



# Decision Support Systems and Supply Chain Webinar

February 27, 2020

# Agenda

- Welcome, Announcements, Introductions - Amanda BenDor (5 min)
- Overview of goals of the project - Carl Leitner (5 minutes)
- Presentation of project and findings - Kyle Thomson & Hedda Brande (30 min)
- Q&A facilitated by Carl Leitner and Kevin Pilz (15 min)

# Digital Square Announcements

- Digital Square Solicitations

## Open Solicitations

An up-to-date list of open solicitations from Digital Square can also be found on our [Solicitation Page](#).

### RFA #2020-007 Health-System Strengthening to Improve HIV Data Exchange in Uganda

Digital Square and our donors are working with countries to strengthen Ministry of Health (MoH) information systems in order to effectively and sustainably progress toward human immunodeficiency virus (HIV)/acquired immunodeficiency syndrome (AIDS) epidemic control. Through this RFA, PATH seeks partnership with at least one subrecipient who will support health-system strengthening in Uganda through improved HIV data exchange and based on the country's priorities. It is expected that the work will be performed in three phases: engaging with the MoH in Uganda to identify top priorities and existing opportunities; prepare for and convene a week-long convening in Uganda to identify specific interventions and the enabling environment needed to achieve them; and develop a costed strategic plan for acting on the interoperability investment priorities based on the convening.

- [More Information](#)

### RFA #2020-005 DATIM and Maturity Model Support

Digital Square and our donors are working with countries to strengthen Ministry of Health (MoH) information systems in order to effectively and sustainably monitor the progress toward HIV/AIDS epidemic control. Through this RFA, PATH seeks partnership with a subrecipient who will support users of the Data for Accountability, Transparency, and Impact Monitoring (DATIM) system, the President's Emergency Plan for AIDS Relief (PEPFAR)-MOH Data Alignment Activity, the Data Use Community (DUC), and development and use of maturity model-based tools.

- February Global Goods Community Newsletter



connecting the world  
for better health

## Global Goods Community Newsletter

February 17, 2020

Each quarter, Digital Square shines the spotlight on global goods and innovators in our community. Send your feedback or ideas to Amanda BenDor ([abendor@qath.org](mailto:abendor@qath.org)), Digital Square Partnerships and Community Manager.

### Introducing the Product Catalog Management Tool, a tool for harmonizing product master data

Supply chains that bring medicines, vaccines, and other commodities to health workers and patients are a critical link in health care systems. But today, many supply chains in low- and middle-income countries are not serving those patients efficiently. As health systems move into a digitally enabled era, curating product master data becomes critical so that the growing number of digital tools can all use a single, harmonized data source.

# Introductions



**Carl Leitner, Technical Director, Digital Square.** Carl Leitner, PhD, brings more than 15 years of experience in informatics, information technology, software development, and education, including more than eight years designing and adapting open-source interoperable digital health systems in low-and middle-income countries.



**Hedda Brande, Management Consultant, Accenture.** Hedda is part of the Supply Chain and Operations group at Accenture and is specialized in improving supply chain performance through the use of data and technology. She holds a master's degree in Finance from Sciences Po Paris and prior to joining Accenture Hedda worked with logistics and infrastructure development in Sub-Saharan Africa.



**Kyle Thomson, Data Science Manager, Accenture.** Kyle currently leads the Accenture Madrid CoE in Responsible AI for Health and Public sector and is an experienced data scientist specialised in helping decision-makers use the best evidence in operations and policy. He graduated in Economics from the Australian National University, and prior to joining Accenture held a variety of positions across the Australian government.

# Public Health Supply Chains and Decision Support Services

## Background

- We now have a wide range of effective and life-saving health products to help us meet these goals, but these products will not reach those who need them without a well-functioning, transparent and efficient supply chain to deliver them.
- The supply chain is inherently complex, and decision-makers constantly manage the risk that medical products will not be available when and where they are needed
- There is a critical need to strengthen public health in developing countries by investing strategically in innovation and technology that will improve their performance.

## Global Good Guidance

- Leverage algorithms that are documented under a publicly shareable licenses that allows further adaptation and which can be deployed as an open-source stack of tools or cloud services that are not tied to a particular cloud service vendor provider.
- Make anonymized training data available under an open license
- Build off standardized data models and architecture such as OpenHIE, GS1 and HL7 and utilize automated data collection techniques (barcodes) and existing transactional data systems

# Use of Automated Decision Support Systems to Improve Supply Chain Performance in Global Health

REPORT SUMMARY

February 27<sup>th</sup> 2020



BILL & MELINDA  
GATES foundation



accenture





# Agenda

- 1** What is DSS?

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- 2** Investment-Ready Opportunities

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- 3** Impact on the Supply Chain

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- 4** Success Factors

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- 5** Call to Action

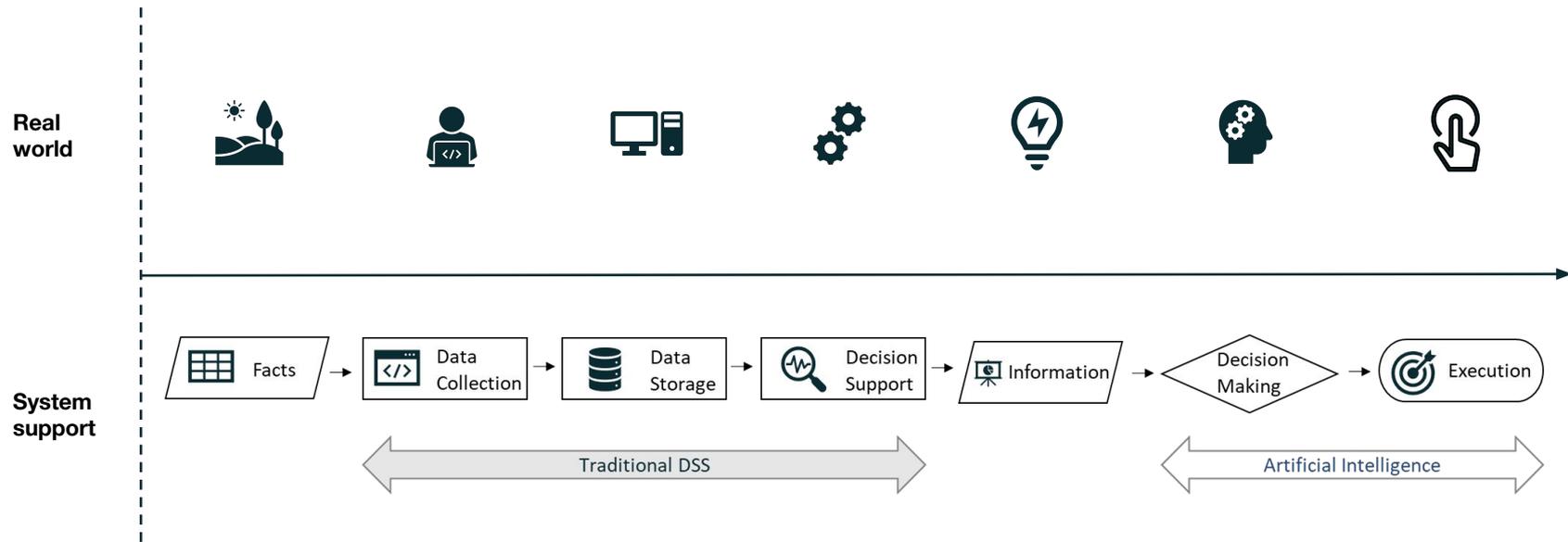
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- 6** Q&A

**WHAT IS DSS?**



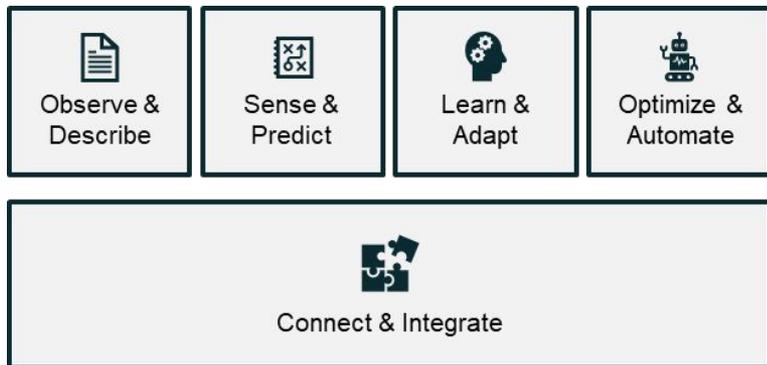
# DSS are computer-based systems that enhance the ability to use data in decision making



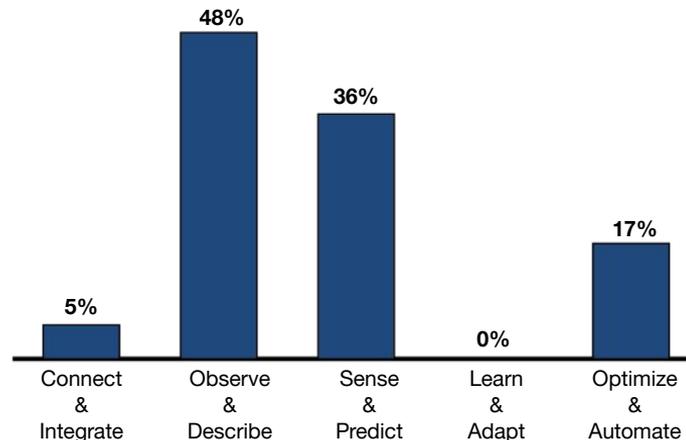


# DSS can assist the decision-makers in five areas

## DSS impact areas



## Most recent advanced DSS implementations



Source: Survey of Decision Support Systems for 161 supply chain management practitioners and consultants in developing and non-developing countries

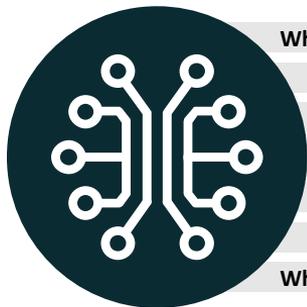
Note: Proportion of all respondents who had implemented advanced DSS. Respondents may indicate more than one category and so totals may sum to more than 100%.

# **INVESTMENT-READY OPPORTUNITIES**



# The report defines seven investment-ready DSS opportunities

## Top Supply Chain Questions for DSS



What will the demand be?

What is the current performance of the supply chain?

When and how much should I purchase and how much do I need on hand?

How should the supply chain be structured?

How are my suppliers and contracts performing?

How can consumers make better decisions?

Which product supplier should I use?

## Investment-Ready DSS Opportunities

1

Integrate machine learning and external factors into the demand forecast

2

Ensure visibility of the supply chain performance

3

Optimize interrelated decisions around purchasing and replenishment

4

Establish a digital model of the supply chain to optimize strategic scenario planning

5

Optimize management of contract and supplier performance

6

Connect consumers and supply chain to enable informed consumer decisions

7

Create or support digital marketplaces that match buyers and sellers

*Improve the fundamentals*

*Optimize supply chain*

*Add value to routine activities*

*Improve the information ecosystem*

# **IMPACT ON THE SUPPLY CHAIN**



# The use of DSS drive four underlying changes on how decisions are made in the supply chain



1. More informed decision-makers



2. More decision-makers



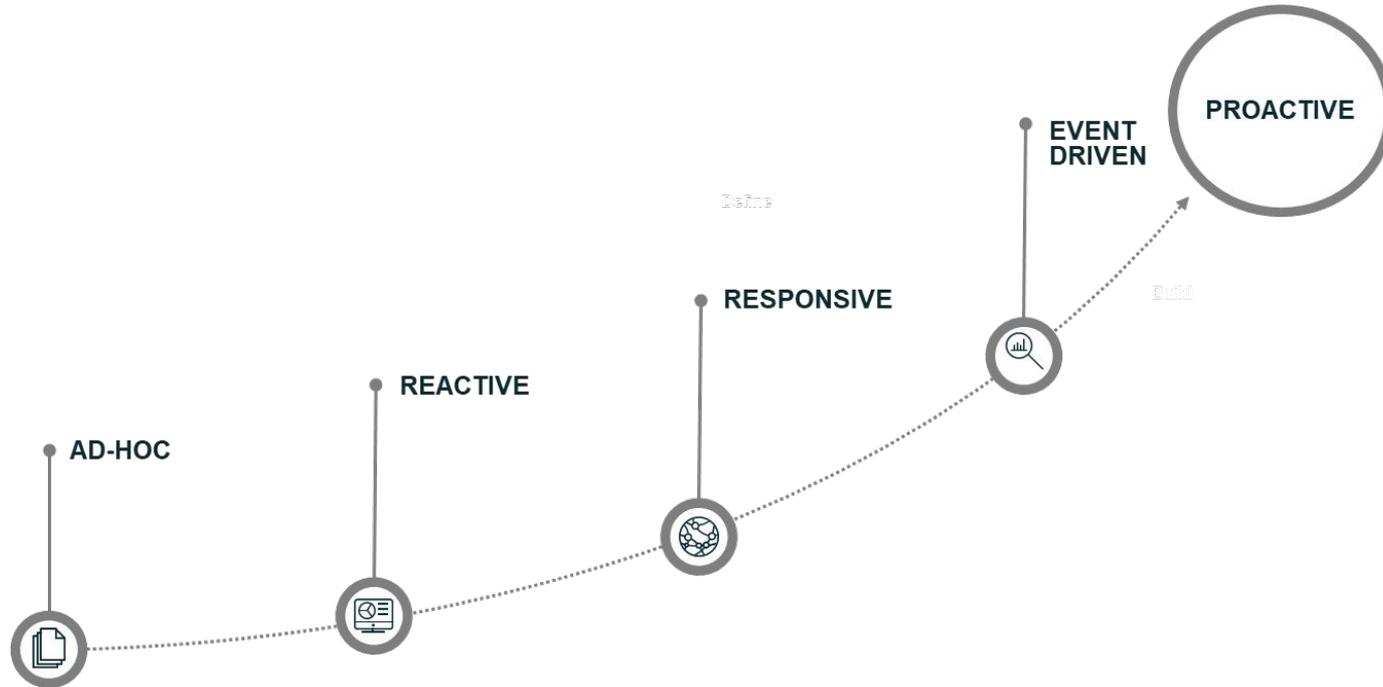
3. More choices



4. Expanded option set



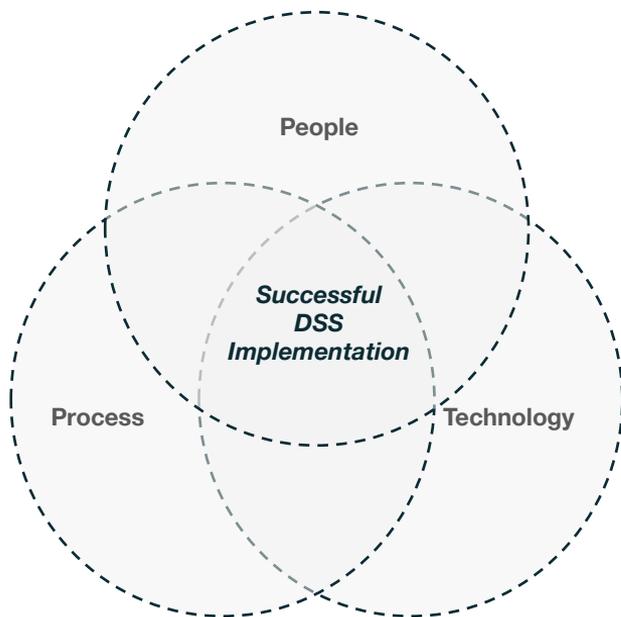
# There is a continuum on the DSS maturity journey from ad-hoc to proactive supply chains



# SUCCESS FACTORS



# Success factors span across people, process and technology



**Value Driven**



**Easy to Use**



**Design to Share**

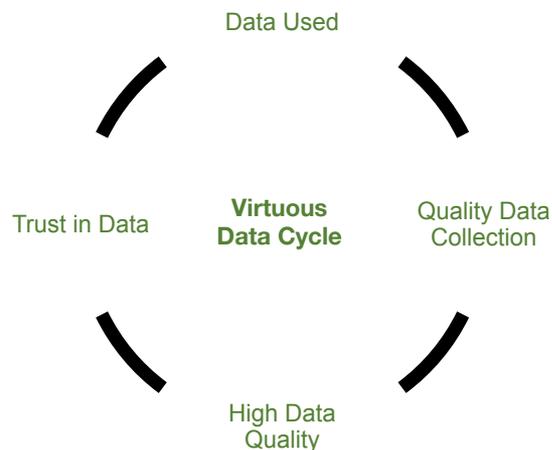
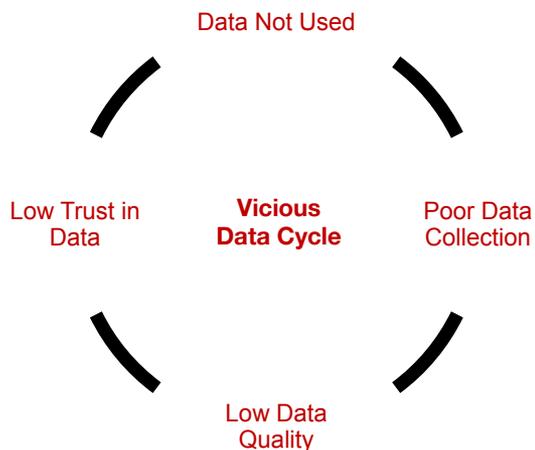


**Plan for Long Term Success**

**CALL TO ACTION**



# Organizations need to start by using data





# All actors in the public health supply chain have a role to play



## Governments

- Mandate to drive change
- Must shape the information ecosystem to allow DSS uptake



## Funders

- Provide the resources
- Combine investments in data collection with investments in DSS
- Create incentives for interoperability



## Software Development Organizations

- Important role in ensuring interoperability
- Sharing with the global community



## Implementing partners

- Incorporating process improvement and organizational change in the implementation

*It is ok to start bit by bit*

***the important thing is to start!***

Q & A