

KNOWLEDGE PACK

Procurement



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PROCUREMENT

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Introduction

What is a KP?

Knowledge Packages (KPs) are short, pragmatic guides on individual topics within EdTech, meant to provide sufficient knowledge and understanding so that non-technical stakeholders can make key planning, design, and procurement decisions for education.

They can be used as a starting point for the planning of technology deployment to improve education, especially with education ministries.

About this KP

The main objective of this Knowledge pack is to provide World Bank teams (and ICT and procurement specialists in the team) and implementing agencies with information on procurement procedures to enable them to acquire EdTech solutions (software, devices, infrastructure and content) in a cost-efficient and smart manner.

The main goals of this KP are:

Review issues on procurement of technology for education that present a challenge to staff and clients

- Highlight considerations on options for EdTech procurement
- Recommend when to use various procurement procedures
- Recommendations for how to integrate procurement into strategic and operational dialogue

WHO are the main stakeholders ?



KPs are designed with a **human-centered vision**.

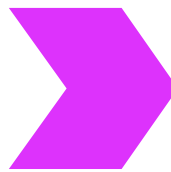
This knowledge pack is meant to provide sufficient knowledge and understanding so that a non-technical stakeholder can make key procurement decisions about infrastructure (software, hardware, cloud, devices, connectivity, content) in Education.

Task Team Leaders (TTL's) & Bank Project Managers
(non-technical)

MOE Leadership
(non-technical)
PIU/PMU

Bank procurement colleagues
(semi-technical)

Donors, NGOs and Other Partners
(non-technical)



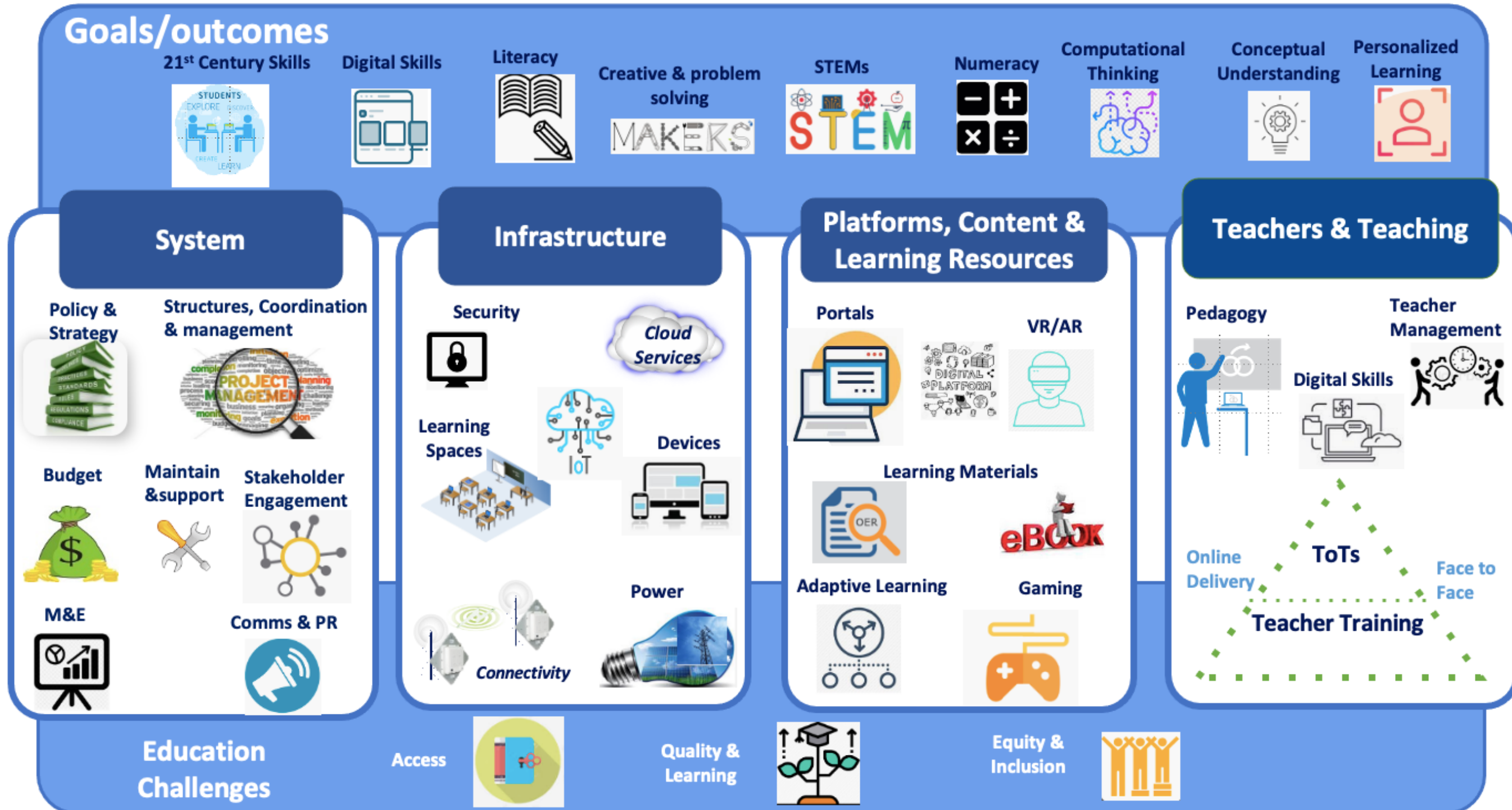
RESPONSIBILITY

- Assist MOE leadership in the application of KP's for in-country EdTech programs. Help understand the different types of procurement options for elements of infrastructure.
- Use KP to make key planning, design, and procurement decisions for in-country EdTech programs.
- Use KP to review considerations in procurement of different components in in-country EdTech programs.
- Use KP to align with Bank EdTech programs and establish a common EdTech framework.



is this KP designed ?

THE COMPLEX WORLD OF EDTECH



WHY is this KP designed ?

USE CASES

Include your use case scenarios in your bid/ Request for Proposal documents. By defining a use cases, you will help potential suppliers align with you and propose solutions that are fit for purpose.



Management & Administration (Teachers & Admin focus)

- General School administration
- Entering, storing, processing EMIS EMIS / SIS data (Enrolment, Attendance, grades)
- Analyzing data for Insight-Driven Decisions including tracking key metrics
- Finance, budgeting & procurement (ERP)
- Communication with stakeholders (email, SMS, etc)



Teaching (Teachers focus)

- Professional Development- teacher take online classes, connect with other teachers for professional development
- Lesson Preparation or using Scripted Lesson Plans
- Communicating with other teachers, parents, students & education leaders
- Research, finding and accessing suitable digital content
- Displaying digital content in the classroom to support instruction
- Taking attendance and entering grades
- Managing and delivering remote lessons



Learning (Students focus)

- Accessing digital content resources at school & at home inc. e-books, interactive content etc
- Students engage in adaptive & personalized learning inc. self-paced, remediation
- Students engage in remote learning/ flexible/ blended learning
- Computer/ digital based assessment
- Supporting 21st century skills development- information, problem solving, communicating & collaboration inc. supporting pedagogies like flipped classrooms, discovery learning, problem base learning etc



are the potential solutions?

STRUCTURE OF SOLUTIONS

KEY CONSIDERATIONS FOR EDTECH PROCUREMENT

The World Bank Procurement Process has several steps. This Knowledge Pack focuses on the first step- developing a Procurement Strategy. Within this step, the KP focuses on defining requirements and developing appropriate evaluation criteria. For more information on World Bank Procurement Process, please see [A beginner's guide for Borrower: Procurement under World Bank Investment Project Financing](#).



Figure III – Summary of the procurement process

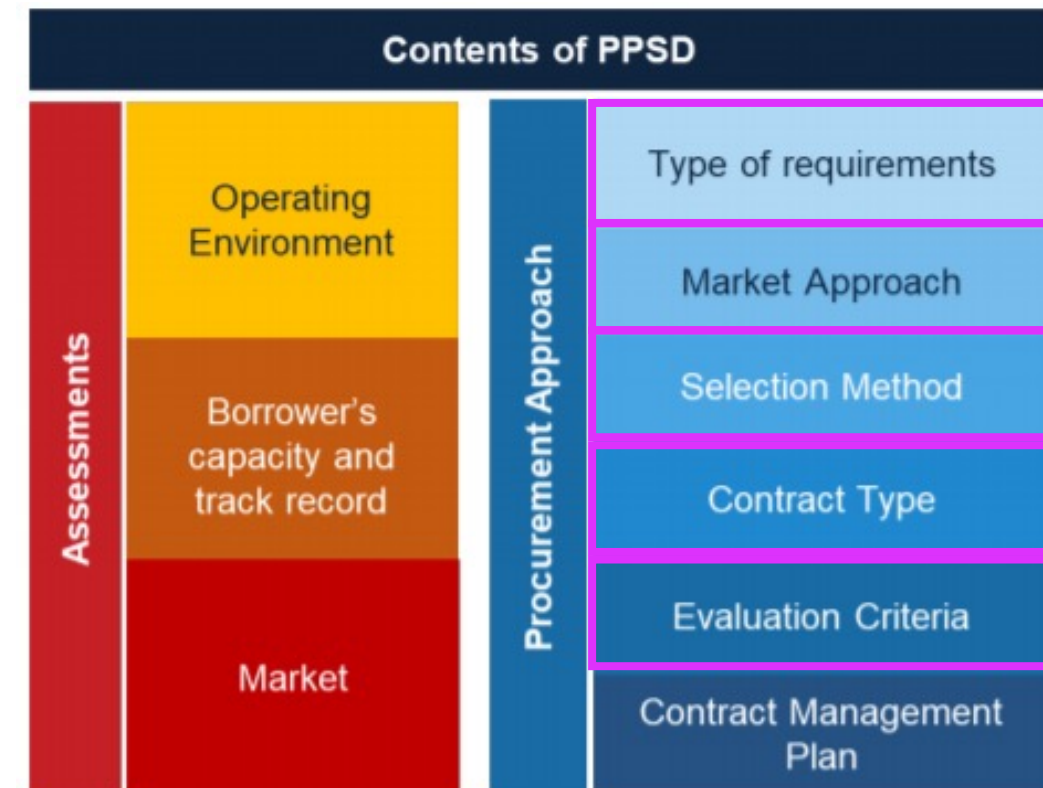


Figure IV - Contents of a PPSD

= In the scope



are the potential solutions?

STRUCTURE OF SOLUTIONS

DIFFERENT PROCUREMENT METHODS

Request for Bid (RFB) is common for initial investment.

- Request for Bids – Goods
- Request for Bids - Information Systems (Single Stage)

Request for Proposals (RFP): Procurement allows for Initial selection now. The Initial Selection document & Request for Proposals - Information Systems should be used for single responsibility and complex procurements.

Request For Quotations (RFQ) may be necessary for start up activities, to fill gaps, for specialized tools, and minor purchase updates.

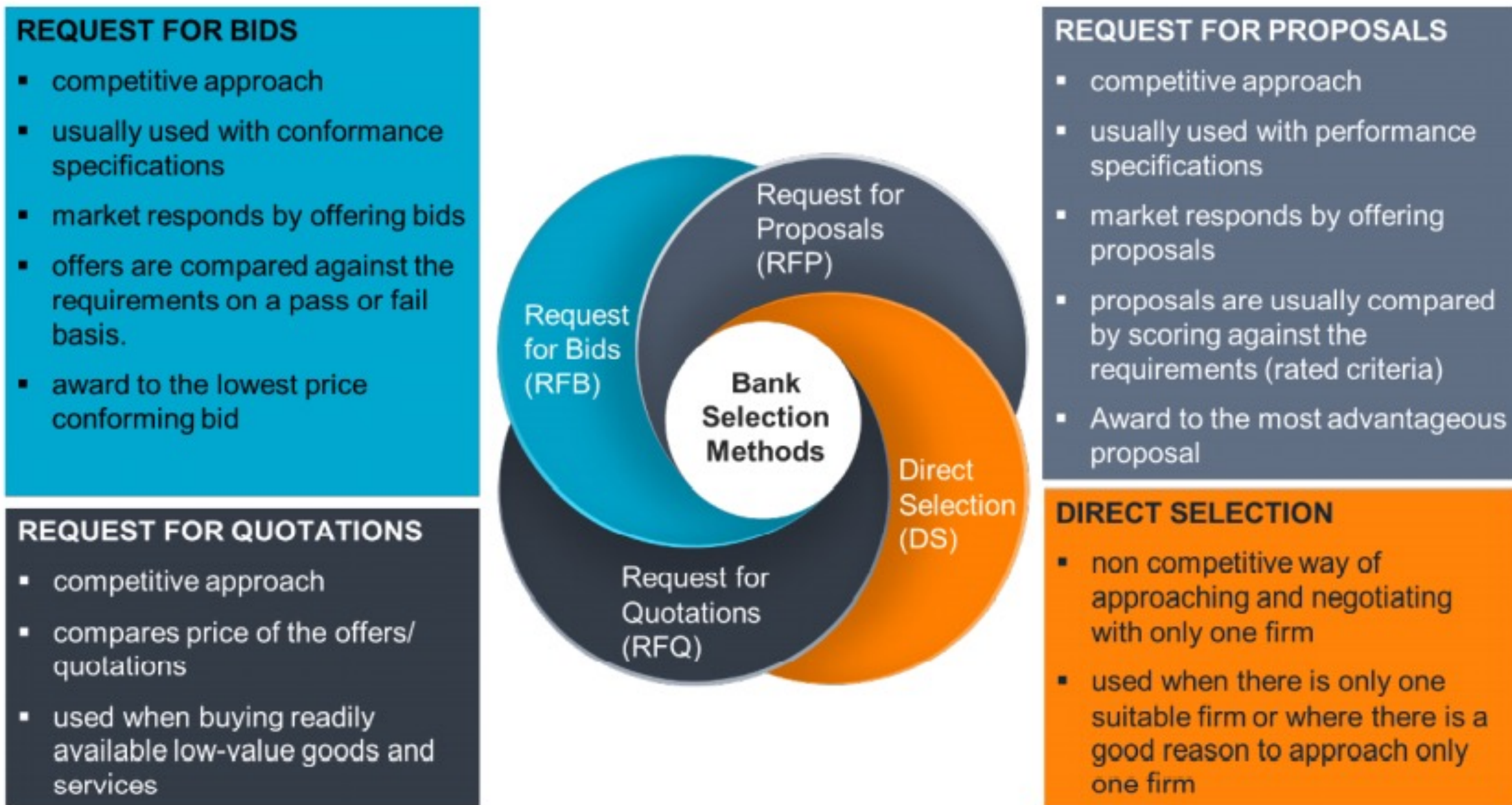
Direct Selection (DS). Pre-qualification for exceptional very specialized cases critical for project implementation. No standard pre-qualification document is available.

TIP: The two stages take too much time and the demonstrations and evaluations are too complex for most clients. The recommendation is it would be better for the client to do a market analysis upfront and then use RFB.

WHAT are the potential solutions?

STRUCTURE OF SOLUTIONS

DIFFERENT BANK SELECTION METHODS



WHAT are the potential solutions?

STRUCTURE OF SOLUTIONS

PROCUREMENT DOCUMENTS TO BE USED FOR DIFFERENT EDTECH SCENARIOS

Standard procurement document		Nature of Procurement	EdTech	
#	Name of SPD	Document		
1	Goods 1 envelope process	RFB	Single-stage single envelope procurement is most appropriate when the specifications and requirements are sufficient to enable submissions of complete Bids	Most IT Goods and off-the-shelf software, Connectivity (Network Operating Centre)
2	Goods 2 envelope process	RFB	Single stage two envelope bidding procedure shall be used where there is variability of technical options	ERP with variability of options with some customization
3	Non-consulting services 1 envelope process	RFB	Single-stage single envelope procurement is most appropriate when the specifications and requirements are sufficient to enable submissions of complete Bids	Off-the-shelf cloud subscription services, quantitative analysis to inform development of software, subscriptions (e.g. plagiarism detection software)
4	Information Systems	RFB	RFB process is appropriate for IS procurements when the Purchaser has sufficient technical capacity to specify the design works in the Technical Requirements	ERP with variability of options with substantive customization, Learning Management System, Establishment of Smart Classrooms in Universities and Affiliated Colleges
5	Information Systems RFP Model with Initial Selection	RFP	In contrast, the two-stage Bidding process or the Request for Proposals are appropriate when the Purchaser is more confident in concentrating on specifying its functional and system performance – and let Bidders offer engineering solutions to those requirements.	Complex applications, a system requiring extensive software development, Student Lifecycle Solution involving interuniversity and education regulatory bodies interface/integration

WHAT are the potential solutions?

STRUCTURE OF SOLUTIONS

PROCUREMENT TYPES FOR VARIOUS EDTECH SOLUTIONS

The market is evolving to procure “as-a-service” rather than making capital investments (eg cloud infrastructure as a service, Software as a service).

As of December 2021, TTLs will still have to use existing procurement documents for procuring cloud.

EdTech Solution	World Bank Procurement document
Software (ERP, Student Life cycle)	RFB with well-defined requirements or RFP (2 stage) unknown requirements
Devices	RFQ (Goods Procurement)
Connectivity	RFQ (Goods Procurement)
Learning Management System	Depending on the scale RFQ for off-the-self or RFB for more complex systems
Hardware	RFQ for (laptops, desktops, printers and simple servers) or RFB for (Data Center and Backup Center)

WHAT are the potential solutions?

MARKET

MARKET ENGAGEMENT



WHAT - Way of discussing the Borrower's requirements with a marketplace and the suppliers it contains



WHY - Useful if there is a need to create a market or increase supplier participation because of a lack of market interest, especially where there is an incumbent supplier, or the requirement is novel.



HOW - Concept viability exercises, supplier questionnaires, market sounding exercises, supplier conferences, trade events, paid for market research, and publication of outline procurement strategies for consultation.



OUTPUT - Develop a procurement approach that manages risk in the right way for everyone, is overall more attractive to the marketplace, generates greater competition, and ultimately maximizes the opportunities to meet the Borrower's PDOs.



are the potential solutions?

MARKET

WHAT IS MARKET ANALYSIS AND WHY IS IT IMPORTANT?

1. It will ensure that contract lots are designed to align with the target market;
2. Supplier awareness, engagement, and opinion will lead to increased confidence around the procurement approach being followed and encourage a competitive bid;
3. Insight will be gained into market possibilities and potential innovative solutions;
4. A better understanding of risk at an earlier stage of the Project cycle will ensure the selected procurement approach is designed to manage or mitigate identified risks; and
5. There will be a better understanding of where a Project's requirements fit into the market place, the market place's capability of meeting those requirements and how the requirements could either be shaped to fit the market place or how the market place needs to be shaped to meet the requirements.

WHAT are the potential solutions?

MARKET

WHAT IS THE MARKET ANALYSIS SCOPE?

- Identify the type of market;
- Describe the nature of competition and how it really works;
- Establish supply market capability;
- Estimate the total and available supply market capacity;
- Know the factors influencing the market, and how they may affect bidder participation;
- Understand how factors influencing the market may drive change and the impact of this change;
- Know who the key suppliers are and their plans for the future;
- Identify costs associated with the supply of goods, services and works;
- Identify pricing methods the suppliers use in this market;
- Establish pricing trends in terms of actual prices and pricing methods;
- Understand current best practice pricing methods and the availability of cost and price benchmarks;
- Identify risk associated with a market and describe how the risk should be managed.

WHAT are the potential solutions?

MARKET

WHAT IS THE MARKET ANALYSIS SCOPE?

- Engage early and widely with the marketplace and suppliers to give them an opportunity to shape the requirement;
- Work with all suppliers on an equal basis to ensure openness of access to staff and information;
- Establish good communication channels and keep potential bidders informed;
- Maintain genuine competition throughout the process — do not leave bidders in the competition if you do not believe they are capable of winning;
- Be transparent about the procedures and top-level criteria for evaluation of bids;
- Maintain the commercial confidentiality of information received from suppliers;
- Be willing to consider commissioning pilots, paid studies, Proof of Concept exercises;
- Design and Build exercises, etc.;
- Be open to novel approaches;
- Focus on the desired outcomes;
- Be willing to reconsider the requirement and scope, and the packaging of the requirement for procurement;
- Be willing to consider a range of commercial/contractual options (e.g. multiple suppliers, geographical split);
- Consider what the position will be in the event of future rebidding — frame the requirement in a way that will help to avoid lock-in of the supplier.



are the potential solutions?

CHALLENGES

MAIN ICT PROCUREMENT PROBLEMS TO FACE

Main problems with ICT procurement in Education projects

- Cost Estimates
- Definition of requirements and specifications
- Choice of procurement approach
- Change requests for software development not documented
- Inappropriate Evaluation Criteria
- Difference between mandatory / preferred (desirable) / optional requirements
- Readiness for implementation not appropriately considered
- Underestimation of 'change management' task

Main problems clients have with ICT procurement

- They do not know enough about what they want, and are being pitched the solutions by suppliers before adequately capturing the problem
- The market is changing very rapidly
- It is very difficult to prepare to fairly evaluate and compare complex proposals
- It is difficult to estimate costs for these procurements

HOW to implement next steps ?

DEPLOYMENT PROCESS

START WITH CRITICAL QUESTIONS THAT WILL LEAD TO SOLUTIONS

TTLs can ask useful questions to help that conversation along

- What are the capacities of the client to deal with the ICT being procured?
- What does the market offer (does it have to be national or international)?
- Will it require international experts to help with implementation?
- How can the team ensure that the solution being procured is in fact the best fit?

Explore the possibility of using two-stage RFP or competitive dialogue to procure complex systems which would not list thousands of requirements and specifications in the bidding documents but rather the functional requirements for solving the problem. It is then up to the market (bidders) to suggest appropriate solutions which may be of innovative nature. To this end, innovations would be promoted through such approaches.

HOW to implement next steps ?

DEPLOYMENT PROCESS

DEFINE THE ICT REQUIREMENT IN YOUR EDUCATION PROJECT

- General studies (BPR, IT strategy, establishing the linkage with project goals, establishing priorities, approach) – upfront to have an ICT in education strategy
- Design studies (user requirements, functional specifications, designs, “blueprints”)
- Application software customization/ development – student life cycle, ERP, learning management systems
- Hardware and standard software delivery – eg tablets, literacy apps
- Project management (often a complex task)
- Training (users, teachers, technical staff)
- Other services (e.g., digitization, data conversion,) – data conversion from legacy applications

HOW to implement next steps ?

DEPLOYMENT PROCESS

PROCUREMENT OF INFORMATION SYSTEMS – LMS, ERP, EMIS, SLCS

Procurement can be for design, development, implementation or any combination thereof:

1. Design – should be done through Consulting Services.
2. Design and Supervision of implementation – should be done through Consulting Services or as RFB Technical (Nonconsultant's) Services – internationally.
3. Supervision of implementation – should be done through RFB or as Technical (Non-consultant's) Services – internationally.
4. Development (a single nonproduction) system – should

be done as RFB with well-defined requirements or RFP with undefined requirements – internationally.

5. Development and Implementation – should be done as RFB with well-defined requirements or RFP with undefined requirements – internationally.
6. Design, Development and Implementation – should be done as RFB with well-defined requirements or RFP with undefined requirements – internationally.
7. Implementation and Roll-out – should be done as RFB with well-defined requirements or RFP with undefined requirements – internationally.

8. Implementation – should be done as ICB.

Please note (especially for complex systems):

Carefully consider whether requirements are indicated as “mandatory” or “preferred” / “recommended”. This applies also to the words “must/shall” and “should”.

Be aware that if a single mandatory/must criterion is not fulfilled the Bid should be rejected! Therefore careful use of language should be employed as there are rarely any ‘perfect Bids’.

This is also important in case a technical merit point system is employed. No points should be awarded for the fulfillment of mandatory criteria.

HOW to implement next steps ?

DEPLOYMENT PROCESS

SOFTWARE PROCUREMENT CONSIDERATIONS

- New systems must allow interoperability or interchange of information.
 - New systems must allow potential systems integration and process integration with external systems (internal government and external private sector integration).
 - Wherever feasible, new systems must be cloud ready, cloud aware, and cloud optimized.
 - New systems should have appropriate security including authentication, authorization, need-to-know, and data classification standards / policies.
 - New systems should be portable
- it is important that clients avoid proprietary systems, the client must be able to switch platforms or vendors if needed for any reason (e.g., performance, out of business, mergers/acquisitions/transfers).
 - The solution is for the client - actual approach needs to fit the situation and should also reflect client's competence and capabilities.



to implement next steps ?

WHEN TO USE RFQ, RFB AND RFP

WHEN SHOULD YOU USE REQUEST FOR QUOTATIONS (RFQ) AND REQUEST FOR BID (RFB)

Request for Quotations (RFQ)

The RFQ may be used as an alternative when the procurement package is:

- Only off-the-shelf IT and is small in value – in line with thresholds defined in the loan agreement or procurement plan and can be handled by simple payment on Delivery (in any case max US\$100,000);
- Only incidental services are delivery and installation;

Example – purchase of tablets

Request for Bid (RFB) for Goods

- For ready-made equipment and materials, pre-installed software packages and consumables only.
- Package contains only incidental services, such as installation, LAN, standard training, etc. (15% of total contract value).
- Contract can be fully implemented in at most 6 months.
- Recurrent costs comprise only the standard warranties and software licenses, up to 3 years.
- In other words, the procurement package resembles a typical Goods procurement.



to implement next steps ?

WHEN TO USE RFQ, RFB AND RFP

WHEN SHOULD YOU USE REQUEST FOR PROPOSAL (RFP) 1/2

Consulting Services

- Typically for information system project management support, development of ICT strategies, user requirements, functional specifications, design of application software, and the assembly of ICT bidding documents.
- For implementation: When the content comprises almost only services (e.g., design and development of an application system), and usually for pilot applications.
- The size of the task is within the grasp of typical consultant or software engineering firms.
- The hardware and packaged software

content should be minimal, e.g., less than 20% of the estimated contract value.

- Requires special customization to the standard contract (for intellectual property rights, support/warranty, testing and acceptance, and appropriate payment clauses).

Purchaser assumes higher risk. Provides good scope for the use of competent local firms.

Information Systems – Single stage

- Especially if procurement package combines critical Goods and Services elements.
- Sophisticated hardware requiring an informed performance comparison

and special training requirements.

- A dominating value of the software packages.
- Extra installation and support requirements for the software packages.
- Software design, large-scale adaptation and/or development.
- Requirements for the supplier to continue to operate the equipment after installation.
- For contracts requiring pricing for both investment & recurrent costs (life-cycle).

Use as default for Information Systems.

HOW to implement next steps ?

WHEN TO USE RFQ, RFB AND RFP

WHEN SHOULD YOU USE REQUEST FOR PROPOSAL (RFP) 2/2

Information Systems – 2 Stage

- When it is unclear whether full solutions are available from potential bidders.
- When the submission of technical alternatives is actively encouraged.
- When it is important to gain confidence via the bidding process about acceptable and desirable solutions.
- Includes the possibility to test proposed solutions prior to contracting.

Requires more time than single-stage.

HOW to implement next steps ?

WARRANTIES AND SERVICE LEVEL AGREEMENT (SLA)

It is very important to ensure that you take into account the total cost of ownership when procuring a software, hardware, device or even content.

Ensure that appropriate attention is paid to warranties/SLAs in procurement documents.

Annex provides specific examples of warranty and SLA clauses

Conclusion

Key takeaways 1/2

Key takeaways for Bank Staff – operational and procurement

- Treat procurement as strategic activity
- Ed-Tech/ICT team member should be budgeted for life of project
- Procurement and ICT work together
- Think Total cost of ownership (in bidding documents)
- Focus on functional requirements/ Market proposes innovation
- Do approach other practices such as Digital Development
- Review sample requests for proposals (RFPs)

Contract planning

- Agree on resources provided by Borrower/Beneficiary
 - if there is an element of investment then more likely to lead to feeling of ownership;
- Fully consider component sustainability
 - ensure that end-users are involved from the beginning of system design;
 - encourage end users to actively participate at all stages to ensure ownership;
 - ensure system requirements are defined by users and not “techies”
- Agree on implementation and acceptance methodology
 - “you wouldn’t buy a car without a test drive....”

General Recommendations

- It would help teams to consider procurement as a strategic function and not as an activity
- Ask Why: Before procuring learning technology it is important to first identify the teaching and learning needs. Ensure that procurement documents include the context for the procurement (why) rather than just a list of equipment
- Decisions on type of documents to be used; (RFP vs RFB, single stage vs two stage, single envelope)
- Use of Standard Bidding Documents (SBDs) to match client capacity and the actual task
- Appropriate introduction of technology matched with agreed strategies

Conclusion

Key takeaways 2/2

Use of ICT specialist/EdTech

- Ensure adequate specialist (not generalist) with ICT skills is involved early in project design and it is important that the specialist be budgeted to stay involved in through project cycle.
- The EdTech specialist can help with the needs assessment and definition of technical and business requirements and assessment of market situation.
- Effective collaboration between the technical and procurement specialists to assist with Bidding process.
- It is important that total cost of ownership be taken into account – there needs to be a proper consideration of contracting conditions (maintenance, warranty etc.).
- The EdTech Specialist can also assist with supervision (contract

implementation).

- It is important to remember the solution is supposed to help in “operations” and must be owned by the Client.
- Please reach out to appropriate practices for consultations (eg Digital Development for connectivity).
- Technical aspects can be handled by EdTech experts, procurement aspects should be handled by Procurement experts!

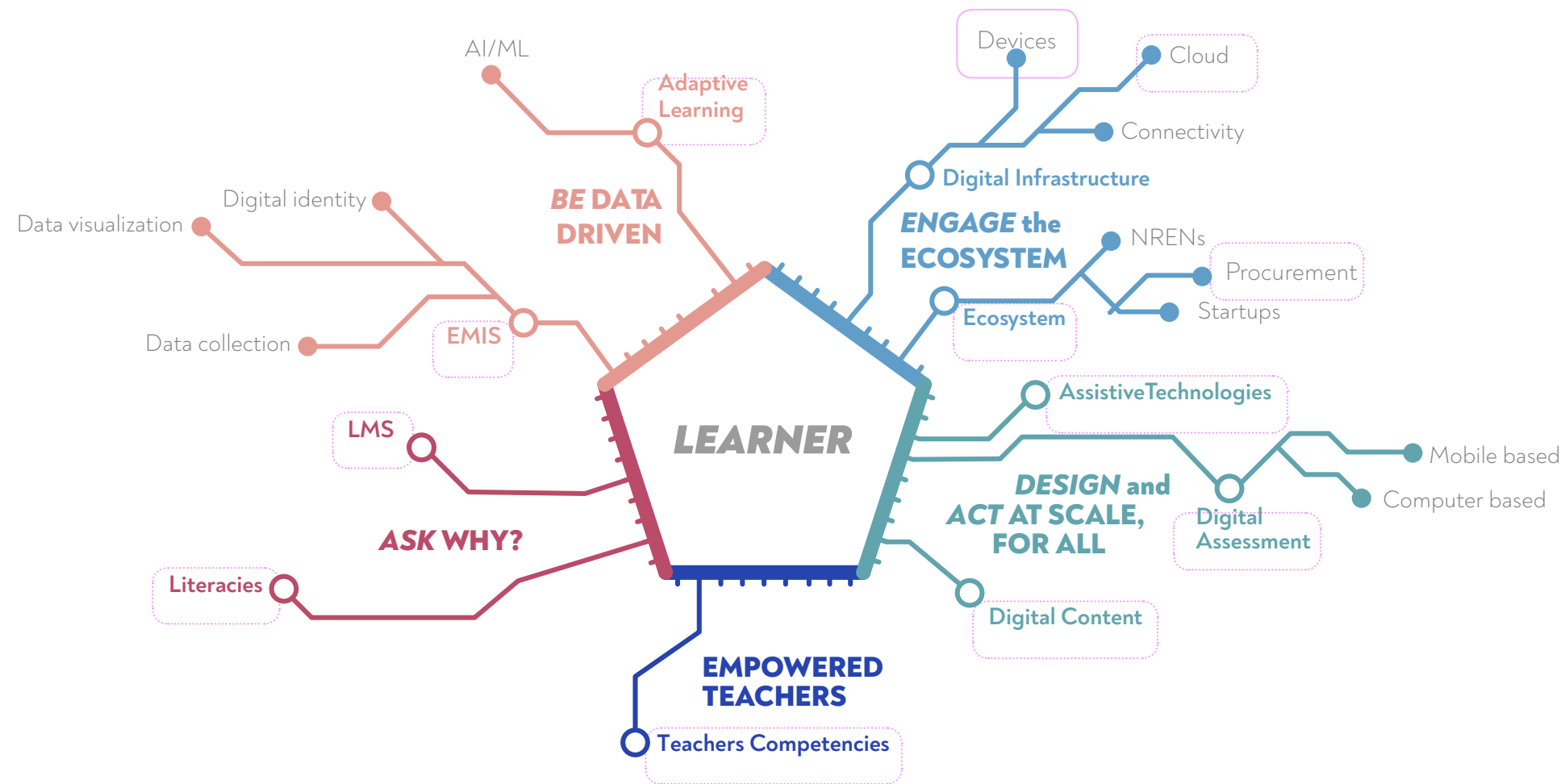
Key takeaways for clients

- Market analysis/market assessment/market outreach is an essential first step.
- Keep it simple and manageable.
- Don't use qualification criteria, e.g. long-year experience with large annual turnovers, to kill the participation of innovative firms.
- Let the market suggest solutions

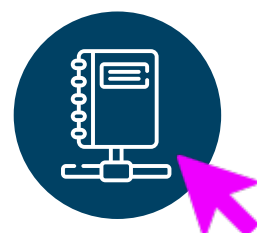
in response to functional requirements and output-based deliverables rather than detailed stringent technical specifications.

- Don't try to re-invent the wheel when off-the-shelf applications are available.
- Consider cloud-based solutions and build the needed skills to manage service-level contracts rather than investing in your own datacenter and building a fleet of IT experts who will leave to the private sector sooner or later.
- Have a good exit strategy in place in order not to lock yourself in with one supplier.
- In particular for software application development/customization: document any change request in writing
- Use standards in your requirements

To go further CLOUD OF KPs



OTHER EXISTING RELATED KPs



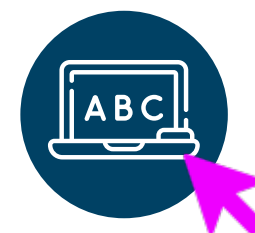
EMIS 2.0



LMS



Cloud



Devices

RELATED SOURCES



For further resources refer to the [Annexes](#)

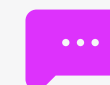
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Annexes

CREDITS

- Material has been drawn mostly from the following: World Bank publications and conversations with several colleagues
- World Bank Procurement Site
- National Institute of Standards and Technology
- Australian government's best practice documents
- UK government
- New Zealand Government
- WWW
- World Bank staff and other colleagues
- EdTech team and Infrastructure KP colleagues
- Education blogs on World Bank website



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