

September 2014



Welcome to the autumn 2014 issue of *Velocitates*. One of the core tenets of the SWIFT Institute is the dissemination of knowledge and information, and through this newsletter that is exactly what we'll do.

The summer holidays are over, and that means Sibos is nearly upon us. This year the world's premier financial services event takes place in Boston, home to several of the top universities in the world. The SWIFT Institute is aiming to add to that - even if only for one week - by launching Sibos University, a new stream at Sibos. Sibos University features leading academics from around the world lecturing on some of the biggest issues facing the global financial industry today. It is open to all Sibos delegates, so I hope to see you there.

Our research agenda has been moving along nicely. Before the summer holidays commenced we published a new research paper by Peter Sarlin on *Macprudential Oversight, Risk Communication and Visualisation*. In the coming days we will be publishing a paper on *Network Analysis of Global Payment Flows* by Kimmo Soramäki. And we will soon be announcing the recipients of two new grants covering very topical subjects: data usage in the financial industry, and virtual currencies.

The planning for our *Cyber Security in the Financial Industry* conference is well underway. This one-day event will be held on 19 November in Belgium, in partnership with KU Leuven. Registration is now open, and a great line-up of speakers are being confirmed. This is sure to be an interesting, enlightening and thought provoking day.

Cyber security is the focus of our second hot topic article below. Here we look at what universities on both sides of the Atlantic are doing to aid in the fight against cyber attacks. Our first hot topic article relates to Sibos and this year's closing plenary guest speaker; Bill Gates. In this article the Bill & Melinda Gates Foundation's Konstantin Peric hints at how digital payments can help bring 2.5 billion people into the financial system for the first time.

We are in the midst of another interesting year. I look forward to bringing you the next issue of *Velocitates* in the coming months.

Peter Ware

Topics in this issue

[News](#), [Hot Topic](#), [Research](#), [Conferences](#), [Coming Soon](#)

New Research - Visualisation: Show me the risk!

Author

- Peter Sarlin – Goethe University Frankfurt and RiskLab Finland

The SWIFT Institute's latest Working Paper is entitled *Macprudential Oversight, Risk Communication and Visualization* by Peter Sarlin of Goethe University, Frankfurt and RiskLab, Finland.

In today's world of big data and globalisation, the need for regulators to constantly supervise the increasing influx of information related to systemic risk is key. The communication of risk encompasses the internal and external dissemination of information about systemic risks. Simple representations of complex data are, therefore, evidently in need.

The paper concludes that two essential, yet rare, features for supporting the analysis of big data and communication of risks are analytical visualisations and interactive interfaces.

The final paper was released on 19th May 2014, although Sarlin previewed his findings at *The Future of Financial Standards* conference (March 2014, London).

Download the paper [here](#).

Cyber Security in the Financial Industry

19th November 2014 at Chateau du Lac, Genval, Belgium

REGISTRATION IS OPEN

Partners

- The SWIFT Institute
- KU Leuven

The SWIFT Institute and KU Leuven will host a one day conference focusing on cyber security issues impacting the global financial industry.

Today's cyber threat is a very real and persistent one. Cyber-attacks are growing ever more sophisticated, and the landscape is becoming increasingly complex. As cyber criminals become better organised and funded, there are also state actors focusing both on snooping and disruption. Cyber security is the issue that keeps most CEOs awake at night, not least of which within the financial industry.

Cyber threats to the financial industry are not only external, but also internal. Amongst all reported cybercrimes, those committed by malicious insiders in financial services are amongst the most significant threats to networked systems and data. Financial institutions face the ongoing challenge of securing legacy systems that are linked together in an often less than ideal way. Online banking has become commonplace, whilst new digital currencies are regularly appearing (but little understood). In the post-Snowden world, cyber security has never been more crucial.

At a country and regional level cyber security is taking centre stage (e.g. the European Union's Cyber



The SWIFT
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KU LEUVEN

Security Strategy). In the world of cryptography, new developments are appearing aimed at protecting your data. What more can and should be done? What do you need to do to protect your financial institution?

In this one day event you will hear from and have the opportunity to engage with leading cyber academics and experts from the financial and technology industries as well as from those in law enforcement.

Register [here](#).



It is that time of year again...summer holidays are over, children return to school, and the financial industry returns to Sibos.

The SWIFT Institute is launching the first-ever [Sibos University](#), a programme that features leading academics giving 30-minute lectures on a wide range of topics impacting the global financial industry. You will get the chance to listen and meet academics from Harvard, MIT, Bentley, University of California San Diego, George Mason University, University of Delaware, University of Toronto, Western University, University of Tilburg, University of New South Wales, Coventry Law School, Manchester Business School and the London School of Economics & Political Science. Topics covered will include data privacy, market infrastructures and virtual currencies, cybercrime, the cloud, investor behaviour and fund management, mobile money, productivity, women in finance, standards and financial inclusion, as well as a panel session on regulation.

Sibos University begins at 9:15am on Monday 29th September in Conference Room 3. Lectures and the regulatory panel session will run throughout the day. It continues on Tuesday, Wednesday and Thursday at lunchtime each day with spotlight lectures on women in finance, standards and financial inclusion respectively. The daily spotlight lectures take place on the Sibos TV stage.

All Sibos delegates are invited to attend this new programme. You are also invited to the ***Sibos University champagne reception on Monday 29th September at 5:30pm in the convention center's exclusive VIP Bridge Club*** where you can meet and mingle with the academics.

The SWIFT Institute is also proud to be part of [Change Day](#), which takes place on Thursday 2nd October. The financial sector has undergone significant changes in recent years: uncertain market conditions, regulatory obligations, fast-evolving technology, and global shifts in economic power. Sibos will look at change from several perspectives,

including insightful contributions from non-financial sectors.

Read the full article [here](#).

Hot Topic 1

Digital Payments: An Opportunity for All

The world is changing.

We all hear that a lot - probably to the point where the words have lost their meaning. But we truly are at a unique time in history. Today, we live in a world where more than six billion people have access to a cell phone. Considering that just 4.5 billion have access to a safe, hygienic toilet, that number is all the more remarkable. And this mobile revolution promises to have repercussions across industries, countries, and cultures.

Take the financial industry, for example. Technology is allowing companies to be more efficient, convenient and responsive to their customers. With a phone in your pocket, you can access your money anytime, anywhere, making and receiving payments on the go without the hassle of a visit to your local bank branch. It's a completely different way of handling finances than even a decade ago. From all indications, the pace of innovation will only continue to increase. And I believe that these sorts of exciting changes present an immense opportunity to tackle one of the great challenges of our time - that of financial inclusion in the developing world.

[Read full topic discussion](#)

Guest article authored by

Konstantin Peric
Deputy Director, Digital Payments
Financial Services for the Poor
Bill & Melinda Gates Foundation



Hot Topic 2



Dr. Starnes E. Walker
Founding Director,
Cyber Security Initiative
Professor, Electrical &
Computer Engineering
University of Delaware



Richard Benham, FRSA
Professor of Cyber Security



Dr. Donald C Finlay
Associate Dean

Cyber Security: The University Fight Against this Growing Threat

Recent high profile online attacks on US retailers Target and eBay have caused directors around the world to sit up and take notice. The financial services sector, however, with its private shareholders and reputation for security resting paramount, tends to handle cyber-security in a different vein than most other sectors. If a large cyber attack on a bank is more a matter of 'when' than 'if', is there currently enough boardroom focus on cyber security - an area tantamount to the very systemic risk that regulators are trying to control with their recent slew of regulations?

Management and founder
of The National MBA in
Cyber Security
Coventry University

(Internationalisation)
Coventry University

The SWIFT Institute spoke to Professor Richard Benham and Associate Dean Dr Don Finlay of Coventry University in the UK, as well as to Starnes Walker, Founding Director of the Cyber Security Initiative at the University of Delaware. Both universities are setting up initiatives in order to educate students and corporations regarding advanced technology development.

Upon speaking to Benham, he was adamant that within 10 years a large bank would undergo an extensive cyber attack causing it to fail, consequently creating an immense ripple throughout the whole market. He gave the following example, "The single biggest risk to the UK isn't nuclear war, nor a biological attack. It is a cyber attack. The cyber aspect is so important now, because there is no safeguard if the whole lot comes down."

Walker agreed that the threat of cyber security is growing, both in terms of the type of networks being attacked and the number of adversaries, with more advanced capabilities being made available on the black market. A grave cause for concern is what the US Department of Homeland Security has identified as "cascading events", meaning if a critical, common node of a financial network gets attacked it would cause a ripple effect across all other nodes and multiply the amount of damage incurred.

[Read full topic discussion](#)



Crypto-war: What's in a name? You would expect that outside influences entering by stealth, wiping out everything in their paths and inflicting chaos upon large numbers of people, such as hurricanes and computer viruses, would have a systemised naming system. Computer viruses don't.

Instead of a worldwide-approved alphabetic list that everybody turns to when a virus attack is identified, there are instead three methods in which computer viruses get their names given:

- by part of its programming;
- by the programme through which the virus is spread; and
- by the discoverer of the virus.

The "I LOVE YOU" virus, so-called because of the subject title, affected over 50 million users and cost the U.S. \$15 billion to remove. Not only was the subject heading entitled "I LOVE YOU", the attachment was named "Love-letter-for-you.txt" for good measure. Another lesser-known virus was dubbed 'Storm worm' because the subject header was "230 dead as storm batters Europe".

Social media has widened the scope of malware writers considerably and as such the Koobface worm was named after an anagram of Facebook, whilst Vundo was a combination of Virtual and Mundo ("virtual world") spreading through the online community.

Heartbleed has been the most recent arrival of well-publicised viruses and was aptly named by its discoverer, Ossi Herralta of Codenomicon. Apparently Herralta thought it was appropriate to name the bug Heartbleed because "it was bleeding out the important information from the memory".

And then there's viruses with names such as Melissa, purportedly named after a lap dancer the programmer met in Florida...but that's a story for another day.

Research

New Working Paper Published

Macprudential Oversight, Risk Communication and Visualization

- Peter Sarlin – Goethe University, Frankfurt and RiskLab, Finland

Our sincere thanks to Peter for his efforts and hard work in conducting and completing this research. You can download the paper [here](#).

Four New Grants Issued

- The Role of Securitisation in China's Capital Markets
- Assessment and Management of Operational Risk in Investment Management Institutions
- Transformation in the Payment and Securities Settlement System Infrastructure
- Cross-border Low Value Payments and Regional Integration: Enablers and Disablers

Details of the new grants can be found [here](#).

Two New Calls for Proposals Issued:

- Virtual Currencies: What are the “real” risks?
- The Use and Implications of Data in the Financial Industry

The deadline for these two Calls has now passed, and submissions are currently being reviewed. The grants will be issue and announced soon.

Did you know...



*The name of the SWIFT Institute newsletter, **Velocitates**, comes from the Latin *velocitas* meaning swiftness, and in our case the plural therefore swiftnesses. **Velocitates** appeared in print in the early 1700s in the world's first scientific journal; *The Philosophical Transactions* published by the Royal Society of London for Improving Natural Knowledge. The journal's aim was, and continues to be, to inform readers of the latest scientific discoveries. A worthy aim, and a goal the SWIFT Institute will strive to emulate.*

By the Numbers

19 grants issued
7 completed

Research Underway

Unit Cost of Financial Services
Network Liquidity Effects - Network Analysis of Global Payment Flows
Impact of the Development of FMI's on Economic Growth in Developing Countries
Cybercrime
Gender Diversity
Regulatory Compliance - Extraterritorial Challenge
Standards & Big Data
Clearing & Settlement Systems in Asia
The Role of Securitisation in China's Capital Markets
Assessment and Management of Operational Risk in Investment Management Institutions

For more details visit our web site.

Completed Research

Can mobile money be used to promote savings? Evidence from Northern Ghana
Common Language in Wholesale Financial Services
The Internationalisation of the RMB: New Starts, Jumps and Tipping Points
New Regulations and Collateral Requirements – Implications for the OTC
Derivatives Market
Financing the SME Value Chains
A Dynamic Stochastic Network Model of the Unsecured Interbank Lending Market
Macprudential Oversight, Risk Communication and Visualization

To download the working papers visit our web site.

Conferences

Every year we will host at least two conferences where we will bring together academia and the financial industry to engage in dialogue on a specific topic. Some of these conferences will be intimate gatherings by invitation only, whilst others will be much larger in scale for which you can register to attend. Visit the [SWIFT Institute](#) regularly to find out about upcoming events.

Our first event of 2014 was the *Future of Financial Standards*, in partnership with SWIFT's Standards Forum and The London School of Economics and Political Science. Held on 25th March at Level 39 in London, it was a resounding success, with great insights, dialogue and ideas on bridging the gap between regulatory intent and regulatory implementation.

Future

- 19/11/2014
- **Cyber Security in the Financial Industry**
Venue - Château du Lac, Genval (near Brussels), Belgium

See the article above for details of the conference.

Registration is open - register [here](#) for this must-attend event.

Coming Soon

Here is what you can look forward to from the SWIFT Institute in the months ahead...

- Sibos University @ Sibos Boston – 29 September - 2 October 2014
- Cyber Security in the Financial Industry conference – 19 November 2014
- New working paper on Network Liquidity Effects - Network Analysis of Global Payment Flows by Kimmo Soramäki and Samantha Cook - September 2014
- New working papers published – late-2014
- Next issue of *Velocitates* – December 2014

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