LIBRARIES THAT LEARN

Keys to Managing Organizational Knowledge

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Preface

WE ARE ALL FAMILIAR WITH THE EXPERIENCE of not being able to easily locate a certain manual, directory, policy, procedure, report, form, or set of instructions needed to help with a particular task. Manuals and websites become outdated, longtime employees leave and take their experience with them, files are deleted, and often we need to track down or even re-create essential information time and time again. Why do many libraries find the gathering and use of organizational information so challenging? After all, librarians and other information professionals spend their careers in the selection, classification, and dissemination of knowledge. Why should our own internal organizational knowledge be any different? A clear point to be made in this book is that the organizational knowledge in libraries is not concerned with the information that librarians make available to their *external* users and the general public; rather, it involves the processes and procedures that are implemented to effectively manage a library's *internal* organizational knowledge—the stuff that library employees know and do within and for the institution. The irony is not lost on us that librarians, who are often championed as knowledge gatekeepers for others, are not themselves trained to manage their own workplace knowledge.

Often, "knowledge management" (KM) is situated within economic contexts, and it has become especially prominent in the fields of business and information technology. If a for-profit company can manage and absorb its employees' knowledge before they depart the organization, that knowledge gives the company a potential strategic and economic advantage over its competitors. From a business standpoint, this makes sense. However, this book

is not about using knowledge to accumulate revenue in the corporate sector. Instead, it is designed to provide a practical introduction to knowledge management for libraries. Certainly, the needs of specific types of libraries vary; however, we believe that implementing the basic principles of KM across any library, library system, or library consortium is beneficial for that organization's optimal functioning over time and during periods of change. Keep in mind as you read this book that your role as a library leader is not to *manage* the knowledge of your institution, per se, but rather to *enable* your librarians to create, innovate, (re)organize, capture, and apply new knowledge at your library.

The *focus* of this book is on the use of KM for better structuring, informing, motivating, and creating organizational knowledge, particularly in internal instances within library environments. The *purpose* of this book is to help library supervisors, managers, department heads, directors, and deans become better informed about what KM is and is not, as well as to provide library-specific examples that illustrate KM attributes in practice via case studies. Your library already contains organizational knowledge—both in your employees and in your institution; the intended *outcome* of this book, therefore, is to encourage you to guide, foster, and organize that knowledge in order to improve organizational fitness.

This book is divided into two main parts. Part I contains four chapters in which the overview and context of knowledge management are laid out in terms of general history and theories, library challenges and issues, technological and conceptual tools, and future trends. Part II contains six case studies from U.S. libraries—five academic and one special. The case studies offer practical, real-life insights into how libraries have used elements borrowed from knowledge management to address organizational issues. The case studies are written by librarians, for librarians and library leaders. Our hope is that this book will provide leaders with a greater understanding of the internal knowledge processes of the libraries they manage.

In chapters 1, 2, and 3, we discuss some of the central ideas and concepts of organizational knowledge and knowledge management, some associated challenges and issues, and some possible solutions to consider. Our colleague and respected KM author, H. Frank Cervone, briefly writes about the future of artificial intelligence, machine learning, and data science in KM in chapter 4. His insights are especially important for libraries because such innovative computing and "big data" are already burgeoning in the tech and business worlds, and we predict that these fields will be increasingly investigated and used in integrated library systems and library-focused technological solutions in the future.

Chapters 5 through 10 present institutional case studies for library leaders to consider. In chapter 5, Agne and Brookhart discuss a digital reorganization project at The American Legion Library and Archives, a special library

dedicated to preserving the institutional activity and memory of its parent organization. Chapter 6 by Dill and Kalinowski examines how communities of practice, a key topic in KM, have impacted liaison work as part of the University of Pittsburgh's library system. Interim leadership is becoming increasingly common in libraries, and in chapter 7, Dryer and Levine Knies explains how the library at Penn State University used a KM approach during an interim transition. Chapters 8, 9, and 10 each focus on the roles of technology in KM at the authors' respective institutions. Paschke-Wood and Wilson discuss the use of LibAnswers, a popular library solutions product by Springshare, to create an internal staff handbook at the University of Arizona Libraries. Tidal describes the KM experience over several years, and through several wiki systems, at the library of the New York City College of Technology in Brooklyn. And Weiner poses the question of whether or not wikis provide a KM solution based on the experience of numerous retiring employees at the William Patterson University library.

Despite concerted efforts, we were unable to obtain case studies for this book from public libraries, and this warrants a brief comment. We believe that public libraries do, indeed, engage in forms of knowledge management, though such activities may not be described as KM, per se. If you yourself work in or manage a public library, we hope you will see via this book that successful KM is possible at your public institution. We hope that a future ALA book will emerge that focuses exclusively on KM in the public library setting, since we firmly believe it is time to extend and recognize KM beyond academia and business enterprises.

We want to thank ALA Editions for the opportunity to work on this book, and, in particular, our editor Patrick Hogan, who was unfailingly patient and helped us to keep everything on track. Thanks also to the contributors to this volume, who gave so generously of their time and expertise. We both express appreciation to the International Federation of Library Associations' Knowledge Management Section, which remains an unending source of inspiration and experience for each of us.

PART I

Overview and Context

1

Histories, Theories, and Perspectives of Knowledge Management

THE FIELD OF ORGANIZATIONAL KNOWLEDGE (OK) has yielded much scholarship in the academic study of business, as well as strategies in the practice of business. For instance, OK has been explored in the roles of leadership, communication, strategy, and health care (Canary and McPhee 2011; Rangachari 2008; von Krogh, Nonaka, and Rechsteiner 2012; Zack 2002). Organizational knowledge is defined as "knowledge embedded in [an] organization's assets . . . [including] routines, practices, and norms—as well as in organization members, both as individuals and as communities" (Roberts 2015, 27–28). Usually, this knowledge is kept in the minds of employees without detailed documentation. An employee may know what to do, when to do it, where to do it, why to do it, and how to do it, but he or she doesn't often record any of this information in a way where another employee can duplicate the work. Even when instructions exist in the workplace, they likely are not produced in a way that is conducive to learning knowledge. As such, a major recent thread of OK investigation is that of "knowledge protection," whose focus is on mitigating the loss of what an organization knows when employees depart or other changes occur (Manhart and Thalmann 2015).

Pick up any book on organizational management or organizational learning and you will likely find a mention, definition, or discussion of organizational knowledge. Nevertheless, a single, agreed-upon definition of the *management* of that knowledge, that is, knowledge management (KM), has been elusive both within and across disciplines for thirty years. This perpetual lack of agreement has proved challenging for KM as a field of inquiry to expand and mature. To some degree, the lack of agreement is driven by differences in approach: KM viewed as primarily a technological problem, versus KM as a social construct, versus KM as a means for organizational learning.

For the purposes of this book, we strongly support the definition of knowledge management as supplied by Kidwell, Vander Linde, and Johnson (2001, 3–4):

> Knowledge management is the process of transforming information and intellectual assets into enduring value. It connects people with the knowledge that they need to take action when they need it . . . Knowledge originates in individuals, but it is *embodied* in teams and organizations . . . Knowledge also is *embedded* in work processes . . . Effective knowledge management programs identify and leverage the know-how embedded in work with a focus on how it will be applied. (emphasis ours)

We are eager to suggest a more appropriate term for signifying the essence of KM as "knowing management" rather than "*knowledge* management"; such a subtle distinction draws attention to the conceptualization of *knowing* as process and action, as opposed to *knowledge* as object and thing. Such a reorientation does have some support (Choo 2006, 1). However, we have decided to retain the conventional term *knowledge management* because it is more recognizable in the existing literature and online products.

Both OK and KM are central to this book: knowledge management provides the social, behavioral, cultural, and technological mechanisms through which the flow of organizational knowledge can be guided. Although the compound term *organizational knowledge management* has been defined by others (Paradice and Courtney 1989; Seel 2012), we purposely chose to keep OK and KM separate so as not to lose the nuances of KM that are central to this book.

The position taken throughout this volume is that an actionable, measurable, long-term KM plan at your library is needed. We know this even without visiting your library or knowing anything about it. How do we know this? Because we know that you, as a leader, want your institution to perform at its best organizationally and remain relevant in the fast-changing library world. In fact, "the single most important factor that is driving the need for knowledge management is the realization that an organization must manage its knowledge if it is to survive" (Desouza 2011, 26), and indeed, we agree with Martin, Hazeri, and Sarrafzadeh (2006, 24) that "knowledge management has much to offer to the management of libraries."

Recent news and reports predict that colleges and universities will face bankruptcy and close or be absorbed by larger systems en masse in the coming decade (Lederman 2017; Woodhouse 2015). Regarding public libraries, although people generally think of them favorably and want to take advantage of their services (Horrigan 2016), continued funding for them has been a struggle. Given this, library leaders have an imperative to make optimal use of their employees' and organizations' knowledge for strategic endurance through tough times. You want KM in your library so you can effectively leverage as much as possible the intellectual and knowledge assets currently held by your organization, as well as those yet to come. Therefore, by taking a dedicated KM approach in managing your library, library system, or library consortium, you can put your organization on track to improve its performance and sustainability in volatile times.

KM HISTORIES
Three Decades of Knowledge Management

Tracing knowledge management generally through the past three decades will be useful in order to gain a better understanding of where KM has been and how it has changed.

1990s: The Beginning of KM

In the early days of KM, Thomas Davenport (1994) defined knowledge management simply as "the process of capturing, distributing, and effectively using knowledge," and the emphasis was placed on the internal knowledge residing within an organization. Because organizations were now interested in knowledge, the idea of the "knowledge economy" took shape; knowledge was viewed as an economic property or asset, something created within the minds of employees that has economic value. Companies realized that potential economic benefits were lost when employees retired or otherwise vacated their positions because they took with them unique knowledge. During this time, companies began considering how to best keep knowledge in their organizations even when employees left. If companies found a way to do this, they could capitalize on extending those employees' particular knowledge—and potentially profiting from it—over very long periods of time even when the employees themselves were long gone. In this way, knowledge became an economic commodity—not only were organizations keen on codifying knowledge from their employees to maintain competitive advantages in the wake of departures, but knowledge itself became a type of social and intellectual currency for individuals and institutions. Thus, companies began trying to figure out how to materialize otherwise intangible employee knowledge.

In the 1990s and early 2000s, several seminal works were published (e.g., Leonard and Sensiper 1998; Nonaka 1991, 1994; Smith 2001) that helped conceptualize the differences between two main types of knowledge: tacit and explicit. "Tacit knowledge" refers to knowledge that is founded in behavior and application by human learning (e.g., the "knowing how to" and the action of writing computer-programming code), while "explicit knowledge" refers to knowledge that is fixed in a tangible form (e.g., the computer-programing code as seen on a sheet of paper or on a computer screen). The distinction between explicit and tacit knowledge has not gone without criticism (Gourlay 2007), but in any case, it was useful for scholars and practitioners to explore KM more fully.

Perhaps the biggest problem for KM, however, was its dependence on the new, burgeoning technologies of the information era. The late 1990s ushered in electronic knowledge management systems grounded firmly in the spirit of information technology (IT), which was largely inflexible and ignored the humanistic and social elements of knowledge creation and sharing. Indeed, "the limitation of knowledge management in the form of information knowledge systems became apparent [because of the] neglect of aspects related to people" (Roberts 2015, 30). Decades of research have now made clear that technology alone is insufficient as a KM strategy.

As the new millennium was dawning, a seminal book entitled *Enabling Knowledge Creation* was published that challenged the very idea that knowledge could be managed. In this book, the authors posited the idea that knowledge, in fact, could not be managed or controlled; rather, it could only be enabled (von Krogh, Ichijo, and Nonaka 2000). Others suggested that organizations can only be aware of what their employees know, but they can never know the knowledge itself (Brauner and Becker 2006). This point is not to be overlooked: while data and information—the building blocks of knowledge—are easily managed by organizing them with lists, folders, tags, and so on, *knowledge*— that is, the discernment and understanding of that data and information—is highly personal, and occurs in the minds and actions of employees. Therefore, institutions could and should facilitate employee knowledge, but capturing or containing such intangibles as essence, significance, understanding, foresight, learning, and creativity—all those things constituting knowledge—is impossible. As Roberts (2015, 36) realized, "knowledge management is predicated on the *assumption* that knowledge can be purposefully managed" (italics ours).

2000s: The Height of KM Popularity

Knowledge management crested in popularity during the decade of the 2000s. Business and management scholars and practitioners were eager to have their say and find their place in the KM literature. Some viewed KM as necessary to transform companies from industrial and service industries into

knowledge powerhouses in the growing knowledge economy (OECD 2004). Others believed that KM was not the panacea for which many had hoped, as demonstrated by the inability of electronic knowledge management systems at the time to successfully capture learnable, reusable information. Instead, KM's popularity was passed off as nothing more than a fleeting fad or exciting buzzword of the new millennium (Wilson 2002, 2005).

In the early 2000s, KM entered the higher education market. According to Serban and Luan (2002, 6–7), the "reasons for the emergence and growth [of KM in higher education] included (1) information overload and chaos; (2) information congestion; (3) information and skill segmentation and specialization; (4) workforce mobility and turnover; and (5) competition." Basically, colleges and universities were entering the proverbial "information age" and became concerned with the control of their internal information and knowledge in this new and rapidly changing environment.

By the end of the decade, a lot had been written about KM—in print and online—but very little of it agreed with each other. Not only was there disagreement about how to define and operationalize "knowledge management" as a term, but studies throughout the decade failed to provide standards and frameworks for measurement and quantification, were replete with errors, and often conflated knowledge management with "information management" (Fahey and Prusak 1998; Kim 2006; McDermott 1999). Sadly, KM had established itself with a "reputation for incoherence and poor performance" (Roberts 2015, 34). Ironically, higher education is a sector where colleges and universities aim to impart knowledge through teaching and learning, yet they fail miserably at managing their own organizational knowledge in a consistent, strategic way. We are hopeful that, while higher education has not been a significant player in the adoption of knowledge management (Sunalai and Beyerlein 2015), it will take the opportunity to become an industry leader in knowledge-leveraging processes.

2010s: Then What Happened?

The early part of the 2010s was similar to that of the 2000s—a lot was still being published, but general confusion remained. Knowledge management as a discipline "went through a period of deep introspection, evaluation, and renewal" (Desouza 2011, 4). Interest in KM remained high in academia, but the topic was too theoretical and esoteric for practical application and distribution in real-world organizational environments (Ribière and Calabrese 2017).

However, we believe that interest in KM has been—and remains—as strong as ever; what has changed is that the explicit term *knowledge management* is now less favored than more specific terminology related to KM practices. In a discussion on KM branding, O'Dell and Hubert (2011, 135) wrote that it is best to "avoid using any term like 'knowledge management' that

could imply a vendor solution or could invoke a not-invented-here reaction." Over the past ten years, practitioners have heeded O'Dell and Hubert's advice and have consciously reframed and renamed KM to be more precise and applicable to direct organizational needs. Despite decades of KM, people still don't know what KM is, and the term *knowledge management* remains too nebulous in everyday operations. In essence, this shift might be best contextualized as thinking of "past KM" (classic) and "new KM" (contemporary).

CLASSIC AND CONTEMPORARY
KM for New Generations

Past KM

For this book, the utility of classical theories and concepts of KM lies in the fact that they forged a useful foundation upon which newer, more socially inclusive ideas and models could be built. Though the early era of KM dealt with optimizing company revenue and maintaining strategic superiority over market competitors, often by way of complex and confusing information technology interfaces that were not well understood by employees, three classical works require a brief mention because they remain central to how KM developed.

Nonaka and Takeuchi's (1995) classic dynamic model of knowledge creation recognized the role that social interaction plays in relationships between explicit and tacit knowledge, the former being stuff that can be explained and categorized in discrete ways, and the latter being those personal experiences and intuitive "know-hows" that are difficult to codify. For them, explicit and tacit knowledge oscillate through a filter of social interaction. Though the authors did well to acknowledge social interaction in the process, the focus of their model remained on knowledge as the main product; social interaction is merely the pathway that knowledge takes to move back and forth between types.

In Davenport and Prusak's (1994) seminal book, the authors categorized knowledge work into the four overarching themes of accessing, generating, embedding, and transferring. For them, knowledge emerges in information environments via the very human processes of (1) comparing and connecting information within and across contexts and people; (2) considering the consequences of acting on information; and (3) conversing with others about information. The authors also broke down knowledge roles into buyers, sellers, and brokers. Buyers are the seekers of knowledge; they are the ones who expend time, effort, and sometimes money to search for and acquire knowledge. Sellers are the people who possess knowledge and provide it in exchange for resources, such as employment, salary, and other compensation. Brokers are those who serve to connect buyers and sellers, and according to the authors themselves, "librarians frequently act as covert knowledge brokers [in] their

role as information guides to the task of making people-to-people as well as people-to-text connections" (29). It hasn't escaped our attention that librarians are viewed in this classification only as intermediary brokers rather than as full knowledge-possessing sellers.

Sveiby (1997) took the approach that all business is not so much financial capital as it is knowledge, and therefore organizations would be best advised to, first, learn and follow knowledge theories in order to inform their identity and output, and, second, create institutional mechanisms and structures to advocate, innovate, and assess their often-intangible knowledge assets. Sveiby referred to this turn in the paradigm as "seeing the world from a knowledge perspective" (28), an important conceptual device to enable an organization to shift away from knowledge areas that self-cater to individual employees' interests (e.g., "I'm interested in this and that's all I'm gonna do!"), a state which we believe is unfortunately most prevalent—and stubborn—in libraries. Often, this legacy of thinking is largely disconnected from institutional objectives.

New KM

In the history of professional and academic KM literature, the terms *information* and *knowledge* are frequently used interchangeably, or at least without any real distinction. On the one hand, this may seem sensible enough because knowledge management is meant to be practical and applied—the philosophical and definitional underpinnings of whether a person is dealing with information or knowledge are less relevant than the application of strategies used to harness the stuff that employees and organizations know. On the other hand, the difference between the two terms may be viewed as fundamental to understanding the essences of both and the ways in which they operate at different human and organizational levels and, therefore, must remain forever distinct. The debate between these positions will continue.

Regarding this distinction, Wiig (1999, 3.2) posited that *information* is "facts and data organized to characterize a particular situation," while *knowledge* is "a set of truths and beliefs, perspectives and concepts, judgments and expectations, methodologies and know-how." But are the nuances between "data," "information," and "knowledge" really useful for the applied purposes of KM? Maybe, but only insofar as information provides directions to obtain knowledge through action. Rather than dwell on the data-information-knowledge argument, we should take a viewpoint of KM that emphasizes reason, practice, and application, regardless of the philosophical disputes over what distinguishes data from information from knowledge, and vice versa (Garfield 2017, 175). Action is the key.

Information has patterns that can be used to lead the way—much like a map—through real-life, hands-on experiences and actions. It is this

involvement and activity which organizational actors engage in that forms knowledge. Without action, knowledge cannot be achieved—having the map (information) in your hands is not enough. When you were at university studying for your library degree, you likely used textbooks in your courses. The textbooks were full of information which by itself was meaningless to you until you had studied and made sense out of it. Only via study and application through coursework—and perhaps even on the job—were you able to make the leap from information (the textbooks) to knowledge (learning by doing).

In the same way that different qualities have been described for the information versus knowledge debate, Desouza (2011) pointed out that even within knowledge itself, there is a difference between knowledge that is fundamentally tied to a source and knowledge that can be detached from the source. You may know what XML is and the basic fundamentals of how it works, but that knowledge is quite distinct from that of your coworker, who has twelve years of experience writing and editing advanced XML code. In the former case, you might have learned about XML basics by reading books and articles, and maybe you took an introductory course—indeed, these are types of action where information can be transformed into knowledge.

However, *action* does not always equal *application.* Your coworker with twelve years' experience has over time engaged not only in action by learning about XML, but also application by way of putting his learned knowledge into practice. Ye, Desouza, and Paquette (2011, 213) note that "bridging the gap between knowledge generation and application is one of the main challenges of knowledge management." We propose that *knowledge learning* and *knowledge application* are two concepts that are useful for a fuller comprehension of KM in the workplace—there is knowledge generated by *learning,* and then there is knowledge generated by doing.

As understood by O'Dell and Hubert (2011, 2), "knowledge is information in action. Until people take information and *use* it, it isn't knowledge" (emphasis ours). With a desire to focus on action and application, the authors go on to suggest that the three approaches of "communities of practice, lessons learned, and facilitated transfer of best practices . . . have proven over time to produce stable and measurable organizational benefits" (61). These action-based approaches are discussed for the library environment in chapter 3 of the present volume, but they are worth mentioning here because they demonstrate nicely the paradigm shift away from older technological- and business-centric theories and toward practical, evidence-based, socially driven vehicles for knowledge management. To be sure, the theories and research from the 1990s and 2000s have been critical for the development of KM as it is today, but new applications of KM where technology and data meet the social and behavioral sciences in real-life practice have been instrumental in pushing KM further into mainstream organizations.

Worth mentioning are several older works that we believe began the pathway towards new, action-based, interdisciplinary KM processes. Among these works are *The Social Life of Information* by Brown and Duguid (2000) and *Architectures of Knowledge* by Amin and Cohendet (2004), as well as Castells's (1996) ideas of a growing network society, Bell's (1973) prediction of the rise of the knowledge worker, Stewart's (2001) assertions that employee knowledge, as well as what would eventually become "big data," will emerge as the driving factors of success, and finally, Weick's (2001, 2009) position that organizations are unstable and employees struggle to make sense out of their organizational surroundings.

SOME BASIC KM CONCEPTS AND THEORIES

The Social Psychology of KM, Part 1: Intellectual and Social Capital

Sallis and Jones (2002, 30) wrote that you cannot "manage knowledge as if it is a physical form of capital . . . [An] organization's intellectual capital is based on *the intelligence and skills of its employees*" (emphasis ours). We wish to emphasize intelligence and skill here because, interestingly enough, these are often lost in actual, formalized definitions of intellectual capital that include so many other types of "capital" under it, including human capital, structural capital, innovation capital, relational capital, and organizational capital, as well as a score of alternative terms that usually include some variations of the words *intellectual* and *intangible* (Choong 2008; Hsu and Mykytyn 2006).

Although we do not disagree that intellectual capital is a complex phenomenon, for practical purposes we want to call the most attention to the concepts of intelligence and skill. Simply put, your employees possess both of these to varying degrees. Their intelligence and skills are capital they bring to your library; that is, their value lies in what they know, what they know how to do, and how they go about doing it. In the right environment, intelligence and skill are types of knowledge that can be shared and learned at your library, partly through codified information (e.g., reading about how to do something), but mostly through action (e.g., actually doing an activity). A key facet of this type of knowledge transfer is the formation and maintenance of strong interpersonal ties among your employees in the workplace. We use the word "strong" with intention—weak ties are much less likely to be fulfilling. Strong ties enable employees to build up social capital.

"Social capital" comprises the resources a person has based on his or her relationships with other individuals and groups and "emphasizes the importance of community ties between individuals in facilitating and enabling

collective action to take place" (Whiteley 2015, 174). In the workplace context, social capital includes mostly intangible assets such as mutual trust between employees, cooperation toward shared goals or initiatives, understood common organizational norms and values, and the recognition of collaborative opportunities. For KM, social capital is important because knowledge is shared and transferred through both an individual's and an organization's channels and networks. These knowledge channels or networks may already be established among some of your current employees, or they may emerge as new employees come on board. In either case, you want to create favorable circumstances for your employees to develop social capital—you want in place a library-wide culture where trust, cooperation, norms, values, and collaboration are shared among employees so that, first, knowledge pathways develop, and second, knowledge surges through those stable pathways.

In chapter 2, we will spend a bit of time discussing human resources (HR) and knowledge management because HR "builds and relies on social capital as a key motivator for knowledge creation, exchange, and application" (Zack 2003, 71).

The Social Psychology of KM, Part 2: Dimensions of Care and Social Cognition

Building on the concept of social capital, we borrow the term *dimensions of care* from von Krogh, Ichijo, and Nonaka (2000, 49–54) because it is conceptually relevant now as ever and nicely introduces some of the very human elements required for KM success: (1) mutual trust, (2) active empathy, (3) access to help, (4) leniency in judgment, and (5) courage. All five of these elements are useful, but only the first two—the most important two, we suggest—are discussed here.

Much literature has shown that trust is fundamental in developing communication, camaraderie, and confidence with employees (Ribière and Sitar 2003); "there is a need to build the trust that allows people to share, and there is considerable evidence that organizations fail because they create a culture that inhibits trust and learning" (Sallis and Jones 2002, 78). As a library leader, your challenge is to foster three forms of trust at your library: (1) trust between employees, (2) trust between employees and management, and (3) trust between employees and the organization. In this way, library employees themselves, management, and the institution itself all become the recipients of earned trust. Without trust, you can't expect your employees to perform at their full knowledge potential.

With trust established, empathy is a vital attribute that your employees need for success at your library. When library employees—and management—identify with each other's challenges, stresses, difficulties, and unhappiness, they can rely on each other for strength and advice at the workplace. Empathy,

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however, is not limited to a vicarious understanding of your employees' struggles, but also their successes—and this is where library leaders can be most influential. When your employees do something good, celebrate that success across your library, so that all the employees see you and your management team giving praise for a job well done. Furthermore, use this as a chance to impart "positive" empathy toward the organization; that is, make it known that this employee did a good job not only for her own sake, but for the greater good of the entire library. In terms of your KM plan, you can use empathy strategically to bolster its importance at your library. If you show appreciation for your employees' KM behaviors, they will, in turn, be more likely to empathize with you and the institution; this will go a long way toward creating employee mindsets that champion knowledge behaviors.

The dimensions of care, especially trust and empathy, are centrally driven by social cognition. Defined by Bandura (2007), social cognition is comprised of the psychosocial processes that people use to internally evaluate information about themselves combined with their external environment, and subsequently proceed with some course of action based on that evaluation. Before your employees begin to trust and empathize in the workplace, they will, without being aware of it, engage in internal dialogues and thought-based reasoning exercises in order to calibrate information about who they are, who you are, and about the library atmosphere in which they work.

Decisions are made by them based on internal things *they* can more or less control (e.g., personal attitudes, professional demeanor, thoughtful problem-solving, etc.) and things *you* control (e.g., workplace culture, performance expectations, agenda-setting, etc.). Therefore, you must keep in mind that your KM plan will be evaluated by your employees based on a combination of attributes that you can and cannot control. Don't be discouraged by this; you can still seek to maximize employee trust and empathy by directing your energies to those things over which you have control and influence. Additionally, your employees will make decisions through considerations of calculated risk based on their previous experiences with others; this is where the principles of reasoned action and planned behavior come into play.

The Social Psychology of KM, Part 3: Reasoned Action and Planned Behavior

In 2013, Matayong and Mahmood published a review of KM literature with a focus on theory and approaches. These authors noted two theories that are pertinent to any serious discussion of KM in the social and behavioral context, though they aren't discussed much: (1) the theory of reasoned action, and (2) the theory of planned behavior. In essence, both are concerned with explaining how people behave. The primary difference between them is that the former aims to explain how and why individuals act when they have

control—real or perceived—over their actions, while the latter concentrates on individuals' actions when they don't have control over them (Welbourne 2007). For KM purposes, the takeaway is this: if you want your library employees to actively undertake knowledge creation and sharing behaviors in any methodical way, a portion of your KM plan must be dedicated to giving them some agency and control over the knowledge activities and goals you want them to accomplish. You want to strike a hearty balance between what you tell them to do and what they tell themselves to do.

Social Constructivist or Symbolic Interactionist Perspective

According to Roberts (2015, 5), "although we may believe that there are certain factual elements of knowledge that are true beyond doubt, we must remember that knowledge is socially constructed and dynamic in nature." The notion that knowledge is socially constructed may seem bizarre. Imagine some knowledge you "know" to be true because you have read about it and followed up by acting upon it in some way. Now, consider the idea that this knowledge is true for you as you've interpreted it by your actions, but not for your coworker. That is, your coworker may read or interact with information in a different way than you and, therefore, arrive at knowledge in a variant way. Your coworker's arrived knowledge may be like yours, or it may be vastly dissimilar. Why? Because both of you interpret the same information differently based on your distinctive worldviews, life histories, and prior experiences. This is the fundamental tenet of a social constructionist approach, and it is important for KM because knowledge is created by individuals and groups within social contexts that differ from person to person and group to group. This is one reason why codifying and documenting knowledge is so difficult—often, there are many ways to "know" something: some of them may be explicitly incorrect, but many others will be viable in their own right.

The challenges presented by knowledge also may be explained by symbolic interactionism, the idea that the meaning of stuff is dependent on interpretation. Multiple people may observe an identical object (e.g., read the same training manual) or witness an identical event (e.g., a verbal outburst of an upset coworker at a meeting), yet arrive at dissimilar conclusions about what the manual says or what happened at the meeting. Discrepancies and variations in knowledge are natural, but it is within your purview as a library leader to reconcile them.

Communication-Network and Transactive Models

The communication-network model of KM views knowledge as a product made possible through coordinated and collaborative activity by way of

optimal communication. As described by Kuhlen (2004, 23), the model marks a "shift from the distribution and retrieval of existing knowledge to the interactive and collaborative production of new knowledge." This production can only take place through the interactivity of employees via networks and communication channels. The communication-network perspective arose out of the recognition that—especially in libraries—information and knowledge development occur in "silos" and without the cooperation of fellow employees or across departments. As a result, stuff gets deposited somewhere, perhaps on a local desktop or on a shared network drive, and is left to stagnate—but it doesn't have to be this way. The communication-network model emphasizes the utility of open and encouraging communication routes between peer employees, as well as employee-supervisor dyads and across departments. Such communication can, in turn, yield storage solutions and protocols whose success depends on working cooperatively.

Similarly, the transactive model (Brauner and Becker 2006) emphasizes the important function of communication, insofar as the transfer of information and knowledge in people-to-people interactions is best described as transactions. This model is unique because it introduces into KM the idea of metaknowledge. In the same way that metadata—data that provides information about data—is useful, so too is knowledge that provides information about knowledge; that is, the descriptions, parameters, circumstances, and contexts attached to knowledge. Data often suffers from lack of data about that data, and knowledge is no different. Scores of files (e.g., handouts, diagrams, charts, text documents, and more) are created by librarians. To be sure, many of these files are fashioned with knowledge possessed by their creators, yet much of this is created without the provision of any metadata, much less metaknowledge. Even if knowledge about knowledge is somehow codified and made accessible to others, the unique "a-ha!" moments with which that knowledge was created are impossible to fully record and communicate. Instead, knowledge that provides information about knowledge is transferred, often unknowingly, between people via social transactions.

TOWARDS A PRACTICAL PERSPECTIVE ON KNOWLEDGE MANAGEMENT

Academics and practitioners continue to wonder what exactly KM aims to manage: is it knowledge itself as an object, or the techniques that facilitate knowledge? (Kuhlen 2004; Roberts 2015). Our insistence is on the latter—knowledge is not a thing, but a process. As such, libraries must orient their KM endeavors away from false suppositions that technology will somehow encapsulate its employees' know-how in a way that can be passed around from person to person like an orb. This simply is not practical. Instead, we urge libraries to put in place procedures that bolster knowledge creation, flow, and

organizational retention on a well-laid foundation of social, behavioral, and cultural synergy in the workplace.

We don't blame librarians for their tendency to depend on technology; after all, librarians are accustomed to using electronics, databases, and computer platforms in their daily work—it is what they know. We caution against overreliance on technology, however, because it makes employees and their organizations susceptible to the "dumpster effect" where data, information, and knowledge—all the stuff—get stuffed into an unorganized, unsearchable, and unstable electronic depository. Who knows what's in there and how to get to it?! The goal should not be to populate your online storage with anything and everything in every format by everybody—that is mayhem. Instead, you want to put in place a purposeful system to retain only the stuff your employees and library need as determined by your organization's strategic plan.

The acquisition, organization, classification, and dissemination of information itself is often a librarian's primary focus. In the course of their daily professional activities, librarians are thus more familiar with managing *information* assets—including but not limited to books, journals, databases, documents, manuals, white papers, dissertations, and all other forms of intellectual output—than they are with *knowledge* creation, sharing, and application. Thus, we believe that librarians are not knowledge managers by default—they are experts at managing information, but not knowledge. If librarians were knowledge managers naturally, they would be leading the theory and practice of KM today, but this is not the case and it never has been. The point here is not to rehash the information versus knowledge argument, but simply to point out that you as a library leader must take charge of knowledge management at your institution—it will not happen on its own. In doing so, you will aim to effectively balance the four central components of KM as outlined by Desouza (2011, 4, 13–20): knowledge, people, process, and technology.

A good place to start is to consider the words of Stewart (2001, 117): "Knowledge management activities are all over the map: building databases, measuring intellectual capital, establishing . . . libraries, building intranets, sharing best practices, installing groupware, leading training programs, leading cultural change, fostering collaboration, creating virtual organizations— all of these are knowledge management . . . But, no one claims the big question: Why?" All of Stewart's examples here involve knowledge, people, process, and technology, but the question "why" is really the point. The importance of the "why" question cannot be overemphasized. Everything you do in your KM plan needs a reason why—if this cannot be answered, then you don't need it and shouldn't waste time on it.

Simply put, the socio-technical ecosystem we propose here is a workplace environment in which (1) social, behavioral, and cultural elements *drive* knowledge creation, sharing, and organization; (2) technological products *support* employees in their institutional pursuits and sharing of knowledge activity; and (3) knowledge management is regarded as an ongoing *process,*

not an end-product. In fact, the idea of a socio-technical approach to KM is not new. In classical terms, the notion was put forward by Emery and Trist (1960, 1972) in their work on social ecology and socio-technical management systems. Much later, in 2002 (Coakes, Willis, and Clarke), a book dedicated specifically to the socio-technical aspects of KM was published. We borrow from these previous works to inform—in this chapter and the next several ones—how a socio-technical perspective is key for knowledge management. Our approach is meant to be geared toward substantive—not abstract—application and practice.

A socio-technical ecosystem for libraries is one that focuses on "coordinating and facilitating knowledge workers rather than seeking direct control over knowledge" (Roberts 2015, 40). That is, your energies and resources should be concentrated on developing an institutional environment that nourishes your employees' social interactions, networking, information sharing, peer training, mentoring, team-building, and other social behaviors. The sociocultural and behavioral aspects of your KM goals cannot be ignored; they are inherently part of your human workforce. Unfortunately, these aspects are already underestimated in most organizational change initiatives (Iveroth and Hallencreutz 2016, 2), and probably even at your own library. Attending to these aspects will cultivate more knowledge among and between your employees than any technology ever could. Institutional technologies should serve only to enhance and reinforce these behaviors.

That said, because they play important roles in the KM environment, technologies do need to be in place to foster KM activities. Serban and Luan (2002, 7) said it best: "Knowledge management processes perform best when enabled by powerful, yet fairly easy-to-use-once-implemented technologies . . . Emphasis on technology alone will achieve little progress toward knowledge management, but even the strongest commitment to knowledge management that is not supported by robust technology will not succeed." Moreover, as Cervone writes later in the present volume (chapter 4), knowledge management is moving toward managing "big data" at institutions worldwide, which, for libraries, means that the need for librarians and other information professionals who are data-savvy—with skills in data management, analysis, interpretation, and application—will increase. As a library leader who wants your organizational knowledge to be as accessible as possible to your employees, you want to hire a knowledge manager and other select personnel who know how to analyze data, create and interpret statistics, and write and execute computer-programming code.

Importantly, the socio-technical ecosystem that we recommend reorients KM away from the attention that has been paid to the long-standing disputes over what constitutes information versus knowledge. Instead, this approach is concerned with building KM models that focus on ongoing processes, rather than the achievement of some arbitrary end-goal. Certainly, goals are necessary as evidence-markers that progress is being made on organizational

objectives, but librarians traditionally cling to end-of-product mentalities. We encourage you as a library leader to reimagine goals not as end-products, but rather as feedback loops that serve to, first, keep the KM processes at your institution going, and, second, help them evolve into new, not-yet-imagined innovations. Similarly, we discourage describing any KM initiative as a "project" because projects have finite life spans.

CONCLUSION

Almost twenty years ago, Sallis and Jones (2002, 32) wrote something that is as true now as it was then: "Organizations now require leaders who are sensitive to the psychology of knowledge creation and whose purpose is to nurture knowledge-creating communities." Libraries have yet to find leaders who are willing to appreciate and implement this call. Are you the next leader who will?

Key Insights

■ Knowledge management originates with individual employees and is embedded in work practices; its goal is to provide the right information to the right people at the right time.

■ Tacit knowledge is found in individual know-how and behavior, while explicit knowledge can be recorded in a tangible form.

■ The term *knowledge management* can be meaningless to staff; reframing KM terminology to reflect organizational needs is preferred.

■ Organizational knowledge is generated both by learning and by doing—both are key components in knowledge management.

■ Librarians are generally more adept at managing information assets than they are at creating, sharing, and applying knowledge.

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