Knowledge-Flow Principles and Application Cases

For ready reference and as a précis of subsequent chapters, we summarize here 30 knowledge-flow principles addressed in detail through Section I of the book. Each principle is accompanied by a corresponding implication (emboldened for emphasis) for managerial learning and intervention.

1. Knowledge is distinct from information in enabling competitive advantage (see Ch. I). Shuttling information around via computers, networks, reports, and communications does not address the flow of knowledge, at least not directly or on the same time scale.

2. Knowledge is distributed unevenly, hence, must flow for organizational performance (see Ch. I). Knowledge clumps need to be identified, and knowledge flows need to be enabled through the organization.

3. Tacit knowledge supports greater appropriability for competitive advantage than explicit knowledge does (see Ch. I). Knowledge managers may benefit from an emphasis on tacit knowledge flows.

4. Knowledge flows must balance exploration through learning with exploitation through doing (see Ch. I). Understanding the kinds of knowledge that are important in an organization’s particular environment is essential for promoting the most important knowledge flows.

5. Enhancing knowledge flows requires simultaneous attention to personnel, work processes, organizations, and technologies (see Ch. I). The four organizational elements of personnel, work processes, structure, and technology operate as a cohesive system and should be addressed as an integrated design problem.
6. Knowledge enables action directly, whereas information provides meaning and context for such action (see Ch. II). **Understanding whether flows of data, information, or knowledge are required in a particular situation depends upon what needs to be accomplished (e.g., resolving uncertainty, deriving meaning, or enabling action, respectively).**

7. Data, information, and knowledge flows are interrelated dynamically yet distinct mental processes (see Ch. II). **People play the critical role in flows of data, information, and knowledge.**

8. Flows of knowledge require supplementary flows of information, data, and signals (see Ch. II). **Every flow (data, information, and knowledge) from signal interpretation through knowledge creation requires some kind of knowledge.**

9. **Explicitness** represents a very discriminatory dimension for evaluating the uniqueness of knowledge (see Ch. II). **Moving knowledge through tacit vs. explicit flows represents a management decision in many cases, a decision which has implications in terms of power.**

10. Information technology supports principally flows of explicit knowledge (see Ch. II). **The nature of knowledge represents a critical factor for determining where IT can be expected to enhance knowledge flows.**

11. Knowledge exhibits some properties of inertia such as **tendency to remain at rest** (see Ch. III). **Knowledge-flow processes represent direct focuses of leadership and managerial action.**

12. Experiential processes contribute principally toward workflows (doing), whereas educational processes contribute principally toward knowledge flows (learning; see Ch. III). **Changes to workflows demand changes to knowledge flows, and vice versa.**

13. Knowledge flows always lie on the critical paths of workflows, hence, organizational performance (see Ch. III). **Knowledge flows should be planned and managed like workflows are.**

14. Time-critical workflows must wait for enabling knowledge flows to run their course (see Ch. III). **Most knowledge flows must complete their course before critical and dependent workflows can begin.**

15. **Knowledge** is a multifaceted, dynamic, and multidimensional concept (see Ch. III). **Managerial efficacy through intervention can be increased by learning the principles of dynamic knowledge.**
16. Information technology is helpful and necessary but not sufficient for knowledge management (see Ch. IV). The manager needs to employ non-technological interventions to enhance knowledge flows.

17. People — not information technology — are central to tacit knowledge flows (see Ch. IV). One cannot manage tacit knowledge without managing people.

18. Information technology plays supportive roles in organizational work routines, whereas people play the performative roles (see Ch. IV). Most IT plays a supportive role in the organization, whereas people play most of the performative roles.

19. Expert systems, software agents, and like “intelligent” applications address and apply knowledge directly (see Ch. IV). “Intelligent” applications can play a performative role in the organization.

20. Simulation technology can enhance knowledge flows in addition to workflows (see Ch. IV). Simulation represents a different class of IT, one that facilitates learning as well as doing through virtual practice.

21. Knowing reflects knowledge in action (see Ch. V). Knowledge must be put to use through action in order to be useful.

22. Learning reflects knowledge in motion (see Ch. V). Learning both uses and increases knowledge.

23. Knowing and learning beyond the individual offer the greatest potential for knowledge superiority (see Ch. V). The impact of KM increases in direct proportion to the reach of knowledge flows through an organization.

24. Knowing and learning are dynamic, mutually reinforcing activities (see Ch. V). Promoting knowing promotes learning, and vice versa.

25. Knowing and learning are path-dependent, enabling both competencies and rigidities (see Ch. V). An organization’s knowledge inventory both enables and inhibits what actions it can take.

26. Knowledge management involves organizational change (see Ch. VI). The knowledge manager has much to learn from business process re-engineering and like change-management approaches.

27. Knowledge inventory can be used to assess an organization’s readiness to perform its work processes effectively (see Ch. VI). The manager needs to measure the knowledge inventory for every organization.
28. When estimating the value of knowledge, it is often better to light a candle than to curse the darkness (see Ch. VI). **Knowledge value analysis provides an approach to measuring the relative value of knowledge associated with various organizational processes.**

29. Culture, trust, and incentives affect organizational learning, hence, performance as much as process, technology, and training do (see Ch. VI). **Every organizational process should improve its performance over time.**

30. Computational modeling is useful for knowing and learning about organizational knowing and learning (see Ch. VI). **Computational models of knowledge flows provide an approach to mitigating the risk inherent in KM programs.**

We also list the nine application cases to which such principles are applied in Section II of the book.

1. In the chapter on business organizations, we look first at an advanced-technology company involved with new-product development (see Ch. VII).
2. The discussion turns then to examine an independent production company involved with a feature film (see Ch. VII).
3. The third case involves a technology-transfer project between a university and a microelectronics company (see Ch. VII).
4. In the chapter on government organizations, we look first at a military organization involved with maritime warfare (see Ch. VIII).
5. The discussion turns then to examine a federal government agency involved with a knowledge management program (see Ch. VIII).
6. The sixth case examines a public service organization involved with large-scale IT integration (see Ch. VIII).
7. In the chapter on non-profit organizations, we look first at a national youth soccer organization (see Ch. IX).
8. The discussion turns then to examine a local tennis club (see Ch. IX).
9. The final case examines a nondenominational community church (see Ch. IX).
We list further the set of 30 leadership mandates induced through practical application in Section II of the book.

1. Realistic expectations, shared vision, and appropriate people participating full-time represent the preconditions for success that are absent or insufficient most often in KM projects (see Ch. VI).

2. Reliance upon external expertise, narrow technical focus, and animosity toward staff and specialists represent the preconditions for failure that are present or sufficient most often in KM projects (see Ch. VI).

3. Knowledge representation, attention to tacit knowledge, and focus on organizational memory represent unique considerations that merit particular attention in KM projects (see Ch. VI).

4. Measurements of how people perceive a KM project (e.g., using measures such as pessimism, affective commitment, and normative commitment) can indicate KM readiness (see Ch. VI).

5. Knowledge audits can help organizations that do not know what they know (see Ch. VI).

6. Knowledge value analysis privileges tacit knowledge appropriately (see Ch. VI).

7. The greater the use of automation at the beginning of a process, the lower the improvement rate (see Ch. VI).

8. Performance improvement reflected by learning curves involves more than just individual knowing and learning (see Ch. VI).

9. Knowledge can be lost and found (see Ch. VI).

10. Trust cannot be bought (see Ch. VI).

11. Using computational models, organizations can be designed and tested virtually, in a manner similar to the design of airplanes, bridges, and computers (see Ch. VI).

12. Specialist and generalist knowledge represent (imperfect) economic substitutes for one another (see Ch. VI).

13. Knowledge-flow vectors can be used to represent dynamic knowledge requirements (see Ch. VII).

14. It is essential to plan how knowledge technologies will be used by people (see Ch. VII).

15. The learning curve measures knowledge flows through OJT (see Ch. VII).
16. Socialization and acculturation represent viable approaches to enhancing tacit knowledge flows (see Ch. VII).

17. Trans-organizational collectives (e.g., communities) may have greater influence over employee knowledge, culture, and performance than leadership and management do (see Ch. VII).

18. Knowledge flows critical to enabling critical workflows center on tacit knowledge (see Ch. VII).

19. An organizational process without consistent improvement over time suffers from knowledge clumping (see Ch. VII).

20. Members of a team must learn to work with one another before knowing how to work together on a project (see Ch. VII).

21. Ten unique knowledge-flow processes are required for military task force efficacy (see Ch. VIII).

22. OJT involves knowledge flowing at two different speeds: knowledge application through doing is fast; knowledge creation through learning is slow (see Ch. VIII).

23. Given the time-critical nature of warfare, most tacit knowledge must already be in place when the officer first reports for duty (see Ch. VIII).

24. Systematic storytelling can increase the reach of this time-honored and effective approach to sharing tacit knowledge (see Ch. VIII).

25. Socialization, teamwork, and acculturation must interconnect to enable healthy knowledge-flow circulation (see Ch. VIII).

26. Leading by example and evangelism represent viable approaches to enhancing acculturation knowledge flows (see Ch. IX).

27. Once one understands a relatively small set of key knowledge-flow processes, he or she can analyze any knowledge flows — healthy or pathologic — in any organization (see Ch. IX).

28. The key to self-organization is having people enjoy what they do together (see Ch. IX).

29. The ability of different people to work together on teams is just as important as the individual skills and experiences they bring individually (see Ch. IX).

30. Leaders who are concerned about acculturation knowledge flows must address participants’ beliefs. (see Ch. IX).