Absolving the Sin of Collaboration

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The Roman philosopher Seneca claimed that "every sin is the result of a collaboration". Maybe, two millennia on, with the advent of the Internet, he would have tempered his views on collaboration. Then again, maybe not…

The curse of organizational collaboration

Despite continued industry hype around developments in collaboration technologies, it is not clear that much progress has been made beyond e-mail. With the advent of collaboration technologies one might have expected a surge in creative thought and knowledge share.

In theory, collaboration technologies would result in people being more informed, leading to more coordinated, and considered, decision-making. For all their bells and whistles, collaboration tools are still primarily focused on moving data from one virtual pile in the organization to another virtual pile.

Collaboration technologies do expand our capability to engage people in meaningful dialogue but we have not experienced a significant adaptation to leverage the technologies available. Many proponents of collaborative technology hail the benefits of capturing institutional memory and establishing virtual crucibles for knowledge creation and knowledge transfer.
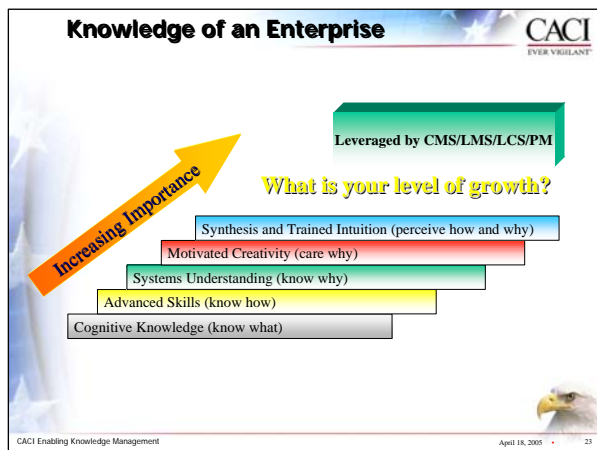
However, despite the significant investments organizations have made in the area of collaborative technologies to support Knowledge Management, initiatives have failed to produce the expected dividends.

People are becoming increasingly overwhelmed by the sheer volume of information being thrown at them. The phenomenon of "data-smog" is felt by almost all of those who must utilize information in their work. There is just too much data to process.

For example, discussions with senior military commanders suggest that the digitization of the battle space (populating the theater with "sensors" and making the data available to all) is in danger of causing "data paralysis". In fact, there is evidence that experienced commanders are overlaying "traditional" hierarchical data models on top of "modern" network-centric data model just to be able to *utilize* the data!

The problem, common when technology is involved, is that our ability to obtain, store and communicate data is far advanced to our ability to exploit that data.

Collaborative organizations

Regardless of the challenges presented by the current "state of the art" in organizational collaboration, it is clear that collaboration is necessary. Organizations are too complex, and evolve too quickly, for decision-making to be placed exclusively in the hands of individuals or small teams at the top of the hierarchical tree.

Research (see [1] for an overview) has demonstrated that, under the right circumstances, collaboration does improve the quality of decision-making. For an organization to benefit, in this regard, from collaboration it must exhibit:

- diversity (without different ideas and perspectives, the value offered by collaboration is limited);

- independence (if ideas and perspectives are tightly linked "groupthink" is likely);

- decentralization (people must be allowed to explore issues in their own way if subsequent collaboration is to add value); and

- coordination (there is little value in collecting a range of views if you have no way of synthesizing them – they just become yet more data).

While software can play a central role in facilitating these conditions, it is clear that they are determined by the nature of the organization itself. Effective collaboration cannot be achieved merely by the introduction of collaborative technologies. It requires behavioral change across the entire organization – possibly even reengineering of the organizations core structures.

Creating collaborative organizations

To engender effective collaboration, organizations need to address multiple issues simultaneously – or at least in quick succession. They must foster collaboration via:

- systems (e.g. platforms, tools);

- processes (e.g. ways of collaborating, formats in which information should be presented);

- values (e.g. culture of sharing for the good of the organization);

- organizational structures (e.g. breaking down hierarchies to promote direct collaboration); and

- education (e.g. how to use the systems).

These issues are links in a chain – if one of them is "broken" the entire endeavor collapses. Also, these issues are highly interdependent. Processes must be built on top of core values. Organizational structures must respect processes.
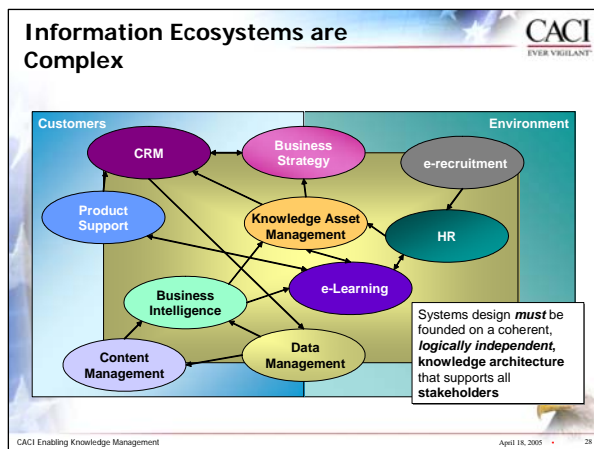
Systems must be tailored to organizational structures and support processes. Education must reinforce key points in all the other areas.

While systems are central to effective collaboration they represent a small portion of the total problem. Organizations that install a collaborative system in the belief that it will promote collaboration *will* become disillusioned. In fact, the choice of collaborative system must be predicated on choices made in a range of other areas. Starting with the system is to put the cart very much before the horse.

When visiting each of the above issues it is crucial to keep in mind the four circumstances required for successful collaboration. For example, organizational design must provide for a sufficient degree of decentralization.

Collaborative decision-making

Talk of "collaborative organizations" fails to directly identify the value to be obtained from collaboration. Collaboration is not a good thing in itself. In fact, as already suggested, it is often a bad thing. So, why collaborate at all?

It is possibly more instructive to talk about collaborative decision-making. Organizations are basically networks of (ideally) coordinated decisions. Day after day thousands of interwoven decisions are determining the direction of most large organizations. Collaboration can be used to improve the quality of specific decisions (in the circumstances listed above) and enhance coordination.

To make a collaborative decision there must be some method of aggregating the views of individuals – a method that can be demonstrated to be theoretically consistent. Without such a method, the value of collaboration may be thrown away in *ad hoc* synthesis. In collaborative decision-making, processes must be built upon a coherent body of theory. This theory must respect diverse opinions, but must provide a framework through which these opinions can be synthesized to produce a clear decision.

For example, Idea Sciences' CoNexus® application and GroupSystems' Groupsystems II support a divergent/convergent planning process, whereby groups explore a wide range of possibilities before proceeding to an evaluation phase. The evaluation (performed via electronic voting) highlights different assumptions, which are clarified prior to further evaluation. Over time, the perspective of the individuals within the group is widened while, at the same time, they gradually converge on a decision.

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Similarly, in the Idea Sciences' Confrontation Manager™ product, formal modeling is used to pinpoint weaknesses in a organization's relationship to other parties (e.g. competitors, stakeholders). These weaknesses are then used to focus the collaborative resources of the organization as it searches for creative ways of eliminating these weaknesses. The results of the collaborative phase are fed back into the model to highlight additional weaknesses.

In both cases, theory, supported by software, provides the foundation for designing a collaborative organization. In the case of Confrontation Manager™, traditional military planning structures are redesigned to involve international organizations (e.g. UN, Red Cross) directly in the planning process. Values are revised to see these organizations not as isolated observers, but as key partners.

Creating collaborative decision-making organizations

As diversity is important in effective decision-making, it naturally follows that the collaborative decision-making approaches themselves should exhibit diversity. There is no "one size fits all" solution. However, *any* solution must encourage diversity, independence, decentralization and coordination – and its introduction must be comprehensive (e.g. in tandem with education, etc).

While systems are ineffective in isolation they are central to the practical success of any implementation. They provide the physical platform for communication and assist in the application of (potentially) complex processes. Organizations will need to accept the need to introduce a range of collaborative solutions in support of their activities. Just as they employ numerous desktop applications (e.g. word processors, spreadsheets, databases), they will need to employ numerous collaborative applications. The key is that in collaborative applications, people need, to some degree, to play by the same rules. If not, collaboration becomes data transfer, with no synthesis – i.e. data-smog, as opposed to improved decision making.

As enterprise collaborative systems evolve, they should be comprised of a foundation communications layer on top of which will be built a range of theoretically-sound decision-making applications. This will provide employees with a common interface, yet accept the reality of the need for multiple decision-making approaches. A consistent way of storing the results of these collaborative activities (e.g. through XML-based web services), will provide further value – allowing decisions to build upon each other.

Knowledge Management in collaborative decision-making organizations

As an organization employs a range of formal collaborative tools in its day-to-day decision-making, it is building up a repository of documented decisions. These can be mined to provide supporting assumptions for future decisions.
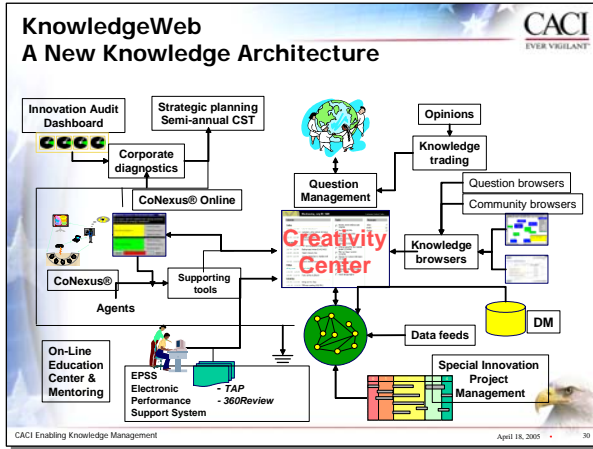
By hosting decision-making applications on a common communications platform, each application can draw upon data provided by other applications (or previous invocations of the same application) – effectively creating DecisionWebs™. For

example, a list of options for a new product can be used as the basis for both R&D and marketing decisions.

Focusing collaborative activities on decision-making provides yet another benefit, in the context of Knowledge Management. The need to make decisions provides both a natural incentive for knowledge elicitation and also provides a natural path for the retrieval of previously stored knowledge.

The key problem for Knowledge Management is in obtaining the knowledge in the first place. Even in the case of an individual, the volume of knowledge that *could* be captured is practically infinite. Of course, 99% of that knowledge will be completely useless to anyone else – but it is exceptionally difficult to isolate the 1% that might be of value at some point in the future. This is further complicated by the fact that inevitable changes in the business environment will change the value of specific knowledge.

If knowledge could be captured perfectly, the next problem would be retrieval. As the same knowledge can be represented in many different ways, it is difficult to locate all the different knowledge that may be of importance in making a particular decision.

However, if knowledge is captured as a by-product of decision-making, it goes some way to addressing the challenges posed by Knowledge Management. Knowledge is extracted based on need – so only relevant knowledge is elicited. This also ensures that knowledge is kept up to date – whenever a decision needs more current knowledge, it will be recaptured.

When it comes to retrieval, people are used to reframing decision questions and in determining how one question leads to another. In addition, questions are natural aggregators of knowledge. The answer to a question contains multiple items of information all integrated to provide a "story" (i.e. the answer to the question).

In fact, this approach to knowledge retrieval is an example of Question Management™ – i.e. the management of organizational expertise through the elicitation and storage of answer to questions. Two of the most successful Knowledge Management concepts ever follow a "question-centric" approach – FAQs and Google Groups®. Question Management™, unlike Knowledge Management, exploits the natural strategies that people use to obtain new information. Collaborative decision-making exploits this when deployed in a permanent, enterprise capacity.

Conclusion

Those wishing to harness the power of collaboration within their organization have to begin by focusing on what they wish to gain from it. It is suggested here that enhanced decision-making is a valuable goal. Once the goal has been decided, a comprehensive, collaborative system that supports this goal must be implemented – addressing not just technological issues, but also organizational, cultural and social issues.

Any collaborative system must be predicated on solid theory. Without this, the ability to aggregate information is severely compromised, and collaboration can begin to make an organization *less* effective as a consequence of increased data-smog.

Collaborative decision-making provides a prime opportunity for an organization to implement a Question Management™ capability – providing it with the ability to capture and reuse knowledge as a by-product of its essential decision-making activities.

[1]   **A Survey of Studies Contrasting the Quality of Group Performance and Individual Performance, 1920-1957**, *Psychological Bulletin* 55 (1958): pp. 337-372.

About the Authors

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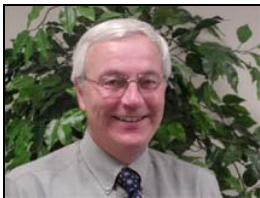
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