

Procurement for medical counter measures

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COUNCIL *on*
FOREIGN
RELATIONS

Asian Development Bank
Pandemic Financing Meeting
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Strategic Procurement in the Health Sector



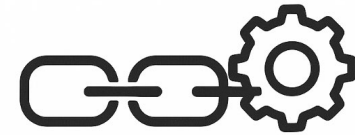
Cost Savings

Strategic procurement to help drive down costs and improve efficiency



Healthy markets

Ensuring long term market health by prioritizing innovation and competition



Value chain lens

Optimize across the entire value chain

Additional considerations for MCM procurement



Procurement at Risk

Ability to purchase products before they are approved. Portfolio approaches and probability of success



Faster Procurement

Speed matters more than anything else



Supplier Engagement Model

Understand Overall Product Portfolios of Supplier to Incentivize Responsiveness

Strategic procurement for MCMs needs additional capabilities, models, & instruments

Strategic Procurement in the Health Sector



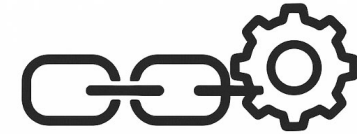
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Numerous examples of cost savings from aggregated procurement

Country/Region	Timeframe	Procurement Strategy & Structure	Reported Savings (crude estimates from public sources)	Key Mechanisms
China (NVBP)	2018–2025	National Volume-Based Procurement (NVBP) for pharmaceuticals and medical devices; centralized tenders by NHSA	Average price reductions of 53% across 294 drug formulations; up to 70% cuts in high-value medical consumables	Guaranteed procurement volumes; competitive bidding; centralized purchasing; promotion of generic substitution
Gavi & UNICEF (Global)	2010–2025	Pooled procurement for vaccines across low-income countries	Over \$300 million saved in 2021–2022; projected \$760 million by 2025	Long-term supplier contracts; advance market commitments; market-shaping initiatives
PAHO (Americas)	Ongoing	Revolving Fund for pooled vaccine purchasing among 41 countries	Vaccines priced at approximately 25% of open market rates	Centralized purchasing; intergovernmental collaboration; economies of scale
Global Fund	2011–2025	Pooled Procurement Mechanism (PPM) for HIV, TB, malaria products in ~100 countries	\$76M in pharma savings in 2022 alone	Aggregated demand; long-term supplier contracts; web-based e-marketplace, market shaping
Mexico	2013–2021	Consolidated national tenders;	\$355 million saved (2008–2011);	Centralized purchasing; international competitive tenders; transparency measures
Ukraine	2015–2020	Collaboration with UNDP, UNICEF, Crown Agents; establishment of Medical Procurement of Ukraine	\$66 million saved (2016–2018); \$39 million saved in 2020	E-procurement platforms; centralized purchasing agency; international partnerships
United Kingdom (NHS)	2019–2023	NHS Supply Chain centralized procurement	£2.4 billion in savings achieved	Framework agreements; commitment contracts; product standardization
Europe (Various)	2012–2020	Value-based procurement focusing on outcomes and total cost of care	10–20% reduction in per-patient costs; improved health outcomes	Outcome-based award criteria; total cost of ownership evaluations; competitive dialogue processes

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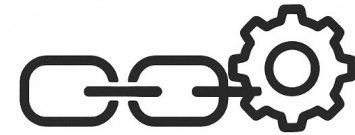
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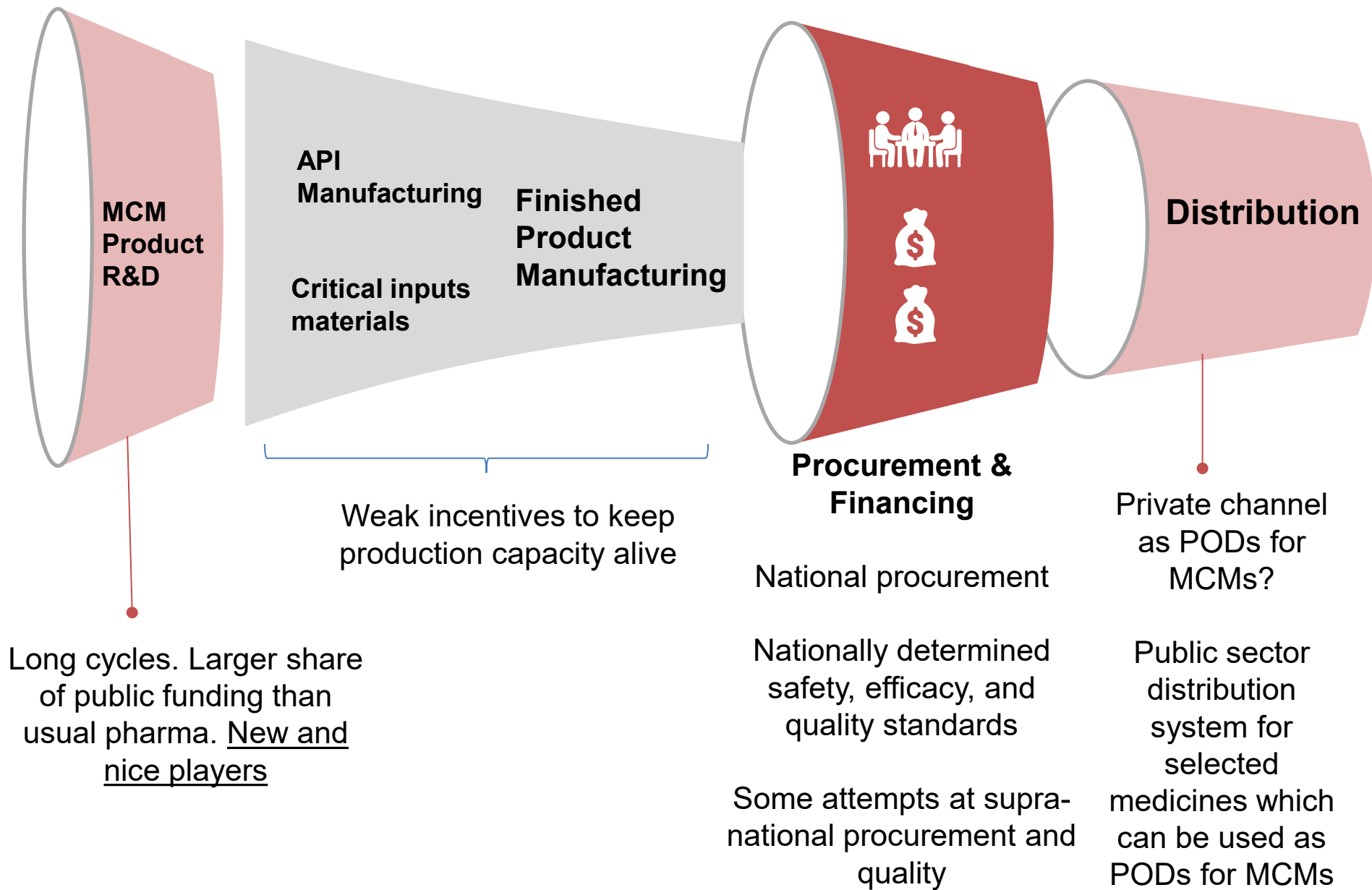
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Procurement for MCMs needs to recognize the end-end value chain



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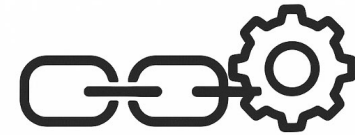
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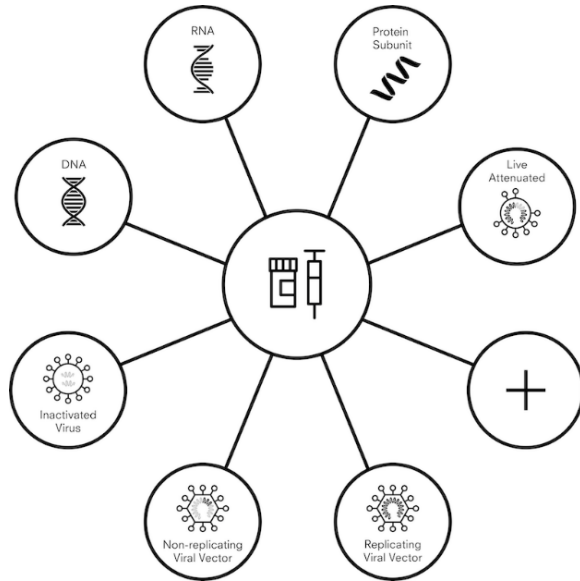
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Purchasing at Risk

When no products are in market, how should a public procurer create a portfolio for advanced purchasing?

c ~Aug 2020



Over 200 COVID Vaccine candidates in development
~ 12 in clinical development
Some tried and tested platforms and some novel platforms

“Why can't we start building the plants earlier? Why wait till vaccines are approved?”

Manufacturer's need advanced purchases to make investments in at-risk manufacturing capacity

Governments unclear which vaccine candidates will succeed, so which ones to make the advance purchase agreements with?

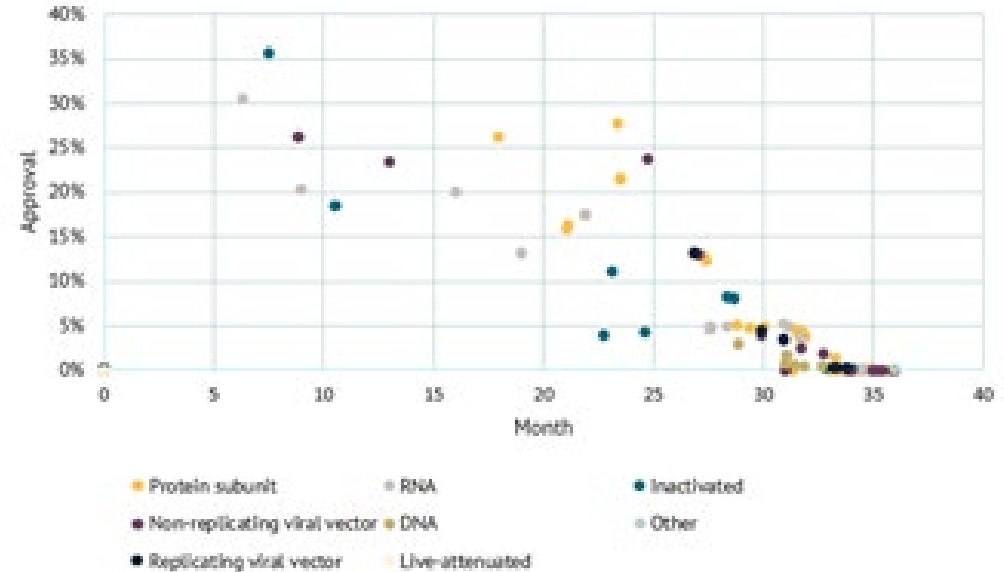
Key questions

1. What constitutes an optimal portfolio?
 - Probability of Success?
 - Covariance across Vx platforms and Vx candidates?
2. Contract design for selected portfolio (APA vs grant)
3. Value of manufacturing flexibility and recourse

Building an Optimal Portfolio when Purchasing at Risk

PROBABILITY OF SUCCESS & TIME TO APPROVAL

Platform	Probability of success (At least 1 approved)
Live-attenuated	0.0%
Protein subunit	86.6%
Inactivated	54.7%
RNA	74.0%
Non-replicating viral vector	53.8%
Replicating viral vector	18.8%
DNA	7.1%
Other	0.03%
All platforms	99.6%



Source: McDonnell, A., Van Exan, R., Lloyd, S., Subramanian, L., Chalkidou, K., La Porta, A., . . . Yadav, P. (2020, October). COVID-19 Vaccine Predictions: Using Mathematical Modelling and Expert Opinions to Estimate Timelines and Probabilities of Success of COVID-19 Vaccines

Portfolio comparisons

Platform	Success Rate	Cumulative
Inactivated	35.0%	35.0%
mRNA	30.3%	54.6%
Protein subunit	27.4%	67.3%
Non-replicating viral vector	26.3%	76.0%
Protein subunit	26.4%	82.0%
Protein subunit	22.0%	85.7%

- CEPI (Later COVAX) 67% close to optimal
- Operation Warp Speed 79% close to optimal
- How much of each platform should an optimal portfolio contain?
 - Protein sub-unit 87%
 - mRNA 74%
 - Inactivated 55%
 - Non-replicating vector 54%
 - Replicating vector 18%
 - DNA 9.5%
 - Live attenuated 0%

Source: Anthony McDonnell, Robert Van Exan, Steve Lloyd, Laura Subramanian, Kalipso Chalkidou, Adrian La Porta, Jiabin Li, Eddine Maiza, David Reader, Julie Rosenberg, Jack Scannell, Vaughan Thomas, Rebecca Weintraub and Prashant Yadav. 2020

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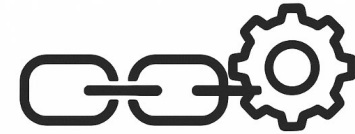
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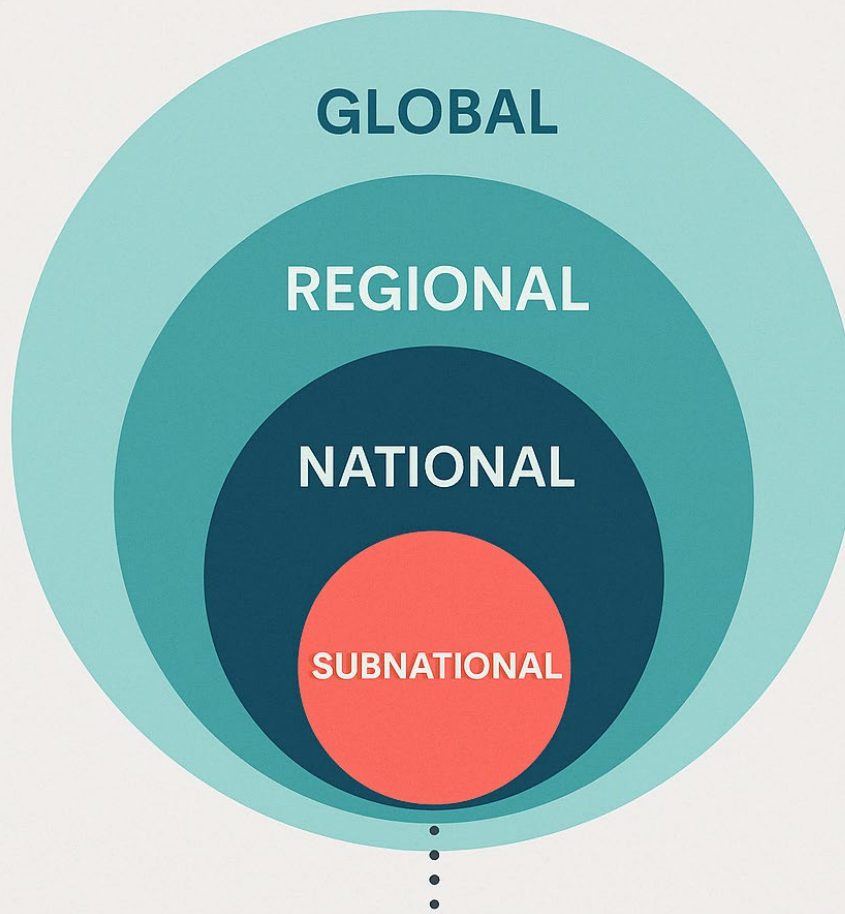
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Optimal locus of procurement?

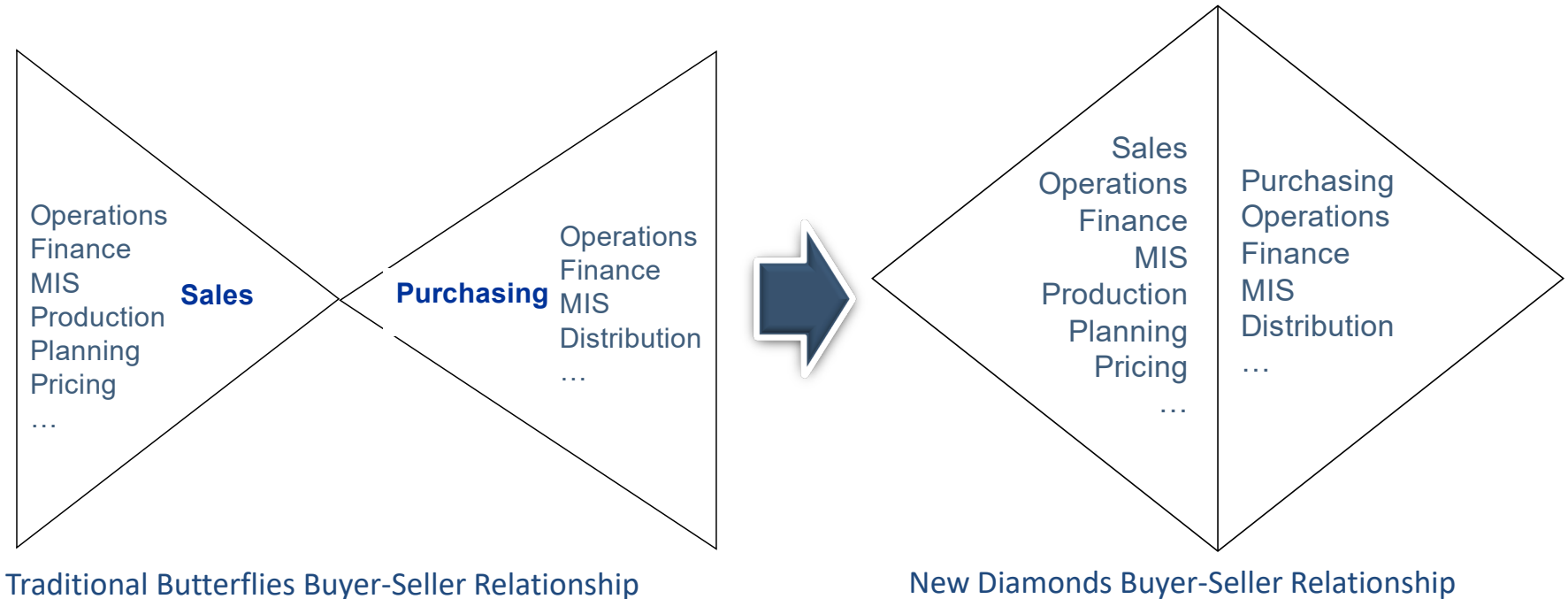
Subnational, national, regional, or global?



- **Complex tradeoffs between quality, price, and responsiveness.**
- **Theory v realities of institutional capacity**
- **For MCMs the argument is clearer for regional (or global). For mainstream health products, not so clear. How to align these?**



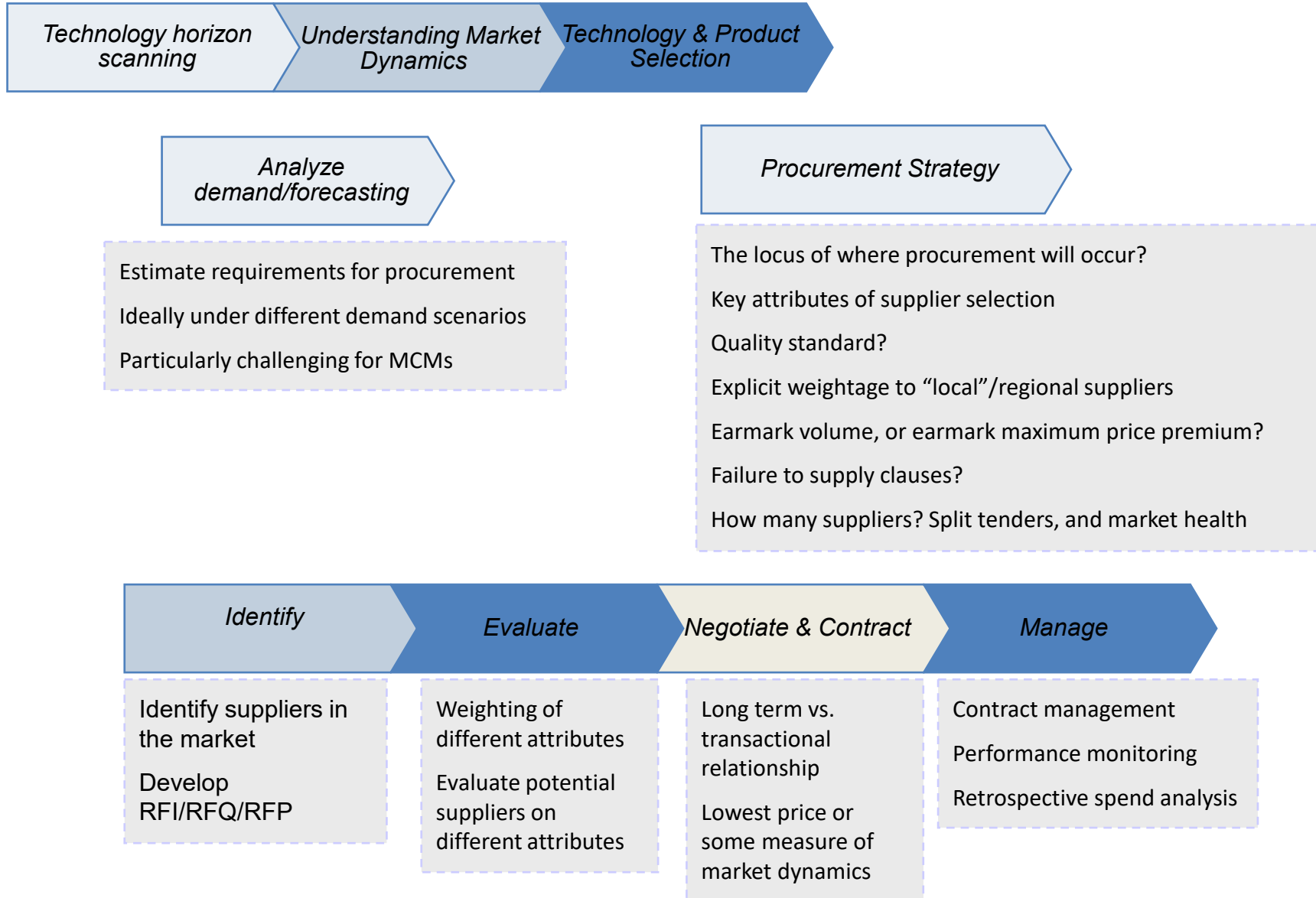
Faster Public Procurement Requires Wider Supplier Engagement



Source: A Wang and P. Yadav 2005, MIT-Zaragoza MS Thesis

How to obtain the benefits of the diamond while recognizing the public scrutiny and other constraints of public sector procurement?

Speed Needs Stepwise Execution Guided by Key Tradeoff Questions



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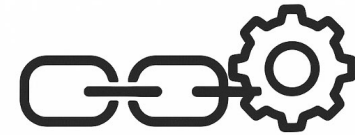
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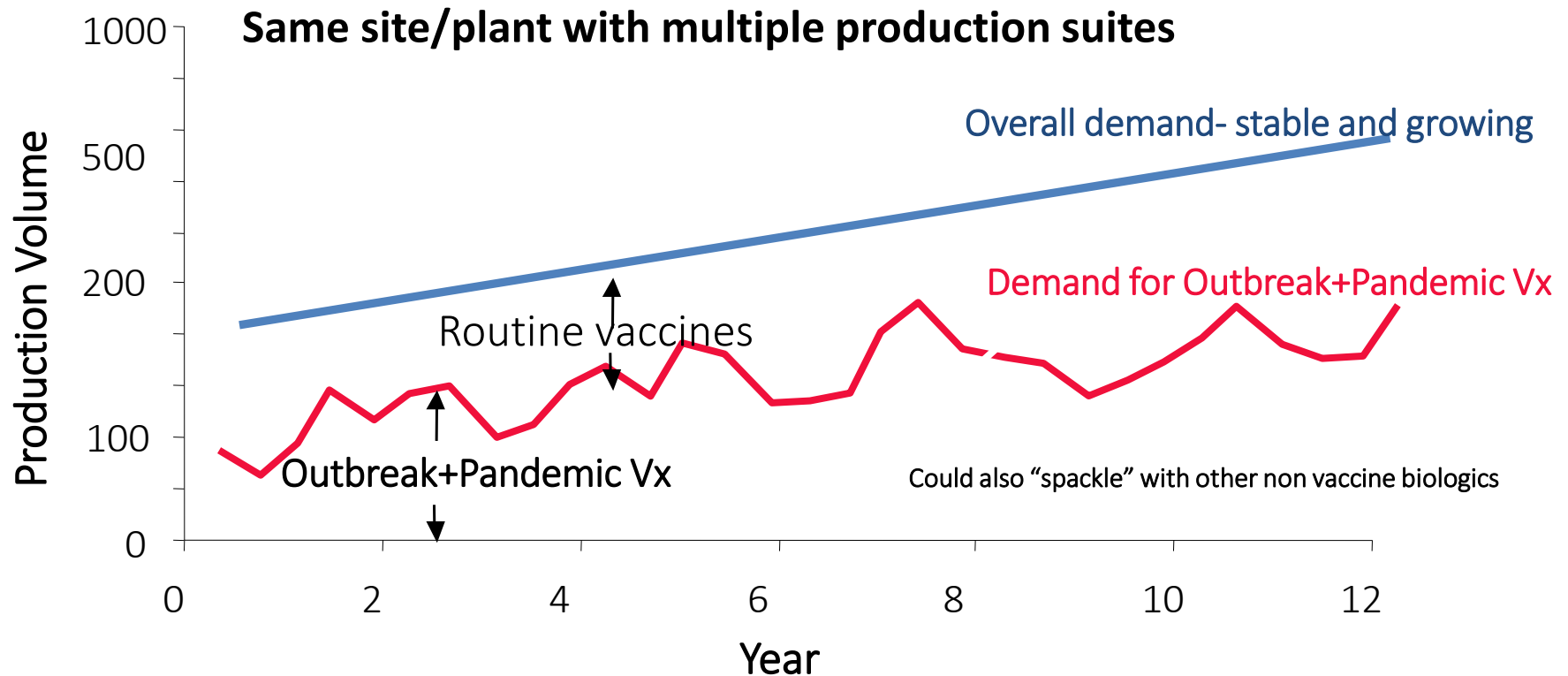


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MCMs will require suppliers to engage in “Spackling”. This necessitates knowing their entire product portfolio



Product mix choice for MCM manufacturers. Understanding and Influencing How They Prioritize Which Products to Manufacture



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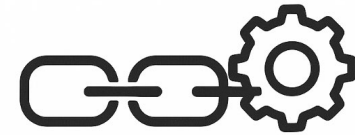
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