Is COBIT 5 Process Implementation a Wicked Problem?

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“Some problems are so complex that you have to be highly intelligent and well informed just to be undecided about them.”

Extremely complex problems such as environmental degradation, obesity, climate change, indigenous inclusion, terrorism, poverty and religious conflicts are often called wicked problems. The concept of a wicked problem was first introduced by Charles Churchman, but Horst Rittel and Melvin Webber, urban planners at the University of California, Berkeley (USA) first raised the approach of social processes for solving complex problems, as opposed to the cognitive styles of professionals based on a Newtonian mechanistic view.

Not all problems are wicked. Wicked problems have to be differentiated from common problems or tame problems. Unlike a wicked problem, a tame problem is one where the traditional thinking, cognitive studies and current methods of project management indicate that the best way to tackle it is to follow a top-down process—an orderly and linear approach—working from the problem down to the solution. This logic is usually sufficient to achieve a feasible solution in a reasonable period of time by collecting and analyzing data and identifying the requirements to specify the problem. Then, the manager will be able to formulate and implement a solution. Thus, the cascade model (waterfall) is indicated for tame problems because they have a linear solution pattern recognized in project management literature with widespread use by the software industry.

A problem may have characteristics of tame or wicked problems, which does not mean that the award of the degree of wickedness is binary, given that most problems have different degrees of complexities. The existence of problems spread in a spectrum outlines the limits and the interval between tame and wicked problems.

Results and Discussion

The 10 characteristics of wicked problems are described and evaluated for COBIT 5 implementation in figure 1.

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<th>Characteristics of Wicked Problems</th>
<th>Evaluation for COBIT 5 Implementation</th>
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<td>1. There are a large number of stakeholders.</td>
<td>COBIT 5 processes have a large number of stakeholders. Figure 2 shows the number of responsible, accountable or consulted stakeholders who take part in every process, out of a total of 26 stakeholders listed. (The informed stakeholders were not included because this role was considered passive.) Besides the large number of stakeholders involved in most of the processes, the management of stakeholders with such different backgrounds, interests, goals and responsibilities poses a complex challenge for COBIT 5 implementation.</td>
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<td>2. Context is constantly changing.</td>
<td>The business and IT processes are very dynamic, demanding constant adaptation. “Frameworks, best practices and standards are useful only if they are adopted and adapted effectively. There are challenges that must be overcome and issues that must be addressed if governance of enterprise IT (GEIT) is to be implemented successfully.”</td>
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<td>3. There are no right or wrong solutions to the problems.</td>
<td>COBIT 5 does not suggest that there exists a unique solution for GEIT problems. Each implementation should be tailored to the needs of the organization. If an</td>
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organization decides not to implement a particular process, this is not wrong nor right; it is just adequate.

4. There is no consensus about the solution to a problem. Every IT governance problem can be tackled in more than one way and this is strongly dependent on managers’ experiences and backgrounds. “Every enterprise will apply its own specific plan or road map, depending, of course, on factors such as its industry and business environment and its culture and objectives.”

5. Wicked problems have no stopping rule. “The implementation and improvement programme is typically a continual and iterative one. During the last phase, new objectives and requirements will be identified and a new cycle will be initiated.”

6. There is no definitive formulation of a wicked problem. The choice of explanation determines the nature of the problem’s resolution. “Many factors may indicate a need for new or revised GEIT practices. It is, however, important to note that these symptoms may not point only to underlying issues that need to be addressed, but could also be indicative of other issues (or a combination of factors). For example, if business has the perception that IT costs are unacceptably high, this may be due to governance and/or management issues (such as the inappropriate criteria being used in the IT investment management process), but it could also be due to a legacy of underinvestment in IT that now manifests in significant investments being required.”

7. Every wicked problem is essentially unique and novel. “The implementation of GEIT for each enterprise will, therefore, be different and the context needs to be understood and considered to design the optimal new or improved GEIT environment.”

8. The problem is not understood until a solution has been developed. When a solution is implemented, it exposes new aspects of the problem, requiring adjustments of the potential solution. The problem is an ill-structured, evolving set of interlocking issues and constraints. “The implementation and improvement programme is typically a continual and iterative one. During the last phase, new objectives and requirements will be identified and a new cycle will be initiated.” Moreover, the problem will vary; according to the interlocutor; different stakeholders (there are many listed in COBIT 5) have different views about what the problem is and what constitutes an acceptable solution.

9. Every solution to a wicked problem is a "one-shot operation"; because there is no opportunity to learn by trial and error, every attempt counts significantly. “One cannot build a freeway to see how it works.” “This is the difficulty about wicked problems: You can’t learn about the problem without trying solutions, but every solution you try is expensive and has lasting unintended consequences that are likely to spawn new wicked problems.” The same happens when IT governance is implemented; to know the context, the company and the stakeholders, one has to start somewhere and evolve from there.

10. Wicked problems have no given alternative solutions. “There may be no solutions, or there may be a host of potential solutions that are devised, and another host that are never even thought of. Thus, it is a matter of creativity to devise potential solutions and a matter of judgment to determine which are valid, which should be pursued and implemented.” Once more, different stakeholders have different views about what the problem is and what constitutes an acceptable solution. Therefore, naturally, there will be a large group of potential solutions.

Using these characteristics to study practices of IT governance at the Brazilian Federal Public Administration in the spectrum of the wickedness of problems, it was found that the first two characteristics listed in figure 1 are particularly wicked in the IT governance context.

Figure 2 shows, for each COBIT 5 process, how many stakeholders are listed either as responsible, accountable or consulted. The numbers vary from seven to 24 stakeholders, which indicates that this is indeed a matter to be taken into consideration.
Conclusion
The implementation of COBIT 5 governance and management processes proved to have many characteristics of a wicked problem. Therefore, managers in charge of the implementation should be aware that dealing with this kind of problem needs innovative, collaborative and comprehensive solutions that take into consideration the various elements of GEIT and the aspects related to wicked problems and social complexities.

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Endnotes

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