A Model Proposal for Organizational Prudence and Wisdom Within Governance of Business and Enterprise IT

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Editor’s Note

This article is an extension of a previous article by this author titled “Unearthing and Enhancing Intelligence and Wisdom Within the COBIT 5 Governance of Information Model.” It is recommended that readers read the previous article to have a basis of understanding of the terms and concepts as defined by the author.

The intimidatingly rapid growth of big data in the ever-changing, innovative information technology environment has created challenges for enterprises, such as the optimization of risk, costs and resources to best respond to the requirements of the ecosystem and the needs of stakeholders. Day after day, a new concept, tool, technique, requirement or a paradigm comes into being as a result of new data, information, knowledge and wisdom that are being produced in the global order. Particularly, paradigms such as artificial intelligence (AI), Bitcoin, blockchain, virtual reality, climate change, greenhouse gas emission, immigration, disease, cold war, stakeholder needs, cyberthreats, ransomware, the Internet of Things (IoT), industry 4.0, smart specialization and smart cities are some of the main triggers that motivate organizations to take their own stance to best position themselves in a business environment that is highly competitive, innovative and ever-changing. Government agencies are also part of the equation because they are in a definitive role that provides regulations and services to meet needs of citizens, private bodies and nongovernmental organizations (NGOs). Therefore, all organizations face competition resulting from innovative products, techniques and services that require holistic and integrated business intelligence and wisdom-manufacturing management systems and frameworks.

An organization’s ability to respond to changing environments is a critical issue. Decision-making bodies at all levels need to adjust to meet fast-changing environments. Basically, an organization needs to change its information systems to fit the new requirements. In turn, appropriate computer techniques and technologies can be applied that best meet the requirements for the changed business conditions and stakeholder needs. The current failures of organizations indicate that their information systems are not reflective of current business conditions and ecosystems, even though the application of newer techniques and technologies may abound in the organization. The turbulence of current business conditions, then, necessitates the need for decision makers to use the latest in information system developments—that is, optimal knowledge management (KM)/wisdom management (WM) systems.¹

Despite the fact that the Data Management Body of Knowledge (DMBOK) focuses on data, COBIT® 5 seems to focus more on the information layer, rather than data and knowledge, through emphasizing the transition of data into information on the road linking to knowledge while it provides a platform that can sustainably produce intelligence and...
wisdom if it is tailored to stakeholder needs and organizational objectives. Though information is emphasized as one of the 7 enablers of COBIT 5, knowledge management is considered under the Build, Acquire and Implement (BAI) domain as BA108 Manage knowledge, a management process. It is possible to argue that the challenges of big data raise the importance of converting data that are overwhelmingly huge, sophisticated, doubtful, changeable and intertwined volume of numbers, signs and semiotic reflections into meaningful context, which is information. This seems to be very reasonable for the purpose of filling gaps at the diverging paths between data management and knowledge management. However, one should also be alert for the possibility of weakening or losing ties with business intelligence and wisdom that are crucial for prudent responses in the 5 COBIT® principles and the 7 enablers.

This article is based on a previous article on wisdom that handles the COBIT 5 Information enabler with a critical approach using arduous epistemological thinking of information theory.

This article is meant to show the depth of literature about conceptual and theoretical aspects of the issue and to form a more robust and concrete proposal for prudence and wisdom within governance of enterprise IT (GEIT). This wisdom model is based on the prudent response of an enterprise based on the governance and management processes of COBIT 5. Wisdom manufacturing is a critical output of COBIT 5’s principles and enablers and, in turn, it enables prudent response. Prudent response focuses on the governance goals of benefits realization and risk and resource optimization to optimize the guidance of the 5 principles...and the effectiveness of the 7 enablers.

An Addendum of Optimization and Truth in DIKW Hierarchy

In addition to the concept of intelligence, some scholars add optimization and truth in the data, information, knowledge, wisdom (DIKW) hierarchy. Even though business intelligence has helped a wider range of individuals within and outside of the typical organization, the next level (figure 1) is a move toward optimization that assists these same decision makers in allocating an organization’s resources in a more effective way. Basically, optimization means that after all information and knowledge have been thoroughly understood (i.e., intelligence), the next level of importance to decision makers is the optimization of resources they have at their command. Today, optimization is a must for smart business systems. Effective smart business systems are concerned with monitoring an organization’s operations that result in optimization or getting as near to optimization as possible. As such, smart business systems can enhance the effectiveness of an organization’s operations by providing decision makers with very desirable solutions.

According to researchers, wisdom, shown at the second highest level of figure 1, is the ability to make sound judgments about what needs to be done to grow a learning organization over time. This high level of understanding involves such philosophical attributes as the awareness that the models constructed will not always hold true. Hence, a beginning point for wisdom can be the humble assertion: “I don’t know.”

Figure 1—Relationship of Information to Wisdom (and Truth)

<table>
<thead>
<tr>
<th>Level of Importance</th>
<th>Definition</th>
<th>Problem Importance</th>
<th>Type of System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Truth</td>
<td>Conformance to fact or reality</td>
<td>Vital</td>
<td>Not defined at this time</td>
</tr>
<tr>
<td>Wisdom</td>
<td>Ability to judge soundly over time</td>
<td>Critical</td>
<td>Wisdom management system</td>
</tr>
<tr>
<td>Optimization</td>
<td>Monitor operations for best solution</td>
<td>Major</td>
<td>Smart business system</td>
</tr>
<tr>
<td>Intelligence</td>
<td>A keen insight into understanding</td>
<td>Extremely</td>
<td>Business intelligence</td>
</tr>
</tbody>
</table>
important relationships | broad system
---|---
Knowledge | Obtained from experts based on actual experience | Major | Knowledge management and expert systems
Information | Structured data useful for analysis and decision making | Major to minor | Real-time, distributed, decision support, executive, and online analytical systems
Data | Row signs, letters, numeric values, pictures, movements, alphanumeric values | Big data | Data management

Source: Modified from Thierauf and Hoctor, 2006. Reprinted with permission.

The highest level of figure 1 is truth, which represents conformance to fact or reality and represents the lofty pinnacle of understanding. It comes from understanding the way that connected points of wisdom come together. A violation of basic truths held by the general public can only jeopardize truth's standing in the community. Human beings categorically try to understand truth. Positive science seeks truth from observation of facts and incidents; using intuition, reasoning and experiments; and wielding the powers of thinking and sensing. In organizations, truth is reflected in methodologies and frameworks that provide guidance and modelling.

According to Socrates, in order to achieve any level of wisdom, one must first admit his/her own ignorance. Considering levels of complexity of relationships and networks, overwhelming big data, innovative economies, and new paradigm shifts, without a holistic and integrated framework, organizations have to commit to remove organizational ignorance. Wisdom allows decision makers to visualize opportunities or see problems in a new light to cut to the heart of the relationships to determine what needs to be done. Essentially, wisdom is a vital organizational resource accumulated through experience and applied to everyday learning at work. Wisdom can be used as an organizational strategy to realize the real potential of any organization, particularly the relationship of wisdom with organizational goals, governance and stakeholder needs for which value-adding processes need to run in conformity with the goals cascade.

As noted, according to researchers, knowledge provides a framework for intelligence and optimization. On the other hand, optimization focuses on monitoring a company's operation to assist decision makers in reaching best or near-best solutions. Both intelligence and optimization rely on knowledge as an integral element for assisting decision makers. Going one step further, wisdom not only brings together knowledge in the form of intelligence and optimization, but also provides the means to assist decision makers in reaching wise and optimal decisions over time.

As shown in figure 2, enterprises exist to create value for their stakeholders by maintaining a balance between the realization of benefits, the optimization of risk and the use of resources. COBIT 5 provides the required processes and other enablers to support business value creation through the use of IT. Particularly, there are 2 dedicated governance processes and 2 practices (EDM02.02, EDM02.03, EDM03 and EDM04) to support optimization of risk, resources and value.

Figure 2—Goals Cascade for Governance Objective of Value Creation
Typically, a wise decision maker knows what knowledge, in the form of intelligence and optimization, is needed in a given situation to optimize an organization’s operations for what needs to be done over time. The individual knows how to discover weaknesses for developing important organizational opportunities and solving organizational problems. Hence, there is a connection between knowledge and wisdom that is recognized in the subject matter of the text—optimal KM/WM systems. Optimal KM/WM systems are the means for assisting decision makers at all levels of the organization as well as helping its customers and trading partners to reach optimal levels of risk and resources.

Achieving wisdom for organizations and their internal and external stakeholders requires well-defined enterprise wisdom according to the environment in which they operate and realities they are bound to recognize. The more organizations take universal wisdom into consideration of governance goals, the better their vision and mission will be accomplished in the future. COBIT 5 as a logical framework tries to reach truth for organizational intelligence and wisdom.

Figure 3—Relationship of Stakeholder Needs With GEIT and Governance Goals
Figure 3 shows the quintessence of COBIT 5: that the more GEIT, the more value is added (alignment of benefits realization, resource optimization and risk optimization), driven by stakeholders’ needs. The stakeholder needs curve can be different for each organization according to the distinct levels of accomplishment of risk, resource and benefit optimization and realization. To simplify the concept, it is shown as a linear curve.

Information Goals/Quality Criteria/Attributes of COBIT

One of the biggest contributions of COBIT 5 to the domain of information governance and management is the information goals, which are quality criteria based on development and revisions of former versions of COBIT information criteria. This innovative development is neither philosophical nor theoretical, but rather a technical aspect of intrinsic, contextual and security/accessibility information goals/criteria that can be applied to all enablers by practitioners who need a reasonable and applicable paradigm and contextual definitions. Practitioners have established COBIT 5 and previous versions as the leading framework to do exactly what is described, to provide strategic value by creating alignment between the employment of resources and the objectives of enterprise strategy. This is established in numerous articles and testimony of practitioners. This strategy is also needed to approach, treat and use data, knowledge, intelligence and wisdom in line with information goals and quality criteria.

Another vital contribution of COBIT 5 to the domain of information governance and management is that it defines 7 information attributes, differentiated from information criteria. Information attributes cascade into the theoretical and philosophical domains of information rather than the technical domain of information criteria, which can be applied to any information that can stem from any of the physical, empirical, syntactical, semantical, pragmatic and social world layers of information attributes.

However, it is possible to argue that there can be another layer for the source of information, such as an ontological layer, from which information is yielded. As part of this layer, intuition, conscience, culture, scruples and beliefs can also be counted. Without understanding the source of information, the requirements of intelligence and wisdom cannot be achieved. Together with information attributes, layers for data, knowledge, intelligence and wisdom are also needed.

Primary, Useful and Intelligent Knowledge Management

Wisdom is considered to be a result of the use of different, but intertwining knowledge areas such as human knowledge, primary knowledge, useful knowledge and intelligent knowledge (figure 4). Therefore, wisdom can be attained through knowledge creation and usage of different knowledge.
Researchers have extensively discussed various definitions and classifications of knowledge. For instance, one researcher has shown that knowledge can be primarily classified as tacit and explicit on the basis of ease of transfer or codification/formalization. Another has developed a matrix that divides knowledge into 4 categories:

- Tacit vs. explicit
- Personal vs. organizational
- Dynamic vs. static
- Internal vs. external

Other researchers have integrated the results of many experts and scholars and have suggested that knowledge has 5 perspectives:

- A state of mind—The state of knowing and understanding
- An object—An object to be stored and manipulated
- A process—A process of applying expertise
- A condition—A condition of access to information
- A capability—The potential to influence action

Accordingly, knowledge may take many forms, such as equations, contingency tables, taxonomies, decision trees, rules, graphs, concepts and exceptions from patterns.

In other research work, data, information and intelligence are seen as different, but interrelated knowledge areas. Knowledge is loosely defined as “any knowledge related to certain aspects of human beings’ interests.” Knowledge is rooted in 2 main resources: one from human beings, another from data or information. Through data mining, hidden patterns are discovered and certain knowledge can be represented as rules, scoring formulas, models with parameters, etc. This knowledge is known as “primary knowledge,” which is part of all knowledge in applications. It is rough knowledge with impurity. Under this definition, knowledge related to data mining can be classified, according to the particular business usage of human beings, as primary, useful and intelligent knowledge. Primary knowledge is all knowledge from data mining, but only a part of a given knowledge connected to the particular interest of human beings’ interest. Useful knowledge is part of primary knowledge after it is filtered by the characteristics of the particular interest and is useful for certain business. Intelligent knowledge is interfaced with useful knowledge and human knowledge that can automatically support human beings for achieving their particular interests. It is a new form of knowledge with a series of intelligent features such as memory, recognition, reasoning, automatic adaptation, self-updating and dissemination. As a result, this
differing classification of knowledge shown in figure 4, in which intelligent knowledge is considered a bridge of knowledge toward wisdom and their differences, can be seen, in comparison, in figure 5.  

Figure 5—Comparison of Primary Knowledge, Intelligent Knowledge and Human Knowledge

<table>
<thead>
<tr>
<th>Features</th>
<th>Human Knowledge</th>
<th>Primary Knowledge</th>
<th>Intelligent Knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource</td>
<td>Human beings</td>
<td>Data mining or other data analysis</td>
<td>Data mining or other data analysis with human's auditing</td>
</tr>
<tr>
<td>Character</td>
<td>Subjective and qualitative</td>
<td>Objective and quantitative</td>
<td>Qualitative and quantitative</td>
</tr>
<tr>
<td>Memory</td>
<td>Brain</td>
<td>Central processing units (CPUs) and random access memory (RAM)</td>
<td>Knowledge base</td>
</tr>
<tr>
<td>Recognition</td>
<td>Social</td>
<td>Used passively</td>
<td>Serve to users positively</td>
</tr>
<tr>
<td>Updating</td>
<td>Individually</td>
<td>Manually</td>
<td>Automatically</td>
</tr>
<tr>
<td>Reasoning</td>
<td>Neural</td>
<td>Cannot</td>
<td>Reasoning in KM system</td>
</tr>
</tbody>
</table>


As noted previously, in COBIT 5 Information is one of the 7 enablers and knowledge management is management process BAI08 Manage knowledge. ITIL V3 2011 Service Transition, 4.7 Knowledge management is the main reference of this process. This process is described as:

- Maintaining the availability of relevant, current, validated and reliable knowledge to support all process activities and to facilitate decision making
- Planning for the identification, gathering, organizing, maintaining, use and retirement of knowledge

The purpose statement of this BAI08 process is “to provide the knowledge required to support all staff in their work activities and for informed decision making and enhanced productivity.” Considering the absence of both data management and information management as a management process within the COBIT 5 processes, it can be argued that COBIT has provided intelligence and wisdom through BAI08, in which data, information and knowledge management can be attained as an integrated approach to knowledge.

Wisdom and Its Manufacturing Within Corporate Culture

In some studies, it is argued that a philosophical understanding of human nature and the human good—attained and enjoyed through the cultivation and exercise of theoretical wisdom—is especially conducive to one’s full development and exercising of the practical virtues, i.e., practical wisdom and the ethical virtues. In the COBIT 5 terms this can be attributed to the enabler of Culture, Ethics and Behavior.

Practical wisdom aids the practical problem solving of business, human and social issues. Presuming that practical wisdom can be cultivated in individuals systematically and developed in organizations collectively, practical wisdom offers nontrivial contributions to society as a whole. Therefore, wisdom may well be the greatest goal as well as the journey of human development, which is shown in figure 6. Hence, organizations are also servants and intermediaries to the provision of things that give value to human life and happiness.
Human beings, who make up organizations, cannot be happy and sustainable unless they are in an environment that takes into consideration their senses, beliefs, opinions and values. For that reason, an organization that respects beliefs, differences and cultures is likely to be more viable and competitive than others. This wisdom should be easy to integrate, using COBIT 5. COBIT 5’s Culture, Ethics and Behavior enabler supports this notion.

**Wisdom as a Sustainably Integrative Approach**

Wisdom is multidimensional. It engages various qualities, from contemplation to practice. There is no consensus among scholars about which qualities and how each of the qualities contributes to the development of wisdom in individuals or groups. Less is known about whether wisdom is a process, a set of abilities, personality traits or just a state of mind. A wide range of approaches is identifiable across the ancient and modern studies of wisdom, indicating that wisdom is an elusive concept. Wisdom is said to be an integration of cognitive and reflective characteristics and, therefore, is not something independent of the person who is characterized as being wise.16

In the business context, wisdom is articulated as a form of experience-driven knowledge and advanced cognitive and emotional development that helps people make ethically sound judgments that lead not only to short- and long-term financial success for the organization, but also to the well-being of others, including the wider society and stakeholders. According to the findings of an empirical study of the relationship between wisdom and decision making in the business context, there are 5 qualities that business practitioners, including chief executive officers (CEOs) and senior managers, regard as the critical components that form wise decisions:

- **Multiperspective consideration**— At the heart of wisdom, this quality is the extent to which a management decision is based on the consideration of various aspects, e.g., short- and long-term consequences, alternative points of view, and ethical codes.
- **Self/other awareness**—This refers to an integration of the practitioner’s and organization’s awareness of what is going on both inside and outside the organization’s boundaries.
• **Cognitive/emotional mastery**—This quality of wisdom underlines the role of cognition and emotion in making appropriate decisions, and provides an integrative approach to both rationality and nonrationality to deal with complex problems.

• **Reflexivity**—Interrelated with the aforementioned qualities, reflexivity refers to and goes beyond the amalgamation of internal and external reflection.\(^{17}\)

• **Praxis**\(^{18}\)—Praxis wisdom is more than accumulated knowledge; rather, it is concerned with the capacity to apply right knowledge toward right ends.

These 5 qualities provide an integrating meta approach that is critical in making more effective decisions and taking more appropriate courses of action.\(^{19}\) Sustainability projects may be especially conducive to use of the 5 qualities. It has been argued that sustainability activities that are performed as a systematic process that entails strategic planning, policies, plans, programs and operations also foster decision making to a great degree.\(^{20}\) Accordingly, integrating wisdom into sustainability initiatives can further enhance an organization’s capacity to address its competitiveness, legitimacy and ecological responsibilities.

**Conclusion**

Despite growing interest about a strategic perspective on knowledge management, there is still no adequate procedure and method to guide the implementation of the strategies. COBIT 5 has integrated data management, risk management, project management, information management, knowledge management, quality management and IT governance into a governance and management framework that can provide strategic direction in a holistic and innovative manner. The manifold aspects and frameworks with which COBIT 5 is interrelated can make it difficult for practitioners to understand and apply it at practice. If the wisdom model of COBIT 5 is understood, then it will be easier for practitioners to comprehend and customize the goals cascade together with the principles and enablers without any confusion.

Wisdom can be defined as organizational prudence, the positive results of which can be seen in achieving realization of organizational benefits while optimizing risk and resources in the long term. This prudence is to be reflected in responding to and complying with principles and enablers wisely. The continuous flow of data, information, knowledge and intelligence needs to be considered and digested both in principles and enablers. Internalization of wisdom and prudence into organizational culture also requires continuous conversion of data into information into knowledge and into intelligence, consecutively. This understanding is depicted in figure 7.

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Figure 7—The Wisdom of COBIT
The wisdom model shown in figure 7 is based on the prudent response of an enterprise using both governance and management processes of COBIT 5. The prudent response is supported and accompanied by the truth of the guidance provided by the principles and by innovation to the enablers based on reiteration of goals cascade.

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Endnotes

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