance frameworks (methods, standards or best practices), such as COBIT (Control Objectives for Information and Related Technology), ITIL (IT Infrastructure Library), and ISO/IEC 38500 (Standard for Corporate Governance of IT).

The board, in contrast, is absent from the day-to-day implementation of IT strategies. It instead assumes the responsibilities of initiating and steering the needed planning at the executive level, assessing top management and its plans, setting compensation schemas for executives, and measuring top management and organizational performances. The board is also involved in creating the mechanisms needed for effective IT management and operations. For example, the board can approve CIO roles, appoint CIOs, and create a CIO compensation schema that supports desired objectives. Moreover, the board should respond to top management IT-related queries and needs. For instance, the board may be approached to find ways to finance a large IT project.

Unfortunately, compared with executive-level IT governance frameworks, there are fewer guidelines that clearly delineate what the boards should consider doing regarding IT. Current recommendations (like the ones provided by CICA and ITGI and ISO/IEC 38500) focus on suggested topics to discuss (IT committee, opportunities, and risks) and questions the board should address in its meetings. Synthesizing extant suggestions and our own research-based insights, we use Figure 1 to depict the board’s IT governance and its position in the big picture of responsibilities related to IT governance and management.

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**Figure 1:** Responsibilities related to IT governance and management
WHY BOARDS SHOULD CARE ABOUT IT GOVERNANCE

Studies on board IT governance unanimously suggest that this practice improves organizational performance in various settings, regardless of the industry sector to which a firm belongs, its profit orientation (for profit or non-for profit) and its size.2,10,11 However, there is a gap between what academics and consultants believe boards should do to govern IT and how they actually do it. Most boards only pay attention to IT risks and ignore other topics, like IT vision, IT strategic planning, and IT competitive advantage,4 and only 19.6% of boards are routinely informed about the state of IT at their companies.5 This is also reflected by the low use of key board IT governance questions in board meetings.3,11

Given the accumulating evidence that firm performance is associated with board IT governance,2,10,11 we contend that boards should consider improving their IT governance. While this connection is not obvious to all, some board members we interviewed for our studies started realizing that IT governance is an important practice that is part of their duties. For instance, one stated:

"Having participated on several boards, I have witnessed the spectrum of IT governance knowledge, mostly lack thereof. Many board members feel the IT should be handled by staff, while others have come to realize the importance of IT governance."

RECOMMENDATIONS TO COMPANIES

We synthesize extant recommendations on the structure and actions of board IT governance, and extend it to style aspects of human interaction (See Sidebar). Specifically, we provide additional suggestions based on our research on board governance style (i.e., how boards should interact with top management to govern IT). The focus is in line with recent research stressing the importance of relational capabilities in IT governance.12

As Sidebar shows, the focus on governance style is worthy, because it is a modifiable aspect of boards’ work that can help them achieve better results.13 To do so, boards only need to change interpersonal interactions with executives. However, since governance style is flexible, its benefits to the company may be temporary. New board member may prefer different styles and boards may need to adjust styles to fit with changes in the business environment. In contrast, setting up committees and performing governance actions can generate long-term benefits. Note that board governance style complements IT governance structures and actions. Effective styles can amplify the power of IT governance, whereas ineffective styles can suppress these effects.13 Hence, companies should implement all structure, action and style aspects of IT governance. Below we make recommendations on these three aspects.

Board IT governance structure: setting up a standalone IT committee

Since many boards lack IT knowledge, one possible solution is to add IT-savvy board members. However, this solution is not always easy to implement. Many boards still do not want to give up a seat to technologists who may have only IT knowledge. This argument is supported by the facts that only 7.8% of companies prefer board members with IT experiences.5 In Standard & Poor's 500 companies, 15% of new board seats were filled by IT-savvy directors,14 which equals to 1% of the total number of directors.

Alternatively, we recommend boards to establish a standalone IT committee.2,8 This can reduce the risk of IT security breaches.15 We also recommend the IT committee to include independent directors and to be chaired by an independent director. All Standard & Poor's 500 companies have independent directors on audit and compensation committees, the chairs of which are independent directors as well. IT committee should work closely with the audit committee on risk mitigation tasks. While over 80% of Standard & Poor's 500 companies had managers in executive IT positions, such as CIO and CTO,16 only 4.4% had board structures (IT committees) to deal with IT. Therefore, we call for closing this gap by establishing more board IT committees.

Clearly then, having an IT-savvy board or a board IT committee is a manifestation of the highest level of commitment with regard to IT governance. A board committee signals that the company
considers IT to be a strategic tool that merits attention from the upper echelons. This emphasis can trickle down to executives, managers, employees and investors. Another advantage of such a committee is that it may require a single person who is IT-savvy, and the rest may utilize his or her skills and supplement them with their own (e.g., accounting, legal). This structure therefore, better utilizes the scarce resource of IT-savvy directors.

Board IT governance actions: what can boards do to govern IT

Based on interviews with and surveys from boards and synthesizing recommendation regarding board IT governance,\(^8,11\) we provide a list of IT governance actions from which boards can choose (see Table 1). These actions belong to the five domains of IT governance proposed by ITGI: (1) IT resource management, (2) IT performance measurement, (3) IT strategic alignment, (4) IT value delivery, and (5) IT risk management.\(^8\) The first domain ensures that IT resources are sourced responsibly. IT resources include equipment, hardware, software, cloud-based storage, and IT staff and knowledge. The acquisition and sourcing of IT resources often involve major decisions on IT investment that require board approval. The second domain focuses on ensuring that IT activities, services, and processes are performed, measured and assessed properly. The third domain focuses on ensuring that IT is well integrated with and supportive of business objectives. The fourth domain focuses on one of the ultimate goals of IT governance, which is that companies successfully derive value from IT. This value includes better financial performance, customer satisfaction, compliance, and/or operational excellence. The fifth domain focuses on ensuring that IT related risks are managed and reasonably mitigated. IT Risks include service disruption, technical malfunctions, cybercrimes, cyberattacks, industrial espionage, electronic fraud, faulty service, denial of service, incorrect data modification, and unauthorized data disclosure.
<table>
<thead>
<tr>
<th>Skills</th>
<th>Board-level IT Governance Actions</th>
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</table>
| IT Resource Management /oversight | Create and ensure financial viability of the IT function  
Approve/reject major (transformative or risk-related) IT decisions  
Approve/reject IT investment budgets  
Provide access to external IT resources and knowledge |
| IT Performance Measurement /oversight | Motivate top management and CIO (e.g., via compensation structure)  
Monitor IT deliverables against business objectives  
Ask for state-of-IT reports from top management |
| IT Strategic Alignment | Ensures reasonable IT goals and strategic plans  
Encourage the CIO to interact with top management  
Develop shared understanding and collaboration between the CIO and top management  
Create an atmosphere of joint accountability and support regarding IT |
| IT Value Delivery | Bring IT value creation insights from other organizations  
Advises top management and CIO on strategic IT matters  
Direct executives’ attention to IT innovation and trends  
Identify possible IT opportunities and ask the executives to explore them  
Respond to positive changes in the environment |
| IT Risk Management | Review IT risk management policies and plans  
Bring IT risk management insights from other organizations  
Direct executives’ attention to IT issues and risks  
Identify possible IT threats  
Respond to negative changes in the environment |

**Board IT governance styles: how should boards interact with top management to govern IT**

Effective interaction between the board and top management can help the board understand the full IT landscape and to better communicate its intentions and directives to executives. It also helps management to be better receptive to and follow the directives and spirit of the board. However, current board IT governance research and practice largely ignore style aspects of IT governance. In our interviews and empirical studies, we found that boards need to give serious consideration to this aspect.\(^{11,13}\)

Applying Baumrind’s typology of parental supervision styles to the board,\(^ {17}\) there are two overarching dimensions of board governance style: monitoring and advising, both of which are prime responsibilities of the board.\(^ {18,19}\) Being high or low in these two dimensions produces a 2x2 table with four prototypical board governance styles: authoritarian, authoritative, permissive and neglectful. Authoritarian boards mainly perform a monitoring role; authoritative boards engage highly in both monitoring and advising roles; permissive boards concentrate on an advising role; and neglectful boards are low in both monitoring and advising roles. One use of this table is to locate where a company's governance style falls. This can be accomplished by boards’ self-assessments and/or top management surveys. After estimating the extant governance style, it is possible to switch to a style that better fits current needs and the business environment.
Another use of the table is to help With the help of four governance styles, boards can decide what to do and what to avoid. It is well-accepted that both the monitoring and advising roles of the board are important,18,19 and therefore boards should avoid adopting a neglectful style. Nevertheless, some board members adopt a neglectful style regarding IT (see the first quote on page 2), and this can hurt the organization.2,10,11

Moreover, findings suggest that authoritarian style can be harmful to firm performance,13 It increases the over-reporting burden on executives. That is, too much monitoring can result in excessive reporting and reduce management’s ability to deal with daily IT management and operations.20 Directors are therefore advised not to engage in authoritarian style. If the board governance of a company involves these two styles, it is time for this board to make changes (e.g. to adopt an authoritative style). The changes can be initiated by either board members or top management through an open discussion. In contrast to the two styles mentioned above, an authoritative governance style can help a company achieve significant performance gains, because when employed, the board plays a fairly balanced role in governance. We contend that the dual emphasis on monitoring and advising not only can improve board oversight, but also lead the board to provide appropriate strategic advice and support.

The effectiveness of authoritative style seems to suffer only when the company experiences a turbulent environment with significant changes and uncertainties (e.g., new entrants, disruptive technologies, big changes in competitors’ behaviors and customer demands). In such turbulent environments, the board should ideally be more permissive and demonstrate that style by having more tolerance and providing more advice to top management, while putting less emphasis on immediate monitoring. The reason is that in such circumstances advising and supporting the executives is more important, and at the same time, monitoring (which includes mostly looking at the past) can be fruitless and time consuming, given the significant changes.20 Ultimately, when boards attempt to engage in these different IT governance styles, we recommend that they consider the balance between their monitoring and advising roles.

Asking key IT governance questions (e.g., similar to the ones listed in Table 2) and setting up IT governance structures (e.g., a committee) are effective ways to initiate board IT governance.5 Note that by asking the same questions but while employing different styles, the board can convey its emphasis on the monitoring and advising aspects of governance style. The monitoring role is covered in columns 1 and 3, while the advising role is covered in columns 2 and 3. For example, the board can ask “What is the frequency of reporting …” to show monitoring role, and it can ask “Are you comfortable with the frequency of reporting…” or "what can we do to help you with this IT matter” to adopt an advising role. The board can also provide insights from other companies or based on prior executive-level experiences its members possess, say regarding reporting, to enhance or reduce the two roles. We acknowledge that this table artificially simplifies the complex interactions between the board and the executives. However, it is used to provide examples and represents a first step forward improving the effectiveness of board IT governance. Ideally, boards should ensure style consistency throughout all interactions with executives.
<table>
<thead>
<tr>
<th>Monitoring Role</th>
<th>Advising Role</th>
<th>Board IT governance questions and statements</th>
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<tbody>
<tr>
<td>What is</td>
<td>Are you comfortble with</td>
<td>the frequency of reporting the matters related to the company’s IT resources to the board</td>
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<tr>
<td>Did you know</td>
<td>We can help you to clarify</td>
<td>the value of the company’s IT resources</td>
</tr>
<tr>
<td>How did you</td>
<td>Do you need help to</td>
<td>the strategic importance of IT resources to the company</td>
</tr>
<tr>
<td>Did</td>
<td>We can help ensure that</td>
<td>develop and implement the company’s IT strategy</td>
</tr>
<tr>
<td>Is/are there</td>
<td>We can guide you to set up</td>
<td>ensure the company’s IT strategy is aligned with the company’s overall strategy</td>
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<tr>
<td></td>
<td>We can help you develop</td>
<td>develop shared understanding between CIO and top management on strategic IT matters, trends, innovations, issues and risks</td>
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<tr>
<td></td>
<td>We can help you access</td>
<td>measure the contribution provided by the company’s IT resources</td>
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<td></td>
<td>We can help you choose</td>
<td>assess emerging technologies and trends, and their potential impact on the company</td>
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<tr>
<td></td>
<td></td>
<td>monitor and report the performance of the company’s IT resources, processes and projects</td>
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<td></td>
<td></td>
<td>protect the confidentiality of intellectual and information assets</td>
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<td></td>
<td></td>
<td>monitor legal, regulatory and contractual obligations related to IT resources</td>
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<td></td>
<td></td>
<td>ensure that the investment in IT resources meet(s) the business’s requirements to process information</td>
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<tr>
<td></td>
<td></td>
<td>the company’s IT resources and initiatives allow company to capitalize on, and adapt to marketplace forces, trends and opportunities</td>
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<tr>
<td></td>
<td></td>
<td>its information and IT resources, systems and technologies keep pace with changing business needs and enabling the organization’s success</td>
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<td></td>
<td></td>
<td>appropriate collaboration and accountability for identifying, acquiring and deploying IT resources and capabilities to meet the needs of the company</td>
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<td></td>
<td></td>
<td>adequate plans (e.g. business continuity plan and disaster recovery plan) to enable continuity of critical business operations</td>
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<td></td>
<td>IT risk assessment plan and IT security policies</td>
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<td></td>
<td>sufficient IT resources and knowledge including succession plans for key IT personnel</td>
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<tr>
<td></td>
<td></td>
<td>measures to enhance, preserve and safeguard the integrity and reliability of the company’s data and IT resources</td>
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Note: “You” refers to executives, and “we” refers to the board. Some of the questions and statements are adapted from “20 questions directors should ask about IT.”

What should CEOs and CIOs do regarding Boards’ involvement with IT

CEOs and CIOs and other senior executives should push their boards to spend more time on IT matters during board meetings and eventually, if needed, establish a dedicated board IT committee. Although, executives also need to spend extra amounts of time and effort to report to and interact with the board when it starts discussing IT, the executives can benefit from IT resources,
guidance and advice provided from their board members. This is especially true if their compensation is tied to long-term performance, in which case it is in their best interest to request and motivate board IT governance. After all, board IT governance is associated with firm performance.\textsuperscript{2,10,11}

CONCLUSION

In this article we posit that board involvement with IT governance is often not at the needed level. We illuminate the differences between board-level and executive-level IT governance, explain why the board and the management team should be equally motivated to engage the board in IT governance, and outline board IT governance structure, action, and style recommendations.

REFERENCES


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