Knowledge is a sustainable advantage and using knowledge assets can increase value within an organization. Knowledge advantage—effectively capturing and using know-how and insights in a business environment—advocates effective knowledge management and fosters its continual growth as knowledge begins to flow. Flow, however, is often uneven throughout an organization. Recent research introduces a theoretical framework. It merges three research streams—knowledge flow theory, “need knowledge” generation, and critical success factors for enterprise resource planning (ERP) implementation—to examine knowledge flow dynamics in context. This case study research focuses on the procurement phase of the financial management information system (FMIS) component of a World Bank-financed project. This issue of Governance Notes presents key research findings on enabling need knowledge determinants and identifying conditions that obstruct knowledge flow as well as their implications for future FMIS initiatives and World Bank-financed projects.

THE CASE

FMIS systems are often the budget and treasury components of public financial operations that enable governments “to plan, execute, and monitor the budget by assisting in the prioritization, execution, and reporting of expenditures as well as the custodianship and reporting of revenues” (Dener, Watkins, and Dorotinsky 2011, 1). FMIS is often based on an ERP information system, which is a commercial off-the-shelf package of integrated business process-oriented software enabling an enterprise to manage the efficient and effective use of its resources (Nah, Lau, and Kuang 2001). The World Bank project’s core goal was to implement an ERP information system to support the finance ministry and the country’s public financial management (PFM) processes. These processes included budget planning, execution, and reporting to enhance efficiency, governance, integrity, and transparency within public resource management. The World Bank signed a $65 million loan agreement in December 2004. The project eventually spanned 12 years starting in 2003, when the initial concept of the project took root. The FMIS was officially launched in April 2015, and the project closed on December 31, 2015.

During the lengthy procurement period, doubts arose across the ranks in the finance ministry about whether a comprehensive system was appropriate. For example, the prevalent human-resource base was not yet capable of supporting system acquisition, nor of using it once implemented. Also, widespread concern arose about job security throughout the ministry’s directorate general of treasury, where the system was to be implemented. This unease could have led to project suspension and failure to implement the ERP system.

Based on experience from 55 completed and 32 ongoing FMIS implementation projects of the World Bank over 25 years, Dener et al. (2011) found that the total duration of completed projects was 7.9 years on average, ranging from 3.6 years in Afghanistan to 13.4 years in Malawi. Duration of the preparation phase (preloan signing) for the 87 implementations averaged 16 months; 6 months for the effectiveness period from loan signing to disbursement of loan fund; and 2.2 years for the procurement of FMISs among completed projects. The procurement of the FMIS under study took 4.5 years (Lo 2018).

ENABLING NEED KNOWLEDGE DETERMINANTS

The case study focuses on the procurement phase of the FMIS where need knowledge is a priority. Kaiser, Fordin, and Kragulj (2014) define need knowledge as the required knowledge to maintain an individual’s well-being and an organization’s sustainable existence. Gaining procurement knowledge would facilitate and accelerate the acquisition of the FMIS needed to improve the efficiency and effectiveness of the finance ministry’s PFM. The desired knowledge flow for the ministry would inevitably be for procurement knowledge to flow quickly, directly, and with high power.

The case study uses three sources of evidence: project-related documentation (semiannual progress reports, a mid-term evaluation, and monitoring mission reports), internal archival records (emails, formal correspondence, legal documents, and minutes of meetings), and open-ended interviews of five stakeholder groups (top management, information systems department, project team, organization, and vendor). Data collected indicated three types of need
knowledge: procurement, ERP, and authorizing. Procurement knowledge includes the mechanical procurement process itself (tacit) and the associated written procedures and guidelines (explicit) that direct the process.

The project team stakeholder group that executed and fulfilled the procurement process gained procurement knowledge through training. It was insufficient for fulfilling the procurement process, and by extension, did not complete the knowledge flow loop. ERP knowledge was also critical in assessing the technical aspect of the bids submitted. The project team stakeholder group did not have ERP knowledge, nor could it be quickly trained to fulfill the procurement process. ERP knowledge was needed to understand what was being procured and to assess the responsiveness of bidders against the system’s technical specifications and functional requirements stated in bid documents. The vendor stakeholder group, represented by the independent verification and validation (IVV) consultancy team, and the information system department stakeholder group, provided this type of need knowledge.

Throughout the procurement stage, two pivotal occasions arose when the flow of knowledge was stalled and only advanced when (i) the finance minister called for a review to assure compliance prior to progressing to the second stage of the procurement process; and (ii) when the finance minister requested an assessment of the continued relevance of the ERP system being procured. Findings from the compliance review and ERP system assessment rendered a third type of need knowledge to authorize advancement of knowledge flow. Top management, under consultation with the organization stakeholder group, possessed the authorizing need knowledge.

These three types of need knowledge can be extended and generalized into the concept of three need knowledge determinants—intrinsic, extrinsic, and catalytic—that enable knowledge flow advancement. For this case study, procurement was considered intrinsic need knowledge—basic, general, procedural, how-to, and domain-based knowledge—without which no procurement process could emerge. Extrinsic need knowledge refers to technical and subject matter or industry-specific knowledge, such as ERP-related knowledge for this case study. All processes in an organization require some subject matter or industry-specific knowledge. Catalytic need knowledge is the authorizing environment to advance knowledge flow to the next point in space or time. Without the catalytic knowledge to authorize advancement of the procurement process, the procurement knowledge loop is incomplete. In sum, the data suggest that different stakeholder groups possessed different types of need knowledge, and the presence of all three types of need knowledge at the right time determined the forward movement of the knowledge flow. Figure 1 depicts the three need knowledge determinants.

**Figure 1. Enabling Need Knowledge Determinants**

**Figure 2. Obstructing Conditions for Knowledge Flow**

Factors that obstruct the flow of need knowledge correspond to the causes for procurement delays. The government’s first progress report in March 2006 stated “insufficient training on and understanding of procurement” was one of the main reasons for slow progress. One measure suggested within the report was “providing adequate training for team members to carry out their responsibilities.” Without sufficient training, staff could not perform their duties, which contributed to their resistance in doing the work. Lack of procurement training or inadequate training was consistently mentioned in the first four of the government’s progress reports and echoed by all stakeholder groups. Being unable to perform a knowledge-based action (i.e., procurement) resulted in resisting the action (see figure 2).
A member of the project team stakeholder group pointed out experiencing "not a lot of support from outside of the directorate general of treasury" and that within the directorate general, only the director general and a few involved in the planning and design of the project were supportive. One project team member prefaced the interview with the statement that the government had a certain unwillingness to adopt a ready-made ERP system, with some officials considering a custom-built approach. The third government’s progress report, dated April 2007, stated the IVV team “highlighted that it would be too risky to undertake in-house development due to limited IT capability within the ministry.” Representatives of the information system department stakeholder group stated that even the directorate general of treasury, where the FMIS was to be hosted, had strong opposition to the project. One senior official opposed the approach because an ongoing initiative to transform the operations of the branch offices of the directorate general might conflict with the new system.

Another perspective on the unwillingness to embrace the FMIS came from a project team member who described a reluctance to change within the directorate general. Some believed “everything was good already and rejected new things automatically.” The government’s third progress also noted, “At the level of [project implementation units], one cannot expect middle management and staff to align their interests automatically with a project espousing transparency, control, and accountability, or one that promises automation efficiency gains that could be perceived as a threat to jobs.” This “not willing” sentiment can be seen as rooted in certain self-interests to resist gaining new knowledge, which in turn adds another cause for the resistance condition in the logic model for knowledge flow obstructions portrayed in figure 2.

The government’s March 2006 report cited “inadequate human resources and full-time staff” as another reason for slow progress. The need for dedicated full-time staff to work on the project was mentioned as a recommendation in the World Bank’s first aide memoire based on the supervision mission conducted in June 2006. The lack of dedicated staff to implement the project was due partly to the ongoing ministerial organisational restructuring discussed in the third report. The fourth aide memoire for the mission during February and March 2007 also stated, “While new structural unit was established that afforded full-time staff, existing counterpart team members might not be reappointed to the new structural unit.” The fallout over reassignment was that those trained might not be able to use their newly gained knowledge, and a new set of project team members would need to be trained. Dedicated resources were lacking throughout the project’s procurement phase, and the structural unit was not in place until after the FMIS implementation contract was signed. The lack of resources contributed to the peripatetic workforce as another condition in knowledge flow obstructions (figure 2).

At a project steering committee meeting conducted during the reporting period, the government’s first progress report in March 2006 stated the minister would “take a lead in ensuring successful implementation of the [project].” The FMIS was to be implemented at the directorate general of treasury even though the system would have supported the entire ministry. One project team member pointed out that the ongoing reorganization of the ministry entailed the splitting of one unit into two—the directorate general of treasury and the directorate general of budget—and with the split, “officials who were previously involved in project preparation were reassigned.”

The information system department stakeholder group noted that officials of the directorate general of budget were “dissenting groups.” This ownership sentiment extended across the organization, observed by the top-management stakeholder group, which said there was no “public awareness campaign” to inform those outside the main implementing unit. Part of this awareness campaign was designed to be addressed by the change management and communications consultancy to be procured by the government as stipulated in the project appraisal document. Almost all aide memoires listed the procurement of this consultancy as a priority. It was to be in place at the start of the project before the FMIS implementation consultancy contract was signed, but instead it was put in place after it was signed.

The sixth government’s progress report, dated November 2008, stated the “change management consultancy was not considered to be urgent till January 2010 when the FMIS was to be piloted.” One member of the top-management stakeholder group said support was “not so good … better in the third year” and improving support of stakeholders would empower the community of the finance ministry. The result was most people across the ministry did not know much about the project. As summed up by a member of the project team stakeholder group, not all units knew the purpose of the FMIS. “Not knowing” its purpose lies behind the “lack of support” for the project as a whole. These two interrelated but distinct factors contribute to one of the conditions behind knowledge flow obstruction—organizational ownership (figure 2), or rather the lack of it in this case.

Using the logic model of data analysis described by Yin (2014), and triangulating data collected, figure 2 depicts five factors that lay the foundation for obstructing knowledge flow—not able, not willing, lack of resources, not knowing, and lack of support. They are the basic or raw elements that contribute to the three conditions for knowledge flow obstructions—resistance, peripatetic workforce, and organizational ownership—together led to procurement delays and resulted in knowledge flow obstructions.


LEARNING FROM THE FUTURE

This case study proposes three need knowledge determinants—intrinsic, extrinsic, and catalytic—that enable knowledge flow, and three obstructing conditions—resistance, peripatetic workforce, and organizational ownership—that hinder knowledge flow. The research further postulates that the three need knowledge determinants and the three obstructing conditions are key ingredients in knowledge flow dynamics. Given the lengthy procurements of most of its projects, the World Bank could explore elevating procurement as a profession for its client governments, not unlike the audit profession discussed by Nguyen and Kohda (2017). They introduced a model of wisdom determinants that encompass the epistemic virtue, ethical virtue, and enabling virtue required in wise decision making. A procurement evaluation process could be considered to explore the role of wisdom in judgment during the procurement evaluation process and could potentially alleviate obstructing conditions. Kaiser (2017) introduced the theory wave for the development of sustainable visions that addressed current as well as future human needs. Incorporating envisioning or learning from the future could be considered as a prerequisite for any major FMIS projects and could contribute to more sustainable impactful initiatives for the World Bank’s client countries.

REFERENCES


