

Transfer Pricing Knowledge Management Systems

This article discusses transfer pricing knowledge management systems, a neglected topic in the international transfer pricing and tax risk management literature. Key concepts of knowledge and knowledge management systems are introduced, followed by descriptions of the individual components of a transfer pricing knowledge management system. Finally, a guiding framework is proposed for the management of transfer pricing knowledge.

1. Introduction¹

This article discusses transfer pricing knowledge management systems, a neglected topic in the international transfer pricing and tax risk management literature. A transfer pricing knowledge management system can be understood as the activities that a multinational enterprise (MNE) performs in order to create, organize and transfer knowledge for meeting transfer pricing objectives. It is argued that MNEs would benefit from making the transfer pricing knowledge management system an explicit part of their transfer pricing tax risk management frameworks by integrating it in their ongoing transfer pricing policies and routines. The existence of such a system is actually a prerequisite for the ability of MNEs to manage transfer pricing tax risks.

Many MNEs recognize the importance of establishing and maintaining a transfer pricing knowledge management system to ensure that knowledge of the historical and future transfer pricing practices of the MNE are captured, organized and transferred in a transparent and logical manner to those who need it, when they need it. However, MNEs often fail to fully accomplish this task, partially because, in some cases, they underestimate the extent to which an effective transfer pricing knowledge management system requires that scarce time and resources not be devoted solely to making sure that legally required trans-

fer pricing outputs are produced in observance of formal deadlines. Instead, making sure that the reasoning behind these outputs (i.e. the quantitative and qualitative inputs, as well as their processing) can be reconstructed at a later stage, such as during transfer pricing audits, should receive significant attention as well.

This article will outline the idea of a transfer pricing knowledge management system and provide examples of its application. First, key concepts of knowledge and knowledge management systems are introduced, followed by descriptions of the individual components of a transfer pricing knowledge management system. Finally, a guiding framework is proposed for the management of transfer pricing knowledge.

2. Concepts: Data, Information and Knowledge

Three core concepts within the knowledge management domain are data, information and knowledge. These concepts are defined as follows:

- data are objective and unprocessed facts;
- information is processed data;
- knowledge is information absorbed by the individual mind.

Data are the unprocessed input to the creation of information. For example data on product cost and revenue are processed to create information about product profitability. Information can therefore be seen as the output that arises when data are processed and have meaning assigned thereto. Information informs the individual receiving it and more formally becomes knowledge when absorbed by an individual, through either experience, education or a combination thereof. Thus, knowledge on product profitability occurs when it is understood by the recipient(s). However, the nature of knowledge implies that the same information usually materializes in different knowledge for different people, typically due to differences in experience and educational background.

Knowledge can take two forms: explicit or tacit. Explicit knowledge is knowledge that can be articulated and thus transferred between individuals. The transfer of explicit knowledge is often accomplished by the use of manuals and files (electronic or hard copies), and sometimes in audio/video formats. Explicit knowledge is often structured for subsequent use by converting it into a more tangible form, such as an organized document. For example this is the case in a transfer pricing master file where the table of contents provides an organized structure for users, such as external tax inspectors. In many cases, direct verbal transfers of explicit knowledge may occur. An example would be the transfer of knowledge between transfer

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pricing or tax specialists in a central tax department at MNE headquarters, or between the central tax department and foreign subsidiaries. Regardless of how the transfer of explicit knowledge occurs, explicit knowledge is best characterized by the fact that it can actually be transferred between individuals through written or verbal forms of communication.

Unlike explicit knowledge, tacit knowledge is difficult or, in some cases, impossible to formulate and thus transfer between individuals. Tacit knowledge is often referred to as “automatic,”² or as “knowing more than we can tell.”³ It involves a significant degree of judgment or intuition based on personal experience. MNE employees involved in transfer pricing tasks over time develop tacit knowledge, based on experience. Tacit knowledge serves to enhance the quality of decision making and behaviour in specific situations, without the individual holding it being able to fully explain to others why these decisions and behaviours are made or manifested, and the way in which past experience has informed them. An example is knowledge for managing a complex APA process potentially involving multiple tax authorities, and the subsequent ability to implement the agreement in the specific MNE entities involved.

3. Transfer Pricing Knowledge Management Systems in Theory and Practice

The basic argument supporting the existence of any knowledge management system is that an organization seeks to achieve specific goals, and knowledge is a prerequisite to reach those goals. While tax-related transfer pricing goals vary to some degree in both form and order of priority, MNEs usually give high priority to the ability to demonstrate that their transfer pricing positions are set and documented in compliance with the domestic tax laws and transfer pricing practices accepted by local tax authorities. Hence, the management of transfer pricing knowledge should be closely linked to the objective of tax regulatory compliance.

In theory, the components of a transfer pricing knowledge management system are similar to those of knowledge management systems for other knowledge-intensive activities of an MNE (e.g. R&D, procurement, manufacturing, logistics and marketing). Thus, such a system has three main individual parts⁴ derived from three distinct activities, namely creating knowledge, organizing knowledge and transferring knowledge.

The following sections outline and discuss the three main components of a transfer pricing knowledge management

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2. J. Liebowitz & T. J. Beckman, *Knowledge Organizations: What Every Manager Should Know* (1st ed., CRC Press 1998).
 3. M. Polanyi, *The Tacit Dimension* (University of Chicago Press 1967).
 4. The knowledge management and information system literature puts forward a variety of different perceptions of the elements and tasks of a knowledge management system. For purposes of this article, the authors draw primarily on T.H. Davenport & L. Prusak, *Working Knowledge: How Organizations Manage What They Know* (2nd ed., Harvard Business School Press 2000); K. Dalkir, *Knowledge Management in Theory and Practice*, (2nd ed., MIT Press 2011); and M.B. Romney & P.J. Steinbart, *Accounting Information Systems* (12th ed., Prentice-Hall 2011).

system and provide practical examples of their application.⁵ Notably, the three individual elements of such a system do not operate in isolation. Instead, they are part of a *system*⁶ and, therefore, should be deeply interconnected in practice to ensure systemic quality. Moreover, the distinction between each individual part of a transfer pricing knowledge management system is not always as clear-cut as portrayed in the sequential presentation below, as overlaps frequently occur in practice. Also, a smooth, uni-directional path from knowledge creation to knowledge organization and finally to knowledge transferring, is not always the case in practice. For example knowledge can be created and organized and then refined and reorganized multiple times before it is actually transferred between individuals and/or departments in an MNE. Generally, each of the three individual parts of a transfer pricing knowledge management system has the potential to impact the others. However, in order to provide a clear overview of the main elements of a transfer pricing knowledge management system, each part is discussed below in the typical sequential order, namely creating transfer pricing knowledge, organizing transfer pricing knowledge and transfer of transfer pricing knowledge.

3.1. Creating transfer pricing knowledge

Creation of knowledge relates to organizational activities that create knowledge by use of different internal and external informational sources. The creation of transfer pricing knowledge *adds* to the existing transfer pricing knowledge base of the MNE (see Figure 1) and hence the ability to defend historic – and determine future – transfer pricing positions. In this regard, one should not confuse knowledge creation with knowledge transfer. For example when a local subsidiary provides the central tax department of an MNE with data/information/knowledge on its business functions for the purpose of functional analysis, such an activity qualifies as knowledge *transfer*. Specifically, the information does not *add* to the current transfer pricing knowledge base of the MNE from a group perspective. Instead, it merely reduces the informational gap (i.e. information asymmetry) that exists between individuals/departments involved in transfer pricing at the central level and those at the subsidiary level of an MNE.

3.1.1. Informational sources for transfer pricing knowledge creation

Sources available to MNEs for creating transfer pricing knowledge have increased rapidly in nature and scope. Presented below are key internal and external informational sources that may support a transfer pricing knowledge management system.

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5. The remainder of the article assumes that an MNE has either a central tax department or at least one or more individuals at the headquarters level responsible for transfer pricing (e.g. a CFO, Corporate Tax Director or Transfer Pricing Manager) who supervises transfer pricing activities at the subsidiary levels in collaboration with, for example, a subsidiary Finance Manager and/or staff from a subsidiary (local) tax function.
 6. M.B. Romney & P.J. Steinbart, *Accounting Information Systems* (12th ed., Prentice-Hall 2011), at 4 (“A system is a set of two or more interrelated components that interact to achieve a goal”).

3.1.1.1. Internal sources

Accounting information system.⁷ The accounting information system can be seen as a system that records and stores accounting data to produce information for a variety of organizational purposes. It is used by MNEs at both central and decentralized levels and serves as a key informational source for the development of transfer pricing knowledge. Specifically, accounting data and information are constantly entered into the accounting information system throughout the MNE to reflect the estimated economic consequences of its internal and external business activities. From here, these data and information are used for producing various outputs, including outputs related to transfer pricing and tax compliance.

Transfer pricing database. A successful transfer pricing knowledge management system is dependent on many types of transfer pricing-related material that go beyond the core accounting data in the accounting information system. This includes basically all the material that over time is accumulated and stored in the transfer pricing database and which a central tax department with ultimate transfer pricing responsibility can draw on to meet transfer pricing objectives. Specific examples of content in the transfer pricing database having a more formal nature include transfer pricing documentation files, benchmark studies and intercompany agreements. However, the transfer pricing database should also absorb more informal yet highly important transfer pricing material, such as inputs from operational staff during functional analyses; strategic/operational business documents; intercompany invoices; experiences from transfer pricing audits and litigation; learning from external transfer pricing network meetings and conferences; conclusions from meetings with tax authorities and external advisors; and minutes from internal meetings about historic or future transfer pricing practices. In brief, the transfer pricing database contains the formal as well as informal transfer pricing-related material that has been stored outside the traditional accounting information system (but which in many cases draws extensively on accounting information system data).

MNE employees. As the MNE conducts its business and related transfer pricing activities, experience is gained and consequently knowledge created by the employees of the MNE involved in transfer pricing (directly or indirectly) at both the central and decentralized organizational levels. For example an MNE subject to a transfer pricing audit will automatically gain knowledge about the perspective of tax authorities on specific practices, as those MNE employees who get involved (e.g. the Transfer Pricing Manager of a central tax department and the Finance Manager of a foreign subsidiary subject to an audit) will interact with external sources of expertise (e.g. tax auditors, external advisors) and subsequently reflect on audit/litigation outcomes. Moreover, and of great importance,

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7. In some MNEs, the accounting information system is a sub-system of an enterprise resource planning (ERP) system. In the following sections of this article, the authors use the term "accounting information system" for the system(s) within MNEs that records and stores accounting data and information that are relevant for transfer pricing analyses.

other MNE employees besides those directly involved in transfer pricing activities, such as business operational staff, will – over time – generate knowledge that adds to the MNE transfer pricing knowledge base. This may subsequently be obtained by the central tax department's transfer pricing specialists, who, unlike most non-transfer pricing employees, are skilled in absorbing information about the MNE value chain and converting it into transfer pricing outputs. Finally, MNE employees with insights (including technical insight) into the accounting information system represent an additional and crucial source for enabling the MNE transfer pricing specialists to apply specific transfer pricing strategies and pricing models.

3.1.1.2. External sources

Laws and regulations. Formal tax/transfer pricing laws and regulations serve as crucial sources of information for an MNE. While the formal transfer pricing laws and regulations of most jurisdictions are somewhat similar, local differences exist, and tightening of legal requirements occurs frequently across tax jurisdictions. In addition, income tax treaties, withholding tax laws, custom duties and VAT rules and regulations are additional legal sources from which the MNE can generate knowledge in the process of determining its transfer pricing practices.

Tax authorities. Tax authorities develop local guidelines that contain information on recommended transfer pricing practices, based on government-issued laws and regulations. In addition, the ongoing more direct interaction with tax authorities, whether during confrontations (e.g. audits) or in more collaborative settings (e.g. during APA negotiations), serves to provide critical information as well.

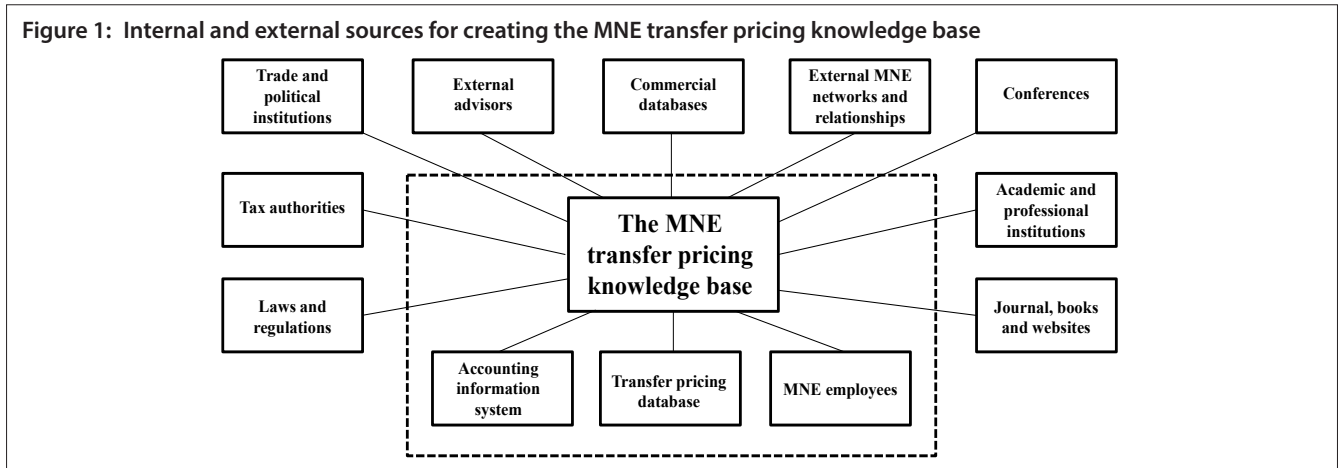
Trade and political institutions. The OECD has released a variety of transfer pricing materials, including the OECD Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations,⁸ which are recognized by most tax jurisdictions. The EU Joint Transfer Pricing Forum is another significant institutional provider of transfer pricing information. The Forum assists and advises the European Commission on transfer pricing, based on discussions between its Member State representatives. The Forum publishes various materials, such as practical solutions to specific transfer pricing matters, often trying to ease the compliance burden for MNEs and the scope of material that tax authorities will need during audits. In the Pacific region, the Pacific Association of Tax Administrations (PATA) plays a similar role, in particular for reduction of, and uniformity in the compliance burden facing MNEs. Finally, the United Nations has become more active in providing transfer pricing guidance and information, including a practical manual on transfer pricing for developing countries.

External advisors. Typical advisory firms comprise Big Four accounting firms and well-established law firms.

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8. OECD Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations (OECD 2010), International Organizations' Documentation IBFD.

Figure 1: Internal and external sources for creating the MNE transfer pricing knowledge base



However, boutique advisory and valuation firms have emerged in recent years. These firms work either individually or in collaboration to assist MNEs on specific transfer pricing matters. Finally, in addition to fee-based advisory services, some advisory firms offer live seminars, webcasts, website news and surveys of practice.

Commercial databases. Commercial databases provide various types of quantitative and qualitative data and information about companies that can be used for transfer pricing analyses (e.g. benchmark studies). These databases provide insights to company financial statements and related information with various degrees of detail.

External MNE networks and relationships. Over the past decade, the number of transfer pricing-focused MNE network relationships has increased rapidly. Specifically, a number of ties have been established which cover both formal network groups and informal relationships. In these networks, MNE transfer pricing specialists can interact on recent changes and contemporary issues in the MNE tax environment, discuss operational transfer pricing, as well as exchange knowledge on cause and effect linked to specific practices in specific tax jurisdictions.

Conferences. Transfer pricing and tax conferences continue to emerge on a global scale. They can assist MNEs in identifying potential tax optimization opportunities and creating solutions for refinement of their transfer pricing practices. Some conferences provide rather descriptive insights to participants (e.g. presentation of new regulations, basic instructions on transfer pricing methods, outline of new documentation requirements). Other conferences have a more interactive setting where speakers and the audience engage in organized discussions on particular transfer pricing topics. In addition to the formal conference programme, the individual networking at these events is often reported as valuable ties that MNE transfer pricing specialists establish to stimulate exchange of contemporary, sometimes highly complex, information.

Academic and professional institutions. Academic institutions offer a potentially useful source of theoretically informed insights. Although few academic courses at universities and business schools are targeted specifically at transfer pricing, relevant knowledge creation can also occur from a collection of carefully selected courses in e.g. international tax law, cost accounting, accounting

information systems, economics and business statistics. Other tax institutions provide professional transfer pricing research and training as well, in some cases customized to individual clients, such as IBFD (International Bureau of Fiscal Documentation).

Journals, books and websites. Various transfer pricing and tax journals (e.g. IBFD's International Transfer Pricing Journal) publish different forms of transfer pricing information to subscribers, including MNEs. With regard to books, a variety of material exists. Some books examine specific intercompany transactions;⁹ others discuss tax risk management and transfer pricing in a broader sense, such as by outlining areas of tax accounting with transfer pricing implications.¹⁰ Finally, MNEs can subscribe to various types of tax and transfer pricing-focused websites, which often include newsletters, analyses and comments from tax industry experts on selected topics.

The informational sources available for development and maintenance of an MNE transfer pricing knowledge base are illustrated in Figure 1.

3.2. Organizing transfer pricing knowledge

Organizing transfer pricing knowledge aims at ensuring that the transfer pricing-related data, information and knowledge of an MNE are captured and stored in ways that maximize the access and utility for those individuals who request them and have been granted access to them. As illustrated in Figure 1, an MNE controls three internal informational sources that must be organized with proper care in order to ensure transfer pricing knowledge management system quality, namely:

- the MNE's accounting information system;
- the transfer pricing database; and
- the MNE employees.¹¹

9. See e.g. *Transfer Pricing and Intra-Group Financing* (A. Bakker & M.M. Levey eds., IBFD 2012), Online Books IBFD.

10. See e.g. J.M. Anderson, K.D. Grave & J.M. Moore, in *Tax Risk Management: From Risk to Opportunity* (A. Bakker & S. Kloosterhof eds., IBFD 2010), chapter 3, Online Books IBFD.

11. This article does not discuss further whether an MNE has the opportunity to perform various exercises to gain control over external sources of transfer pricing information (sources outside the dashed line in Figure 1). Rather, it discusses only those three knowledge assets that the MNE contractually controls. Because MNE employees can terminate their employment contracts, the authors recognize that the transfer pricing knowledge held by MNE employees is not under the full control of the MNE, but the

The following sections consider inputs for capturing and organizing transfer pricing-related data, information and knowledge, including the role of information technology. Specifically, the issue of storage and organization of accounting data and information in the accounting information system is presented. Also, the importance of the transfer pricing database for the capture and storage of more complex forms of transfer pricing information and knowledge is discussed, including the way extractive technologies can add value to the traditional, sometimes old-fashioned storage techniques used by MNEs. Finally, options are discussed for organizing MNE employees and ensuring organizational awareness of their transfer pricing-related competencies.¹²

3.2.1. *The role of the accounting information system in organizing transfer pricing accounting data*

The accounting information system plays probably one of the most critical roles in organizing accounting data for the development of transfer pricing outputs. As stated, the accounting information system can be seen as a system that records and stores accounting data to produce information for a variety of organizational purposes (including transfer pricing). Hence, the ability to achieve transfer pricing objectives (e.g. arm's length pricing and documentation thereof) naturally relies significantly on the accounting information system design and use throughout the MNE value chain. Specifically, seven concepts are put forward as critical characteristics of such a system:

Standardization. Accounting data must be recorded in the accounting information system in a standardized manner. This can be supported by the use of a standardized chart of accounts, accompanied by a set of explicit formal criteria for data inputting (i.e. formal accounting directions). This serves to reduce the likelihood of errors in subsequent data use, such as the processing of data for purposes of determining transfer pricing-sensitive figures and ratios.

Reliability. Accounting information system data must be reliable, meaning that they should not contain errors or be incomplete, e.g. due to human error. Naturally, the very processing of data into information offers possibilities for transfer pricing errors, in particular when information is the result of complex accounting allocations. However, what is meant here is that the *core data* entered into the accounting information system (i.e. the unprocessed facts about organizational business activities that a particular accounting information system account holds) must be a reliable approximation of economic reality.

Reversibility. The accounting information system should allow for reversibility in processed data (i.e. information). Specifically, if accounting information system data have been processed for other purposes than transfer pricing

tax compliance, that system should allow for subsequent decomposition (i.e. reversibility) to test whether the data processing is aligned to transfer pricing regulations. For example if the costs of running shared service centres at headquarters are allocated to foreign subsidiaries without regulatory tax considerations (e.g. by allocating shareholder costs), the accounting information system should allow for easy reconstruction of the original cost data to adjust intercompany invoices in accordance with regulations.

Timeliness. Data must be entered and made available in the accounting information system in a timely manner to ensure that MNE transfer pricing specialists can process data into relevant information. This is necessary not only to meet external compliance deadlines, but also to ensure the establishment of budgets and ongoing monitoring of actual accounting figures with transfer pricing implications.

Functional integration. The accounting information system should be designed in a way that allows data extraction for transfer pricing exercises without manual data exporting/importing from the accounting information system and subsequent data manipulation in isolated data processing silos. In particular, the extensive use of spreadsheets or other forms of manual data processing decoupled from the formal accounting information system should be avoided.¹³

System compatibility. The accounting information system should be compatible across individual entities of an MNE to reduce potential bias and inefficiencies in subsequent accounting data analysis for transfer pricing purposes. An important part of this is making sure that organic growth is based on existing accounting information system structures, rather than adding new accounting information system solutions that are incompatible with the current accounting information system platform/software or which can be integrated only through time-consuming data integration. The same argument applies to MNEs growing through acquisitions, meaning that the accounting information system and underlying software used by an acquired company should be subjected to an immediate subsequent integration.

Making sure that the MNE's accounting information system is aligned to the concepts stated above is by no means an easy task, partially because business-driven arguments shape the design of the system, with transfer pricing considerations having secondary priority. From a transfer pricing perspective, this tension between recording and storing data in the accounting information system for

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 authors still treat it as an internal source subject to some degree of MNE control.
 12. The strict focus on internal informational sources owes to the fact that knowledge created from the use of external informational sources should generally be stored in the transfer pricing database, or at least in the minds of the transfer pricing specialists of the MNE.

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 13. Ernst & Young 2013 *Global Transfer Pricing Survey* (EYGM Limited 2013), at 21, reveals that 41% of the respondents' (accounting/monitoring) systems are not set up for tax and transfer pricing, 58% rely on Microsoft Excel spreadsheets to perform transfer pricing analytics, and only 7% report having "highly automated systems supporting transfer pricing data needs for analysis, monitoring and planning". Similarly, in the 2011-2012 *Corporate Tax Department Survey* (Tax Executives Institute 2012), at 110, 83% of the respondents have not integrated their ERP system into their tax compliance system. Notably, this lack of ERP integration has increased significantly over the 49% reported in the 2004-2005 *Corporate Tax Department Survey* (Tax Executives Institute 2005).

business versus transfer pricing tax compliance purposes enhances the need for a powerful Corporate Tax Director and/or Transfer Pricing Manager. Specifically, the Corporate Tax Director and/or Transfer Pricing Manager must be able to illustrate to the CFO and top management the potential bias and hence transfer pricing tax risks that may result from non-optimal accounting information system data storage and processing. In this context, it can be valuable for the central tax department to have a paragraph in the formal group tax strategy, which has been approved by the CFO, CEO and/or board of directors, stating that accounting information system designs must be – and are, in fact – reviewed for comments by the central tax department prior to its implementation. The alternative is potentially poor organization of the core data inputs for transfer pricing exercises, and ultimately difficulties in justifying specific practices to the tax authorities.

3.2.2. *Capture and storage of material in the transfer pricing database*

In order to meet transfer pricing objectives, there is a need to capture and store many types of transfer pricing-related material in addition to the core accounting data in the accounting information system.¹⁴

Formal transfer pricing material. With regard to the formal transfer pricing material, e.g. documentation files and intercompany agreements, such documents can be stored by use of a traditional folder storage type of approach. For example transfer pricing documentation files can be saved in relevant electronic folders by reference to e.g. year, country, entity ID-number or label, and transaction type. From a transfer pricing knowledge management system perspective, MNEs should first make sure that formal policies and process descriptions are in place for ongoing and consistent storage of such transfer pricing material in the transfer pricing database. Second, a well-designed transfer pricing knowledge management system will include internal controls to ensure that the existing policies and processes are actually followed. This is necessary, as a variety of transfer pricing tax risks may materialize from more random storage approaches, including situations where important formal transfer pricing documents cannot be located during audits.

Informal transfer pricing material. The importance of explicit storage policies stated above applies not only to formal transfer pricing material, but must also be applied to material of a more informal nature. This means that, as is the case with the formal material, the significant and often complex subjective assessments, analyses, documents and memos (i.e. inputs) that have shaped the final content of formal transfer pricing outputs must also be stored in a consistent manner, based on explicit storage policies. This increases the likelihood that MNE transfer pricing specialists will be able to locate not only formal transfer pricing

outputs in the transfer pricing database, but also those significant and often highly important pieces of input that shaped them. A classic problem from practice is the lack of ability to explain and back-track in detail the critical insights provided by business/operational staff to a five-year old functional analysis of a subsidiary which is now subjected to an audit. The required details could include what information was provided, who provided it and what complex discussions and conclusions (typically involving knowledgeable external advisors and operational staff, in addition to in-house transfer pricing specialists) led to the final output (e.g. the transfer pricing documentation file).

In this regard, while a formal documentation file can contain much useful information, it is unlikely to be sufficient to answer subsequent questions from external tax inspectors, who are becoming increasingly skilled in decomposing MNE value chains for assessing their transfer pricing practices. Hence, an MNE that wants to test the quality of its transfer pricing knowledge management system and its transfer pricing database should ask itself a number of critical questions, including to what extent it is able to reconstruct the transfer pricing-related data input behind its formal documentation files, if subjected to an audit that can go back several years. Notably, this includes both the quantitative input (e.g. accounting information system data, intercompany invoices) and the qualitative material (e.g. input on complex subsidiary functions from local operational staff).

Use of emails. Use of emails by transfer pricing specialists is but one practical example of critical issues relating to organized capture and storage of transfer pricing-related material. While e-mails can seem informal in their core nature, they often serve as a key tool for MNE transfer pricing specialists receiving and distributing very critical pieces of information that have contributed as input to shaping and documenting the transfer pricing approaches of the MNE. However, in practice, these pieces of critical information (i.e. various transfer pricing-related e-mails) are often not transferred from the inbox/sent folder of MNE transfer pricing specialists to the formal transfer pricing database where they ultimately belong. This way, the transfer pricing specialists' e-mails end up constituting a parallel database that is decoupled from the formal transfer pricing database, the consequence being that important material cannot, or may only very inefficiently, be retrieved when needed at a later stage. A specific example from practice is a local subsidiary Finance Manager who uses e-mail to return the questionnaire used as part of a functional analysis of the MNE subsidiary to a central-level Transfer Pricing Manager. If such an e-mail is not stored properly in the transfer pricing database but merely kept in the e-mail inbox of the Transfer Pricing Manager, this piece of information – crucial for defending historic practices – will be difficult or in some cases even impossible to retrieve as part of an external audit several years later. This is particularly critical in cases where the Transfer Pricing Manager and local Finance Manager might have left the MNE (and the e-mail accounts and their content have been termi-

14. The focus here is primarily on the transfer pricing database held and protected by a central tax department having full responsibility for MNE group-wide transfer pricing activities. However, for large MNEs with local (subsidiary-level) tax departments, the arguments and key points generally apply to their subsidiary-level transfer pricing databases as well.

nated or will at least be very hard to retrieve by another individual).

Storage technologies. Media used for capturing and storing transfer pricing information and knowledge is the final issue to be considered. In practice, MNEs often seem to apply rather traditional tech-based storage tools, with limited emphasis on alternative technological media that may be very effective for capturing (and subsequently transferring; see section 3.2.3.) more complex transfer pricing informational input that is not required by law to fit into specific formats. For example audio/video recordings of important internal meetings and face-to-face interviews conducted as part of functional analyses may serve as valuable tools to limit recollection bias and ensure complete, accurate and effective capture of actual events to the transfer pricing database. Likewise, lengthy and often time-consuming memos written after meetings with, for example, tax authorities and external advisors might in some cases be replaced by transcripts produced by audio transcription software or by audio/video-based recordings of the MNE employees present, and such records could easily be stored in the transfer pricing database in the same way as a written memo. It is argued that MNE tax departments could take more consistent advantage of the technological tools available for capturing and storing important transfer pricing material. In general, application of modern technologies for knowledge capture and storage should be considered an integrated part of a modern transfer pricing database.

In summary, a critical part of a transfer pricing knowledge management system is a careful and logical approach to storage of formal as well as informal information and knowledge that allow reconstruction of the reasoning behind transfer pricing structures and practices. This exercise represents one of the key responsibilities facing Corporate Tax Directors and Transfer Pricing Managers in MNEs. These managers should ensure not only that formal and logical policies for storage of both formal and informal material in the transfer pricing database are *developed*, but also that they are in fact *applied*, for example by random checks. Such policies should include explicit rules for how sensitive folders and content of the transfer pricing database are protected, for example by use of passwords, in order to ensure that only certain selected individuals have access. In some highly sensitive situations, it may even be necessary to block or restrict access for those individuals who generally have full access to the database, such as in the case of highly sensitive tax strategic matters that only the Corporate Tax Director, Transfer Pricing Manager and a few top managers should be able to retrieve and revise.

3.2.3. Organizing the transfer pricing knowledge of MNE employees

Managing the knowledge of MNE employees, as well as explicating the way that knowledge is organized (i.e. where it can be found and what it includes), is a crucial aspect for ensuring transfer pricing knowledge management system quality. In this regard, two key issues must be addressed, namely *transfer pricing task dispersion* and *transfer pricing knowledge maps*.

Transfer pricing task dispersion. As the regulatory pressure on MNEs increases, so does the demand for individuals who can solve specific transfer pricing-related tasks, either on a full-time basis (e.g. a Transfer Pricing Manager or staff person in a central tax department) or as part of a general local finance or tax function (e.g. a subsidiary Finance or Tax Manager). What MNEs essentially want to avoid in this regard is that individual MNE employees, not least full-time transfer pricing specialists, work on the entire scope of specific transfer pricing tasks without including colleagues on an ongoing basis. Specifically, the problem of organizing transfer pricing tasks in this way is that such an isolation of tasks will often lead to critical knowledge loss for the MNE when a transfer pricing specialist leaves the MNE, for example as part of a job transfer or due to retirement. As described in section 3.2.2., this problem is, in practice, often very real, as the transfer pricing database has not been used to a sufficient extent to ensure that explicit transfer pricing knowledge is transferred to it on an ongoing basis.

Instead, an alternative strategy for organizing MNE employee knowledge (and their knowledge building) is to make sure that individual transfer pricing tasks are distributed among several employees involved in transfer pricing, rather than taken care of by only one employee. The appropriate balance between transfer pricing task dispersion and task specialization must be determined by the individual MNE, as specific circumstances, such as the size of the tax department or the degree of outsourcing of transfer pricing tasks to external tax advisors, may favour alternative approaches.

For those MNEs that decide to continue isolating transfer pricing tasks on specific individuals, the importance of an ongoing transfer of knowledge to the transfer pricing database, i.e. a frequent knowledge back-up procedure, must be stressed. Otherwise, the exposure to knowledge losses remains. While the explicit transfer pricing knowledge is transferable to the transfer pricing database, the tacit knowledge cannot be transferred and hence can only be stored in the human mind. This favours the employee task dispersion strategy argued for above.

*Transfer pricing knowledge maps.*¹⁵ A well-designed transfer pricing database (see section 3.2.2.) provides a systematic explicit overview of its content and the way different items of transfer pricing-related information and knowledge are organized. Conversely, the human database (i.e. the human mind) is not by nature explicit to outsiders, even for those potentially allowed to tap it for knowledge (e.g. colleagues in a central tax department). In fact, without any form of written communication or personal interaction, it is difficult to assess which MNE employees

15. The concept of transfer pricing knowledge maps is derived from the general idea of knowledge maps for organizing and locating knowledge resources in large organizations presented in T.H. Davenport & L. Prusak, *Working Knowledge: How Organizations Manage What They Know* (2nd ed., Harvard Business School Press 2000); and M.J. Eppler, in *Handbook of Knowledge Management 1: Knowledge Matters* (C.W. Holsapple ed., 1st ed., Spring 2003), chap. 10, at 189-205. K. Dalkir, *Knowledge Management in Theory and Practice* (2nd ed., MIT Press 2011) applies the term "cognitive maps", but the idea is fundamentally the same.

Figure 2: Example of transfer pricing knowledge group

Task \ Resource	Knowledge resources at UK headquarters (name and department)	Knowledge resources at US subsidiary (name and department)
MNE group transfer pricing strategy	Donna Kline (Tax) Carly Hass (Top Management)	Martin Repko (Finance)
Documentation	Donna Kline (Tax) Jeff Hansen (Finance)	Martin Repko (Finance) Li Smith (Operations)
Pricing of goods, services and intangible property	Donna Kline (Tax) Carly Morgan (Finance)	Martin Repko (Finance) Leanne Smith (Manufacturing)
Pricing of loans and warranties	Michelle Stern (Tax) Peter Branson (Treasury)	Martin Repko (Finance) Erik Stockton (Accounting)
Intercompany agreements	Peter Merchant (Tax) Danielle Foster (Legal)	Martin Repko (Finance) Shirley Chan (Operations)
Sarbanes-Oxley compliance for transfer pricing	Jane Li (External Reporting) Carl Mikes (Internal Auditing)	Martin Repko (Finance) Carl Powell (Accounting)
Tax accounting	Sofie Ann (Tax) Tom Chow (External Reporting)	Martin Repko (Finance) Alexis Jensen (Accounting)

in or outside the central tax department know about specific transfer pricing-related matters. Obviously, speculations are possible based on the functional area or project that a particular MNE employee has been or is currently working on. For example a Transfer Pricing Manager may think that an R&D Manager has valuable insights about intercompany use of intangibles and can provide useful input to, for example, a royalty benchmarking analysis, although this may turn out not to be the case. Similarly, a Transfer Pricing Manager may wrongfully believe that any person working in the MNE legal function at headquarters can help set up intercompany agreements. Even within the central tax department, ambiguity can exist as to where relevant knowledge can be found. However, rather than rely on indirect, speculative and often ineffective approaches as to who knows what, an effective transfer pricing knowledge management system provides an explicit and frequently updated knowledge map about how specific transfer pricing knowledge is organized at different managerial levels.¹⁶ Such knowledge maps can be organized around, for example, a structural criterion (where the knowledge can be found), a substance criterion (what it relates to), or preferably a combination of the two. Figure 2 provides a simplified example of a transfer pricing knowledge map of the location of knowledge related to specific transfer pricing tasks for the US subsidiary of a UK-based MNE.

Notably, the concept of transfer pricing knowledge maps is presented in the context of how *internal* knowledge resources are organized; the map can certainly be expanded to also cover important *external* knowledge sources (e.g. the subsidiary’s external advisor and IRS contact person). Moreover, it can be scaled up or down in any dimension regarded as value adding and within the scope of available resources for maintaining and updat-

ing the knowledge map (e.g. title of employee, phone/e-mail, past work/transfer pricing experience, educational background, accessibility, quality of previous feed-back).

3.3. Transfer of transfer pricing knowledge

This section focuses on the issue of stimulating the transfer of transfer pricing-related data, information and knowledge to and from MNE employees involved in meeting transfer pricing objectives. The central tax department is obviously a functional centre of attention for this activity, as this department and its transfer pricing specialists in many cases serve as either the main provider or main receiver of this knowledge. However, as implied above, the nature of transfer pricing tasks makes knowledge transfer an issue that spans broadly in the organization, involving both other functional departments at headquarters (e.g. Management, Legal, Finance, Accounting, IT, R&D) and subsidiary levels. Hence, this section should be considered widely applicable to knowledge transfer between MNE employees involved in transfer pricing tasks, but with an emphasis on the central tax department and its transfer pricing specialists as the main facilitators of this activity. The following section outlines what are considered among the most important drivers for an MNE’s internal transfer of knowledge related to transfer pricing, and examples are presented to provide some context.¹⁷

3.3.1. Drivers of transfer pricing knowledge transfers

Resources. One of the most often stated reasons provided by MNEs for why transfer pricing knowledge transfer is less extensive than desired, is insufficient human resources and thus a lack of time for this activity. As knowledge transfer within the tax department or across MNE functions inevitably takes time, people short of this particular resource (such as busy in-house transfer pricing specialists or local finance managers) tend to keep this activity at a minimum. Generally, MNEs do not set aside time devoted

16. Some transfer pricing specialists in MNEs take somewhat random approaches to identifying useful knowledge from different types of MNE employees (e.g. as part of functional analyses). Such approaches often seem to be caused by the lack of a knowledge map or an equivalent guide for identifying MNE employees with useful knowledge related to transfer pricing.

17. Naturally these drivers should be considered in the context of stimulating creation and organization of transfer pricing knowledge as well.

strictly to the transfer of – sometimes highly complex – transfer pricing knowledge. This is not only a problem for day-to-day transfer pricing activities, but also for preparation of junior staff for future senior transfer pricing positions. MNE top managers (e.g. CEO, CFO) are responsible for ensuring that resources allocated to the MNE tax function are sufficient to solve critical tasks, including knowledge transfer and overall transfer pricing knowledge management system maintenance.¹⁸

Incentives. Assuming a relationship between incentives and human behaviour, an MNE seeking to stimulate the transfer of transfer pricing knowledge should develop proper incentives for such behaviour, as well as measure whether it occurs. Such incentives may take different forms, such as direct monetary incentives (bonuses or base salary raises) or non-monetary incentives, for example department or company-wide promotion and recognition. What is important is that MNEs reduce the relative weight on the frequently used output-focused, technocratic, easy-to-measure tax performance measures¹⁹ and introduce more measures to stimulate the scope and quality of the transfer of critical knowledge required to meet tax and transfer pricing objectives. “Participation in knowledge transfer activities” or “willingness to transfer knowledge to colleagues” are two of several performance measures MNEs should consider. The establishment of such subjective, qualitative measures to assess an individual or groups of employees involved in transfer pricing obviously requires careful consideration. One potential way forward could be to have tax department employees evaluate each other according to measures related to transfer pricing knowledge transfer activities.

With regard to stimulating the often difficult yet critical upward knowledge transfer (i.e. from subsidiaries to the central tax department transfer pricing specialists), making subsidiary staff aware of the formal transfer pricing strategy of the MNE – in particular when it holds the signature of the CFO, CEO and Chairman of the Board – can be effective, as well as direct CFO involvement. Conversely, as “knowledge is power”, MNE transfer pricing specialists should not base their requests for upward knowledge transfer solely on a kind request for subsidiary or operational staff to interact with them; such requests must be supplemented by more tangible, direct forces.

Personal characteristics. A number of personal characteristics contribute as drivers of the transfer of transfer pricing knowledge. Those considered the most critical are absorp-

tive capacity, communication skills, social capabilities and intrinsic motivation.

Absorptive capacity refers to the ability to recognize and absorb information, and subsequently apply this to specific business situations.²⁰ For an individual to absorb (i.e. receive) and use complex transfer pricing data, information and knowledge, transferred from a fellow MNE employee or obtained from an accounting information system or transfer pricing database, a certain minimum level of pre-established knowledge is usually required. This is often generated from a combination of education (whether provided externally or through formal in-house training)²¹ and practical experience. Notably, as a large fraction of transfer pricing knowledge is transferred by use of tech-based media, personal technological skills are crucial to ensure an acceptable degree of absorptive capacity and should be considered a critical part of employee training and educational programmes.

Communication skills relate to an individual’s ability to convey (i.e. send) knowledge in a way that makes it understandable to other individuals, provided that they hold a sufficient degree of absorptive capability. Obviously, only the explicit knowledge is subject to this, as the tacit knowledge – per definition – does not transfer through either oral or written forms of communication. As for the receiver, an individual’s ability to send knowledge can also depend on his or her ability to use technology as part of internal communication.

Social capabilities comprise an individual’s ability to establish and maintain social relations that are not necessarily visible or given from formal organizational diagrams. In practice, transfer pricing specialists in a central tax department are heavily reliant on their ability to establish relationships with individuals outside the tax department, such as operational MNE employees holding critical business-related knowledge for meeting transfer pricing objectives. Even *within* tax departments, the transfer of transfer pricing knowledge cannot be assumed to automatically take place merely because a formal social relationship exists. Instead, individuals in tax departments must develop and maintain such relationships on an ongoing basis within a central tax department as well, also because transfer pricing is significantly related to other tax-related topics (e.g. VAT and customs valuations). Social capabilities (such as the ability to make colleagues like you and share their knowledge with you) are critical to enhance this process.

Intrinsic motivation is the personal motivation that emerges when individuals are motivated from inside, i.e. by something different from the motivation derived from external factors such as formal incentives. For example MNE employees who find great joy in being involved in transfer pricing tasks, regardless of whether high-quality

18. It is rather surprising that the average total staff in tax departments has remained steady from the 2004-2005 Corporate Tax Department Survey, to the 2011-2012 Corporate Tax Department Survey, at 15, especially considering the tax authorities’ increase in resources devoted to the scrutiny of the transfer pricing practices of MNEs. Also, the 2011-2012 Corporate Tax Department Survey, at 18, reveals that 1 in 3 respondents either froze or reduced their tax department staff subsequent to the economic downturn in 2008, and that 24% reported an overall tax department budget decrease in the past three years prior to the survey response, at 21.

19. See e.g. the responses provided in the 2011-2012 Corporate Tax Department Survey, at 23. The top five measures used to evaluate tax departments are: lack of surprises (72%), results of audits (60%), compliance deadlines met (59%), cash taxes (57%) and effective tax rate (53%).

20. W.M. Cohen & D.A. Levinthal, *Absorptive Capacity: A New Perspective on Innovation and Learning*, Administrative Science Quarterly 35/1 (1990), at 128-152.

21. Unfortunately, 40% of the respondents in the 2011-2012 Corporate Tax Department Survey, at 72, reported that the economic downturn of 2008-2010 led to a decrease in training costs.

transfer pricing work leads to bonuses or other external rewards, are intrinsically motivated and more likely to proactively engage in interaction about transfer pricing with fellow MNE colleagues.

Culture. Culture can be seen as the norms, beliefs and social behaviours among a group of individuals. In order for transfer pricing knowledge transfers to be frequent, a tax department and its employees must establish a culture that builds on the individual and joint perception that the tax department is fundamentally a knowledge-driven function that individual behaviours should adapt to and act in accordance with. This means that collaboration and team-spirit ways of thinking among individuals are the tax departmental standard and are applied by individuals as a natural part of their job function.²² Conversely, the notion among specialized tax department employees (whether in, for example, transfer pricing, VAT, Tax Accounting, Customs valuations, M&A, Tax software) that their knowledge is unique and hence can serve to obtain a pay premium when kept from fellow colleagues, should be sought to be reduced by the Corporate Tax Director and/or CFO.

At the subsidiary level, sometimes one sees a lack of willingness to engage in transfer pricing knowledge transfer activities with a central tax department. This is often due to unclear immediate benefits (i.e. incentives) to local staff. The central tax department has an important job in making sure that a knowledge-sharing culture emerges throughout the MNE. Otherwise, the transfer pricing outputs from the tax department are likely going to suffer in quality. Different approaches can be used, and among the most successful ones identified in practice are frequent local site visits by the tax department's transfer pricing specialists. Specifically, these visits can serve as valuable opportunities for explaining to subsidiary and operational staff that they hold critical knowledge needed at the MNE headquarters-level for solving various transfer pricing tasks, and that they, therefore, must exhibit a holistic, group-oriented behaviour. For some MNEs, this might be a useful alternative or supplement to the more coercive approach mentioned above.

Technology. Various types of short-message internal communication software can be useful for instant knowledge transfer in addition to the options for video-based telephone conferences that serve as (cost) effective alternatives to physical site visits from the tax department. Moreover, the value of using more traditional software for transfer pricing knowledge transfers has been discovered in practice. One example is the development of slide shows combined with background audio speaking to convey transfer pricing knowledge about the MNE value chain to new tax department employees. While this approach can seem trivial, it is reported as highly effective for introducing new employees to the transfer pricing activities of an MNE. Conversely, other MNEs have had very limited success in believing that learning-by-doing supplemented with reading the MNE annual report and transfer pricing

master file will serve as an effective approach to transferring knowledge to new employees.

Physical work location. As MNE transfer pricing specialists are so dependent on other parts of the organization, their physical work location must be considered with great care. Specifically, as levels of communication (and hence knowledge transfer) tend to decrease with increase in physical distance, these specialists should prioritize being physically located near those MNE employees who hold knowledge related to current transfer pricing projects. For example a transfer pricing specialist working on a project with colleagues from the legal department on developing new intercompany agreements should literally go down the hall or to the building next door and sit with these people. Similarly, a transfer pricing specialist in charge of planning a new transfer pricing structure for a foreign subsidiary under restructuring should strongly consider relocating there for a period of time. The argument in both cases is simply that the transfer of knowledge can be expected to increase (in terms of both volume and quality) when individuals are not physically separated. Obviously, the cost of being absent from the central tax department must be taken into consideration but should not be overestimated.

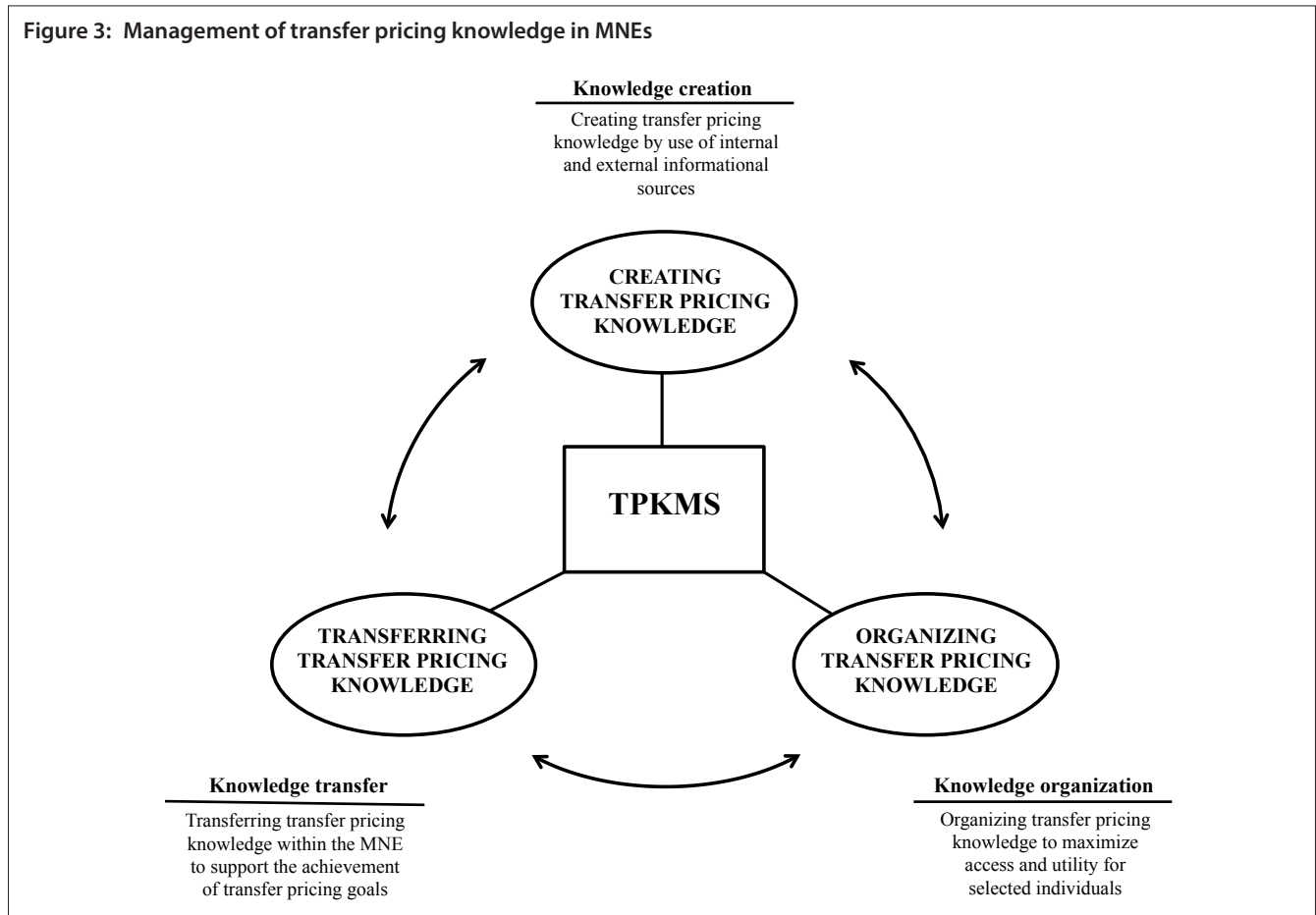
User feedback. In order for transfer pricing knowledge transfer to maintain a certain level of quality, users (i.e. individuals supplying and/or receiving transfer pricing knowledge within the MNE) should have not only the option but an obligation to provide feedback. This can be direct feedback to other users or it can be to a transfer pricing knowledge manager responsible for development and maintenance of a transfer pricing knowledge management system.

4. Conclusion

MNEs should start to assess more carefully the way they manage transfer pricing knowledge in order to achieve transfer pricing objectives. For this purpose, the three core building blocks of a transfer pricing knowledge management system have been considered here, and examples and ideas for practical applications were presented. In the authors' opinion, establishing and maintaining such a system is a fundamental and important exercise within a broader framework for transfer pricing risk management. Specifically, when properly designed and used, a transfer pricing knowledge management system can improve the efficiency of transfer pricing tasks within MNEs (e.g. total time and costs spent on setting prices and developing documentation), as well as limit the tax risk exposure related to transfer pricing audits (e.g. by improving the ability of MNEs to reconstruct data, information and knowledge related to historical transfer pricing practices). The illustration in Figure 3 provides a transfer pricing knowledge management system framework that MNEs can use as guidance for establishing or refining current knowledge management practices.

22. Formal mentoring programs on transfer pricing should be considered a critical part of developing a knowledge-sharing culture in MNEs.

Figure 3: Management of transfer pricing knowledge in MNEs



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