

# CARISCAREPORT

Center for Applied Research and Innovation in Supply Chain – Africa

2023 • ISSUE 7



## Africa's Supply Chains and the Future of Work

► CARISCA's 2023 Supply Chain Research Summit

### SAVE THE DATE!

On **June 20–22, 2023**, CARISCA will host the third annual **Supply Chain Research Summit** in Ghana. The 2022 summit attracted over 450 participants from 26 countries and featured more than 80 presenters.

In 2023, we are moving the summit to Ghana's capital, Accra, to accommodate even more supply chain scholars, students and professionals. As in 2022, the 2023 Summit will be a hybrid event, held in person at the Fiesta Royale Hotel in Accra, Ghana, and virtually via Zoom.

This year's summit will take an in-depth look at "Africa's Supply Chains and the Future of Work." We invite you to share your research, knowledge and insights by submitting a paper abstract for presentation at the summit. Proposals for panel sessions and special invited sessions are also welcome. See tracks and topics on next page.

Registration for the conference will open March 17. Stay up to date by visiting the summit website regularly:

[carisca.knust.edu.gh/summit2023/](https://carisca.knust.edu.gh/summit2023/) 

### CALL FOR PAPERS

We invite you to share your research, knowledge and insights at the 2023 summit.

**Deadline extended!**

**Submit your abstract by  
Friday, March 24:**

[na.eventscloud.com/papers2023](https://na.eventscloud.com/papers2023) 



**USAID**  
FROM THE AMERICAN PEOPLE

**ASU** Arizona State University



**KNUST**  
KWAME NKRUMAH UNIVERSITY  
OF SCIENCE AND TECHNOLOGY

**Theme Track:  
Africa's Supply Chains and  
the Future of Work**

- Employability skills for Africa's future supply chains
- Workplace designs for Africa's supply chains

**1 Track One:  
General Supply Chains**

- Logistics and transportation management
- Procurement, sourcing and supply chain management
- Manufacturing and production management

**2 Track Two:  
Sectoral Supply Chains**

- Health/pharmaceutical supply chain
- Humanitarian operations and disaster management
- Agriculture and commodities supply chain

**3 Track Three:  
Emerging Issues in  
Global Supply Chains**

- Globalization and supply chains
- Sustainability issues in supply chains
- Emerging technologies in supply chains including blockchain technology, big data analytics, predictive analytics and artificial intelligence
- Global supply chains and grand challenges

**4 Track Four:  
Practitioner and Policy  
Discourse on African  
Supply Chains**

- Supply chain financing
- Health supply chain policy
- Supply chain technology trends in Africa



June 19

**Pre-conference Session:  
Paper Development  
Workshop**

CARISCA will host an in-person Paper Development Workshop for faculty and senior doctoral candidates from higher education institutions in Africa.

📌 Applications due **Friday, April 14:**  
[na.eventscld.com/workshop2023](https://na.eventscld.com/workshop2023)

"He really pushes us hard," says Mocke. "He's constantly putting us on the spot, asking us to explain and be better and do a little bit more. And even though it's tough, it's definitely something that I personally needed. At the end of the day, we just want to make him proud."

Oke confirms that he was "very proud" when Mocke won the competition last year. His goal in working with PhD students, whether at ASU or in Africa, is to help them become good researchers and experts in their chosen field.

"I challenge them to be able to think creatively and analytically," says Oke. "Kelvinne is becoming an expert in logistics capability development and knows the literature now more than myself."

"But this is the intention. You have to be able to mentor PhD students so that they become better than you in their focused areas."

**Why didn't the chicken cross the road?**

Mocke's winning dissertation proposal is on "Investigating the Development of Logistics Capabilities From a Resource Orchestration Perspective." Although it's a serious topic, he opens his proposal with an age-old joke: "Why did the chicken cross the road?"

Instead of following with the usual punch line, he references a new variation of the joke that was popular in the U.K. in 2018. "Why didn't the chicken cross the road? Because DHL was unable to deliver it!"

A logistics debacle between KFC and its new distributor DHL that year forced the temporary closure of over 600 KFC's, "leaving most of the UK market without their fried chicken fix," wrote Mocke in his proposal.

He uses that example of a logistics failure to demonstrate the importance of resource orchestration, which focuses on the role managers play in effectively leveraging a firm's resources. He hopes one outcome of his study will be a "recipe" for logistics capabilities.

"Mix in two of this and then you put together a few of these things, and don't overcook it, otherwise this is going to happen," says Mocke about how his recipe might work.

"For a long time, we assumed that ownership of resources means you would be competitive in the market," he explains. "So if you have all the trucks, you have all the warehouses, you have all those things in place, that means you would be competitive."

"But now it's kind of changing, especially with all the volatility that we're experiencing. It's more about what we do with those resources, how we put those things together."

◀ **Kelvinne Mocke**

**Can you publish from it?**

Mocke says he initially wanted to focus his research more specifically on logistics in Africa and how to better reach the people at the bottom of the pyramid – "the poorest of the poor."

"When I started this process, I was reading a lot of reports on how Africa is going to be the next big market and how there's a lot to capitalize on here but logistics being quite a big problem," Mocke says.

After presenting his topic at a PhD workshop and receiving disappointing feedback, he opted to broaden his study. His supervisor, Oke, also influenced his decision.

"Professor Oke is always looking at, 'Can you publish from it?' This is kind of his main concern," says Mocke.

After he completes his dissertation later this year, Mocke's goal is to co-author a publication with Oke. In the meantime, winning the PhD Dissertation Award competition last summer was a welcome incentive to keep him going.

"The PhD journey can get quite long and tedious," says Mocke, who began his doctoral program in 2017. "To have a little bit of acknowledgment is a nice morale booster, just to have someone say, 'okay, what you're doing is not completely wrong.' Because I think you second-guess yourself often."

Another of Mocke's goals after completing his PhD is to become more involved with CARISCA. He already regularly attends the faculty workshops, trainings and lectures.

"I like those sessions because it's really top, top scholars in our field, and it's extremely valuable information," says Mocke. "My colleagues who do not attend always come and ask, 'How do you use this theory?' or 'How do you use this methodology?' And I often have the answer. So I will keep on attending them as long as they're there."

“ **The PhD journey can get quite long and tedious. To have a little bit of acknowledgment is a nice morale booster.** ”

**If you don't shoot, you can't score**

Mocke also plans to attend the third annual Supply Chain Research Summit this summer in Accra, Ghana. Last year he attended and presented his paper virtually, but he plans to use a research grant he recently received to attend in person this year.

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# 2022 DISSERTATION AWARD WINNER EXAMINES WHY CHICKENS DIDN'T CROSS THE ROAD

The winner of the 2022 PhD Dissertation Award competition, **Kelvinne Mocke**, has a lot in common with the 2021 winner, Assilah Agigi. Both study supply chain management at the University of Pretoria in South Africa. They are friends. And they also share the same dissertation supervisor, Arizona State University Professor Adegoke Oke.

A senior technical advisor for CARISCA, Oke was once a "best PhD" award winner himself. He earned the accolade at Cranfield University in the U.K., where he studied operations management.

Mocke says Oke introduced him to CARISCA and the PhD Dissertation Award competition, which is part of the annual Supply Chain Research Summit. As a student of Oke's, Mocke says entering the competition "was basically non-negotiable."





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Mocke hopes to take advantage of the pre-conference paper development workshop as well. That session will afford him the opportunity to discuss a work-in-progress paper on his dissertation one-on-one with a senior scholar.

“Figuring out how to condense the dissertation into an article that makes sense is difficult,” says Mocke. “Input from others always helps with that.”

While it may seem suspicious that both past winners of the PhD Dissertation Award competition are supervised by a CARISCA senior technical advisor, Oke insists he has no influence over the results. He is not on the review committee and doesn’t even work with his students on the proposals they submit.



▲ Adegoke Oke

“The only thing I do is encourage them to apply for it and make sure they follow the guidelines required for the competition,” says Oke. “As they say in soccer, if you don’t shoot, you can’t score.”

“The feedback that students get is as valuable as winning. Also, winning is good for the CV.”

## Supply Chain Research Summit PHD DISSERTATION AWARD COMPETITION

The 2023 call for entries is now open! The competition is intended to showcase the best logistics and SCM doctoral research projects being carried out in African higher education institutions.

CARISCA will recognize a winner and two runner-ups with a certificate and stipend at the 2023 summit. The review committee will also provide feedback on submissions upon request.

While finalists must register for the conference (at no charge) to present their paper, they may present either in person or virtually. Finalists will be notified by the end of April.

**Deadline extended!**

Submissions due  
**Friday, March 24:**



[na.eventscloud.com/dissertation2023](https://na.eventscloud.com/dissertation2023)

## CARISCA GROWS CPD OFFERINGS

In early 2023, CARISCA announced three new opportunities for supply chain practitioners to enhance their skills through continuing professional development. These are in addition to the five CPD courses offered previously.

The new courses for 2023 are being held in person in Accra, Ghana, and online. To learn more about the upcoming courses, visit [carisca.knust.edu.gh/training/cpd](https://carisca.knust.edu.gh/training/cpd)

### 2023 CPD course schedule:

<b>Feb. 23–24</b>	Supply Chain Operations Management and Performance
<b>May 24–26</b>	Supply Chain Analytics
<b>July 27–28</b>	Supervisory Skills for Procurement and Supply Chain Managers

A total of more than 230 professionals attended the previous five CPD courses combined. Those courses covered the topics of supply chain risk and resilience; ethics, governance and leadership; financing; digitalization, and quantification of health commodities.

One goal of the CPD program was to increase the inclusion of women to 30% of participants. That target was exceeded last September, when attendees of the quantification of health commodities course were 44% female.

## GHANA LOGISTICS MANAGERS INDEX SHOWS SIGNS OF ECONOMIC COOLING

The rate of growth in logistics activities slowed down slightly in the third quarter of 2022, according to the Ghana Logistics Managers Index. A prime reason for this slowdown was the high cost of inventory and the associated cost of warehousing and transportation prices.

The Logistics Managers Index is a tool CARISCA researchers created to support decision-makers and improve businesses and livelihoods in Africa. By measuring combinations of inventory, warehouse and transportation activities and tracking the relationship between these variables, the LMI provides a timely measure of movement in logistics activities in Ghana.

The Ghana LMI, launched in 2022, is the first of its kind in Africa and a significant step toward supply chain efficiency, visibility and transparency in the country.

LMI researchers have released reports for the first three quarters of 2022 to date. In conjunction with the release of the second-quarter report, we hosted a webinar that attracted 133 registrants.

Another webinar is planned to coincide with the release of the first quarter 2023 report, scheduled for mid-April.

CARISCA will continue to capture, analyze and share LMI findings quarterly on its website, [carisca.knust.edu.gh/lmi](https://carisca.knust.edu.gh/lmi)

Senior executives and managers of Ghanaian organizations are invited to participate in the quarterly LMI surveys by visiting [surveymonkey.com/r/Q1-23-LMI](https://surveymonkey.com/r/Q1-23-LMI)

The LMI measures the growth or decline of Ghana’s logistics industry based on **eight key components**:



**Inventory levels**



**Inventory costs**



**Warehousing capacity**



**Warehousing utilization**



**Warehousing prices**



**Transportation capacity**



**Transportation utilization**



**Transportation prices**

### Key findings from the third-quarter LMI report include:

For the first time since the quarterly LMI survey began in early 2022, one of the eight logistics metrics studied, **inventory levels**, scored below the threshold value of 50%, which could signal a possible recession.

Both **warehouse capacity** and **utilization** in the third quarter of 2022 hit all-time lows for the year.

The two metrics that show stronger growth than in the previous quarter are both cost-related: **inventory costs** and **transportation prices**.

The use of **electronic payment systems** grew much slower than had been predicted the previous quarter.

Despite the third-quarter results, logistics managers expressed **optimism** for improved growth in the fourth quarter.

# CARISCA TRAINING SERIES

One of CARISCA's main objectives is to translate its research for use by practitioners, policymakers and the general public. To provide faculty and students with additional training and practice on writing for different audiences, we introduced a quarterly writing workshop in fall 2021.

The workshops proved so popular that we soon expanded them to 10 times a year. Sessions cover policy writing, scientific writing and working with data. Each two-hour training generally includes a presentation and hands-on activities.

To learn about upcoming workshops, see page 16 or visit [research.wpcarey.asu.edu/carisca/news/upcoming-events](https://research.wpcarey.asu.edu/carisca/news/upcoming-events)

Recaps of last fall's writing workshops are on the CARISCA website. See links below.

Creating Quality Research Questions	Sept. 22, 2022
<a href="https://research.wpcarey.asu.edu/carisca/2022/09/22/research-questions">research.wpcarey.asu.edu/carisca/2022/09/22/research-questions</a>	
Writing for an Academic Audience	Oct. 18, 2022
<a href="https://research.wpcarey.asu.edu/carisca/2022/10/18/academic-writing">research.wpcarey.asu.edu/carisca/2022/10/18/academic-writing</a>	
Roadmap to Research: Creating Your Protocol	Nov. 22, 2022
<a href="https://research.wpcarey.asu.edu/carisca/2022/11/22/research-protocol">research.wpcarey.asu.edu/carisca/2022/11/22/research-protocol</a>	

# FACULTY WORKSHOP

On Oct. 10 and 11, 2022, CARISCA hosted its first faculty workshop of the academic year to build the research capacity of faculty at Kwame Nkrumah University of Science and Technology (KNUST). Over the two-day workshop, faculty and graduate students from the KNUST School of Business and other higher education institutions in Africa learned about how to write both for academic and non-academic audiences.

Presenters were **Kevin Linderman**, chair of the Supply Chain and Information Systems Department at Pennsylvania State University, and **Robert Perkins**, editor of S&P Global Platts Africa & Middle East division.

## Writing for Academic Audiences

Kevin Linderman began his presentation on writing for academic audiences by likening academic research to a grain of sand in a sandpile.

“At some level, we’re just trying to get another little piece of sand on the big sandpile of knowledge,” he said. “The editors of journals are trying to make a decision whether or not our little piece of sand can go on the big sandpile or not. And we are trying to convince them that our little piece of sand is worthy of being on the sandpile.

“The research paper is an argument for why our research should go on the sandpile,” Linderman added. “One of the implications is that rhetoric matters in a research paper.”



▲ Kevin Linderman

Each paper needs to be written for the specific audience of the journal it will be submitted to, explained Linderman. The Production Operations Management journal, for example, might have a slightly different audience than the International Journal of Production Operations Management.

Linderman then explained the role and importance of each element of a research paper, as summarized below.

### Title and abstract

This section of the paper positions the research and conveys what it is about. You should use the title and abstract to influence people to read and reference your paper. The abstract should be a concise, jargon-free statement of the study. And it should conform to the standards of the journal you are submitting to.

“The first thing people read is the title,” Linderman said. “So often we don’t pay enough attention to the title. We kind of view it as, we’ve done all the research, and we’ve got to slap a title on it. But it’s important to think through the title, and think through, what is this research all about? And how do we communicate this to potential readers and reviewers?”

### Introduction

The introduction is the most important but least understood section of an academic paper, according to Linderman. It is the initial basis on which reviewers will make a decision about either accepting or rejecting a paper.

“What we want to do in the introduction,” Linderman said, “is to set the stage for the paper and tell the complete story of the paper.”

He views the introduction in four parts: 1) context; 2) problem statement; 3) analysis and results; 4) overview of the rest of the paper. The first paragraph of the introduction should establish the precise boundaries of the project.

“When I look at some introductions,” Linderman said, “they create confusion because they start talking about these very broad strokes. They really don’t drill the reader down into what this paper’s precisely about. What is your little piece of sand that you’re going to put on the sand pile?”

### Literature Review

The literature review section educates the reader on the underlying logic of the paper, said Linderman. It should be focused on the actual study and not the broad field.

“Where people can get into trouble is when they give an overview of the overarching field, and they deviate too far from their research project,” he said. “Sometimes we talk too lofty in our literature review.”

Linderman advises thinking about whether what you put into the literature review helps your argument or distracts from it.

### Hypothesis Development

The hypothesis is essentially a summary statement of the arguments you are making in the paper. The introduction sets the stage, and the literature review provides background information that you will use to construct your arguments in the hypotheses, Linderman explained.

### Analysis

The analysis section is where researchers spend a lot of their time writing the paper, said Linderman. How you approach the analysis depends on the type of study you conducted.

“You’re really trying to demonstrate your capabilities there,” he said. “You’re going to show that you’ve got a command of the methods and that your methods are effective at drawing the conclusions you’re trying to make.”

### Conclusions

The conclusion section has four components, Linderman said. First, it should cover the theoretical contributions of the study. “What does this paper add to the research? How does it justify being put on the sand pile of knowledge?”

Second, it should address the contributions to practice. “When we show how our research impacts practice,” Linderman said, “we’re also demonstrating the external validity of our research, that it’s actually useful and valid.

A third important part of the conclusion section is an articulation of the limitations and boundary conditions of your research.

“All research has limitations,” Linderman said. “So you should feel comfortable articulating those limitations. This is really important because it also heads off criticism from reviewers saying that you didn’t consider this or you didn’t consider that.”

The final component of the conclusion is laying out future research, Linderman said. The value of this step is to show that your work is not only important but also has a broader implication for future research.

Linderman concluded his presentation by talking about the importance of submitting research papers that are well-written and carefully edited. He recommended a reference work for authors and editors called [\*\*“Professor Starbucks Cookbook of Handy-Dandy Prescriptions for Ambitious Academic Authors”\*\*](#)

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# Writing for Non-Academic Audiences



▲ Robert Perkins

The second workshop presenter, Robert Perkins, covered how to write for non-academic audiences, particularly readers of print and online journalism. He suggested adopting the following news writing guidelines:

## Write in simple English

People don't have a lot of time to get into subjects they're not familiar with, Perkins said. You need to capture their attention and ease them into the subject by writing in plain English and avoiding technical terms and jargon.

## Write concise and engaging headlines

The story headline should give readers a sense of what they are going to read and why they should care. Writing a good headline requires a balance between giving enough detail to convey the subject and not including so much detail that it turns readers off, said Perkins.

## Write concise and engaging leads

The first sentence or two under the headline, which is called the lead, should fill out the headline. It should entice readers to read the full story.

"A lead should never simply state the facts," Perkins said. "It should also tell you why you need to be reading this story."

## Understand story structure and apply it

News stories are traditionally structured as an inverted pyramid. The key aspects of the story go at the top, in the lead. Following that is context or a quote to back up the lead. Then detail and background are filled in at the bottom.

## Use quotes effectively

Include quotes in a news story to provide context and "color," support the premise of the story and bring life to it, Perkins said. Quotes are ineffective when they ramble, repeat information already in the story and serve no purpose.

"You want a quote to say something a little more colorful or offbeat and add human interest to the story, rather than simply parroting what's already been said," concluded Perkins.

"We have a strong philosophy and a differentiating philosophy that all consumer products have to be made more sustainable," Dooley said. "And how do we do this? We do this through market mechanisms.

"We recognize the power of buying by a retailer. Their purchasing power and procurement processes are a place where we can put in sustainability as a requirement and as a desirable."

In his presentation, Dooley outlined the topical research questions that define supply chain sustainability and its unique dimensions of industrial engagement. Using The Sustainability Consortium as an example, he demonstrated how universities are well positioned to drive pre-competitive collaboration and innovation.

"Companies in society need our expertise and skills to address sustainability issues," Dooley said. "Even when they have the expertise in house, they don't have the time to go deep. We have the time to go deep and, honestly, get a better sense, a broader sense, of what is actually happening in practice than they may have the opportunity to."

Unlike "business bubbles" such as total quality management and lean manufacturing, sustainability is a hot topic that is unlikely to peak and then fade away, Dooley said. He believes it is a great field for academics to pursue, and one that excites students.

“Companies in society need our expertise and skills to address sustainability issues.”

"Universities are trusted by corporations. We are trusted by NGOs, and for that reason we can not only be designers of solutions, but we can be mediators and conveners as well," Dooley said.

"If we can work with a group of companies within the supply chain, with a group of companies who are competitors, this is where real impact can occur. And I think that it's a niche that is not often enough taken advantage of in universities."

Dooley said his life as an academic researcher gained new meaning when he joined the team at TSC. That team includes top scholars and practitioners from a variety of fields who have come together to make a difference.

"The ability to create impact certainly is personally satisfying, but it really wasn't until I gave up my ego to the ego of the team, so to say, that I really got deep satisfaction," he said. "Being part of a cross-functional, highly diverse team, it's been the most satisfying experience that I've had in my research career."

# DISTINGUISHED LECTURE SERIES

Six times a year, CARISCA invites top supply chain scholars and leaders to deliver presentations. These Distinguished Lectures give faculty and students access to inspiring role models, the latest ideas and approaches in supply chain research, and practical guidance for conducting and publishing research.

# Working with Industry on Supply Chain Sustainability Issues



▲ Kevin Dooley

Environmental and social issues are at the forefront of many organizations' strategic plans. Given the significant industry needs and the rapid pace of change, now is an excellent time for academic researchers to engage industrial partners in supply chain sustainability research.

So said Kevin Dooley, a Distinguished Professor of Supply Chain Management at Arizona State University, in his Oct. 20, 2022, lecture.

In addition to his faculty position, Dooley is chief scientist for The Sustainability Consortium (TSC), a global nonprofit organization transforming the consumer goods industry to deliver more sustainable consumer products. In this role, he leads a research team that works with over 100 of the world's largest retailers and manufacturers to develop tools that measure and track progress on critical product sustainability issues.

# Thinking Beyond Procurement

Good procurement practices can increase a company's profits by as much as 50%. And this profit growth comes without the added expense that expanding the firm's market share would require.

"That's one of the best illustrative examples I've ever seen to be able to talk to stakeholders about why it's important to pay close attention to your procurement function," said Denis Wolowiecki, managing director of CAPS Research, in a Dec. 8 lecture.

The key to implementing good procurement practices and increasing profits is in understanding your spend, Wolowiecki said.

A company has many types of spend, or expenditures. Where the procurement team can have the most impact is in the "addressed spend" category. This category represents spending that is controlled by the supply management team and is actively sourced, re-bid or negotiated periodically.

"In almost every case that I have gone into a company where there's a transformational opportunity and they're struggling to make improvements around how they control

their suppliers in their procurement program," said Wolowiecki, "one of the things I typically find is there is not a good understanding of the spend. And that's really where it starts."

Wolowiecki advised supply chain managers to gather a list of all suppliers and rank order them according to how much is spent with each. Then plot out cumulative annual spending and number of suppliers in a curve graph.

"This is going to be a key to your visual understanding and the ability to communicate with your team and communicate with your stakeholders around what you're trying to do," said Wolowiecki.



▲ Denis Wolowiecki

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The ideal curve graph will follow the 80/20 rule, where 80% of your spending is with only 20% of your suppliers. If your spending is spread out more evenly across many suppliers, Wolowiecki recommends consolidating suppliers to reduce administrative overhead and focus attention on the “strategic few.”

Properly managing your suppliers requires people, processes and technology, with an emphasis on people, said Wolowiecki.

### CAPS Research benchmarks

CAPS Research has set benchmarks for how to size the supply chain staff. Companies with \$100 million in addressable spend have an average of 3.2 FTEs dedicated to procurement. Among all the firms surveyed, the highest FTE count was 4.2 and the lowest was 0.5.

Wolowiecki also presented metrics on the amount of addressed spend per FTE, which indicates the workload for each employee. The average is \$15.9 million per FTE, with a high of \$20.7 million and a low of \$11.9 million.

“Why are these important?” asked Wolowiecki. “Well, are you too low? Do you not have enough resources to do the job effectively?”

“And not only that, if you’re too low, and the people you have are carrying more spend responsibility, they’ve got more workload. If they feel overworked and they can’t keep up with the pace, they’re going to go look for other things; you’re going to abuse your people.”

“**The challenge for any team is to shift that focus from transactional to strategic to gain value.**”

“Or if you have too many people, then you’re not effectively managing it,” he added.

Another key is evaluating the skill mix of your procurement team, said Wolowiecki. According to CAPS Research data, over a third of staff at most companies are in transactional rather than strategic roles.

“There’s a large amount of FTEs devoted to the transactional act of just pushing the order through, making the phone call, completing the purchase order and submitting it,” said Wolowiecki. “That is not necessarily value-add. The work has to be done, but it’s interesting how much resources are devoted to it.”

“The challenge for any team and any transformational opportunity is as much as possible to shift that focus from transactional to strategic to gain value,” he advised.

To read more highlights from the lecture, go to [research.wpcarey.asu.edu/carisca/2022/12/08/thinking-beyond-procurement](https://research.wpcarey.asu.edu/carisca/2022/12/08/thinking-beyond-procurement) ↗

“When we talk about risk management, we could talk about eliminating risk, and we can talk about mitigating risk, and we can talk about managing risks,” said Pennell. “But I can assure you that we don’t need to eliminate risks, because there are plenty of risks that we can’t influence.”

Key risks for investors may include political instability, currency devaluations, moral hazard (i.e., the risk that investees will decide not to repay), and the personal integrity of all parties involved. Pennell said her philosophy toward risk management is to take a pragmatic approach.

“If you are investing in low income and emerging markets, you have to have that pragmatic lens when you look at investments and you look at risks,” she said. “Otherwise there’s a risk that you would never do anything because it would be considered too risky.”

### A case study—former soccer pro turned plastic recycler

Pennell presented a case study of a young entrepreneur who started a plastic recycling business in Mali. He recycles waste plastic into tubing for the construction industry and sells it primarily to his father-in-law’s company. He self-financed his business four years ago with money he had saved while playing professional soccer in Spain.

“On the face of it, if we’re using our risk lens, we can see a lot of risks here,” said Pennell.

“We can see a youth entrepreneur, which could be interpreted as a lack of experience in life and running a business. His product is for the construction sector, so that’s sector concentration. And he’s only producing one product, which, again, is very concentrated. And that does introduce operational risks.”

But Pennell said she was struck by the entrepreneur’s passion and commitment. His motivation to start the business was to address plastic pollution in Mali, which is a terrible problem across West Africa. It contributes to flooding and poor health outcomes and has a real economic impact as well.

The entrepreneur also believed his business could help address unemployment among youth and women, which is another problem in the region.

Pennell said she challenged the risk management department at her firm to look at his investment proposal from a different perspective.

### Looking at risk from a different perspective

“So we have a youth entrepreneur,” said Pennell. “Is it that he’s inexperienced, and that’s a risk? Or is it an opportunity because he’s young and he has energy and he has a real vision?”

“He produces a single product for a single sector. But does that mean that he’s had the opportunity to build the

experience in how to process plastics, so that he can then start diversifying his product range and the sectors that he serves?”

“And he’s self financed to date. Is he unbankable? Or should we look at it from the other direction? He has invested his life savings, so he’s got real skin in the game and a vested interest in the success of his business.”

Although the risk-management team expressed reservations, they did invest in the company, financing the purchase of new equipment to increase production. Despite COVID and two military coups in Mali that interrupted the business and delayed loan repayments, Pennell said the investment has been a success.

The new equipment has reduced the amount of plastic pollution in Mali significantly. Pennell said she helped the entrepreneur obtain a grant for a water recycling machine that reduces the company’s environmental impact. And he has diversified his business, adding a new product line that creates a lot of work opportunities for women and youth.”

“He’s become very passionate about training marginalized women and youth to work in the waste sector,” said Pennell.

The plastics recycler is not unique in his altruistic motivations, said Pennell.

“**I was really moved by the motivation amongst the entrepreneurs I’ve been working with to deliver solutions that are for the benefit of their country and their fellow countrymen.**”

### Delivering solutions for social impact

“I was really moved by the motivation amongst the entrepreneurs I’ve been working with to deliver solutions that are for the benefit of their country and their fellow countrymen,” said Pennell. “It seems to be especially pronounced in fragile and emerging markets.”

Social impact is a risk mitigant that Pennell’s firm uses to offset other risks when considering investments. She said Annona takes a broad view when evaluating an investment proposal.

They look at value chain risk, entity risk and transaction risk, each from a number of different perspectives. These perspectives include financial, governance, farmers, workers, environment and other.

“By having a more nuanced understanding of the risks,” concluded Pennell, “we can be more pragmatic about doing a risk score and make a more realistic assessment of just how risky the transaction is.”

## ADVANCING WOMEN IN SUPPLY CHAIN WEBINAR SERIES

This lecture was presented as part of CARISCA’s Advancing Women in Supply Chain Webinar Series. The series is an ongoing effort to expand our work in access and inclusion. Promoting women in supply chain is a top priority to achieve CARISCA’s goals and have a positive impact on Ghanaian and African livelihoods.

## Embracing Risk in Supply Chain Finance

Supply chain financing can be a risky venture under most circumstances. But financing businesses in low-income and emerging markets has its own unique set of risks.

On Nov. 18, CARISCA’s latest Advancing Women in Supply Chain webinar featured fund and investment manager Brenda Pennell. She spoke about her experiences embracing risk while financing agricultural supply chains in Africa.

Pennell works for Annona Deep Tier Impact Finance. The Netherlands-based firm provides investment capital to smallholder farmers in low-income and emerging-market countries.



▲ Brenda Pennell



# CARISCA ADVANCES STAKEHOLDER ENGAGEMENT

Stakeholder engagement is one of CARISCA's key focus areas. The goal is to create a strong network by engaging policymakers, the private sector and civil society organizations in supply chain research, education and knowledge transfer.

In October 2022, CARISCA held meetings with two of its primary stakeholder groups: the Partnership Coordination Committee and the Advisory Board. In November, the Supply Chain Action Network met to discuss supply chain financing.



▲ Godfred Afrifa, right, co-founder of a Ghana-based health data systems company, speaks at the PCC meeting.

## Partnership Coordination Committee

The Partnership Coordination Committee met on October 12. The purpose of the PCC is to coordinate CARISCA activities with key organizations, stakeholders and individuals in Ghana and across Africa.

The goal of the PCC meetings is to create and sustain long-term relationships with stakeholders from the supply chain industry. The hope is that these stakeholders will support CARISCA's innovative projects, which are geared toward serving local and regional supply chain challenges.

At the October 12 meeting, PCC members got to meet and hear from CARISCA partners from Arizona

State University and the United States Agency for International Development. They were in Ghana visiting with the team based at Kwame Nkrumah University of Science and Technology.

CARISCA Executive Director Dale Rogers from ASU gave an overview of the project's progress. Then CARISCA Director Nathaniel Boso from KNUST talked about plans for the coming year, followed by an open discussion.

Afterward, Margaret Linak from USAID discussed partner expectations for the project. The next PCC meeting is scheduled for June, immediately following the Supply Chain Research Summit.

## Advisory Board

CARISCA's Advisory Board met, virtually, on October 26. The board's purpose is to engage international industry leaders with CARISCA and receive advice and partnership from them to help the project achieve its goals.

During the meeting, advisory board members heard presentations on the progress of several CARISCA projects and then provided feedback. Members also expressed interest in supporting KNUST students in their pursuit of career opportunities.

The next Advisory Board meeting is set for April 12. Members expressed interest in holding a future meeting in person in Ghana.

# Supply Chain Action Network meeting

## Supply Chain Financing: the Fintech and Traditional Banking Perspective

Supply chain financing is the next frontier in managing the supply chain. It involves more than just finance plus supply chain management. Supply chain financing (SCF) is using the supply chain to fund the organization, and using the organization to fund the supply chain.

In emerging economies throughout Africa, adopting supply chain financing is an important tool that can provide benefits throughout fragile supply networks. Ultimately, SCF involves utilizing the supply chain to develop savings, generate profits and efficiently manage assets to fund the firm.

In November 2022, the Supply Chain Action Network met to discuss

opportunities for utilizing supply chain financing from two perspectives: traditional banking and fintech (financial technology).

CARISCA's Supply Chain Action Network engages supply chain stakeholders in Ghana and across Africa to discuss current topics, trends, opportunities and challenges for managing African supply chains

Following presentations and a lunch break at the Nov. 29 meeting, participants discussed supply chain financing in breakout groups and then convened for a panel discussion.

"In the last two years, financial technology has altered a lot of things and made a difference in our lives and the entire value chain in general, notably in agriculture, health and banking," said panelist Maame Yaa Amoah from the Israel Embassy

“It is essential to learn from our mistakes rather than repeating them.”

in Ghana. "This is the ideal time to discuss fintech."

More than 200 people attended the SCAN meeting, including 100 in person in Accra, Ghana, and more than 120 online.

"It feels nice to share my knowledge and experiences," said presenter Kwesi Korboe, CEO of Ghana Incentive-based Risk-sharing System for Agricultural Lending (GIRSAL). "It is essential to learn from our mistakes rather than repeating them. Participants should put what they learned at the event into practice and apply it to their workplaces."



▲ Raymond Denteh from USAID's Feed the Future Market Systems and Resilience Activity presents on the fintech financing perspective at CARISCA's SCAN meeting in Accra.



▲ Maame Yaa Amoah speaks during the panel discussion at the November SCAN meeting.





## CARISCA PARTNERS CONVENE IN GHANA

The two partners responsible for implementing CARISCA—Arizona State University and Kwame Nkrumah University of Science and Technology—and their funding partner, the U.S. Agency for International Development, gathered together in Ghana for several days in October 2022.

During the visit, project leaders met with KNUST administrators, participated in a CARISCA faculty workshop, visited local industries, met with scholarship recipients and held a meeting with Ghanaian stakeholders.

1. KNUST Pro-Vice-Chancellor Ellis Owusu-Dabo presents KNUST souvenirs to Margaret Linak with USAID.
2. From left, Nathaniel Boso from KNUST along with Adegoke Oke and Dale Rogers from ASU share a laugh with Corrie Willson and Margaret Linak from USAID during a break in the faculty workshop.
3. CARISCA team members visit the CBK roofing industry in Kumasi, Ghana.
4. Margaret Linak from USAID, center, talks with CARISCA scholarship recipients.
5. Alice Zu, president of the Procurement and Supply Chain Management Association, speaks at the Partnership Coordination Committee meeting.
6. USAID's Margaret Linak (left) and Corrie Willson (right) with KNUST PhD student Evans Amoah, a CARISCA scholarship recipient.

# CARISCA DATA SNAPSHOT

Data are cumulative through Sept. 30, 2022.





# CARISCA'S UPCOMING EVENTS

<b>March 21</b>	<b>CARISCA Training Series</b> "Selecting a Research Design"
<b>April 3–4</b>	<b>Faculty Workshop</b> "Experimental Research Designs in Supply Chain"
<b>April 12</b>	<b>Advisory Board meeting</b>
<b>April 18</b>	<b>CARISCA Training Series</b> "Crafting a Pitch for a Trade Journal"
<b>April 20</b>	<b>Distinguished Lecture Series</b> "Startups in the Supply Chain Ecosystem – Practice and Research"
<b>May 4</b>	<b>Supply Chain Action Network meeting</b> "Supply Chain Traceability: Improving Africa's Agriculture and Health Sectors"

## STAY CONNECTED

To learn more and receive project updates and information about upcoming events, please visit CARISCA's project website and sign up for our newsletter:

[research.wpcarey.asu.edu/carisca/mailling-list](https://research.wpcarey.asu.edu/carisca/mailling-list) 

This newsletter is made possible by the support of the American people through the United States Agency for International Development (USAID). The contents of this newsletter are the sole responsibility of the CARISCA project at Arizona State University and do not necessarily reflect the views of USAID or the United States Government.

CARISCA is supported through USAID's Innovation, Technology and Research Hub in the Bureau for Development, Democracy, and Innovation. The award is part of the Building Research and Innovation for Development: Generating Evidence and Training (BRIDGE-Train) portfolio.

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