



## In this issue:

- Industry 4.0, The Internet of Things and Cash Management - A Future of New Opportunities?* **1**
- Upcoming ACMA Events - ACMA Workshop at the Asia Cash Cycle Seminar in Yogyakarta* **4**
- Korten på bordet - The Untold Story Behind Sweden's Push for Cashless* **5**
- Cryptocurrency Insurance* **6**

## INDUSTRY 4.0, THE INTERNET OF THINGS AND CASH MANAGEMENT - A FUTURE OF NEW OPPORTUNITIES?

*Anthony McAndrew*

As an inquiring member of the cash management family with more than my fair share of connections in research and consulting I get to enjoy the experience of being approached by research parties looking for information on industry trends and initiatives. This year it is clear that the concepts of the Internet of Things (IoT) and Industry 4.0 have taken root in the general consciousness and furthermore that our cash management sector is active in looking at what these trends might mean for us.

The Industry 4.0 analogy is a very accessible one, bringing a historical perspective as well as clarity to the definition of what is now driving big changes in the world of commerce today. The introduction of technical developments in cyber connectivity and data utilisation are causing business leaders and innovators around the globe to reappraise their views on the value of information and the methods in which data can be harvested and how value can be drawn from it. As retail giant Tesco's Chief Data Scientist, Clive Humby, is credited as saying back in 2006, "data is the new oil".

For anyone not aware of the Industry 4.0 concept; the current phenomenon of heightened data utilisation is placed as the fourth in a series of technological advancements made by humanity since the 18th century which have propelled modern civilisation through the journey of industrialisation. The previous three being the harnessing of power through mechanisation (ie steam or water power), the development of mass production techniques for mass production and the invention of computer technology and subsequent automation.



Data has been as big a game-changer as the invention of the first steam engine.

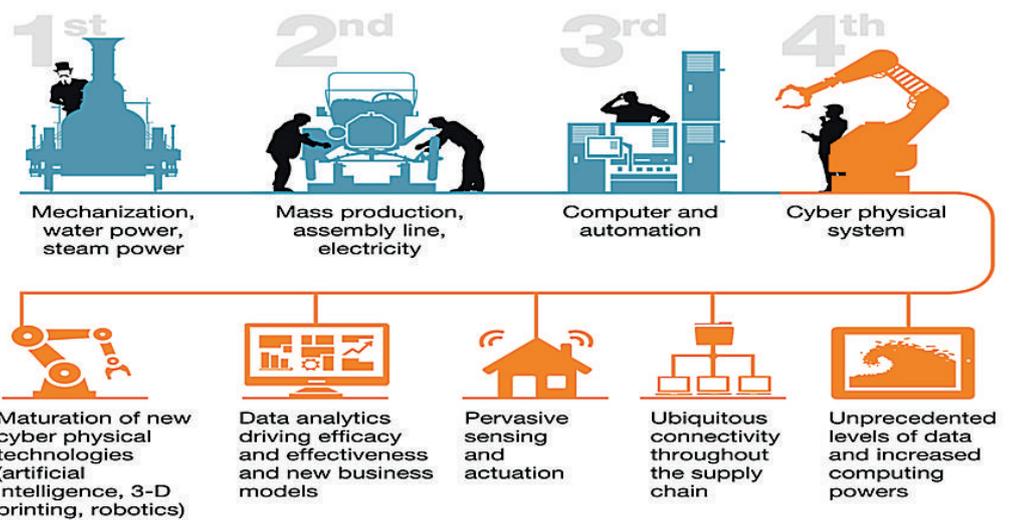
Each had fundamental impacts on humanity, principally the advancement of knowledge, capability and wealth.

*Continued on next page*

The challenge has always been in *how* to access the resulting benefits in a *cost-effective* way through **Management Reporting** without seeing a mushrooming in *administrative costs*.



Today, the volume of electronic data has increased to 35 zettabytes. To put this into perspective, a zettabyte is the amount of information equivalent to 85 newspapers for every person on earth.



McKinsey&Company | Source: *Forbes*; World Economic Forum

In the fourth industrial revolution, digital analytics enables a new level of operational productivity.

*Continued from previous page* —————

Connectivity or IoT is the reality of asset control and understanding, on a mass scale and with minimal effort. The upfront benefits begin with information capture and improved network management, but the permutations and consequential benefits are only limited by our imaginations, so the theory goes.

For decades the exponents of Six Sigma, the manufacturing-originating discipline of data analysis as the source of continuous improvement, have pointed to the value to be gleaned from data generated from production lines, test facilities and field performance. The challenge has always been in how to access the resulting benefits in a cost-effective way through Management Reporting without seeing a mushrooming in administrative costs.

The development of data mining and the processing/analysing of that data (“data warehousing”) over recent years has advanced what is practically feasible in turning acquired information into usable Management Information, or effective decision-making analysis. With most machines now capable of producing data as an ever-present by-product, the potential to turn a perceived waste into something that can add value is alluring.

Most significantly the modern developments in data handling and analytics have now transformed the landscape in what

is possible with this data and with this, the efficacy of data management has advanced in tandem with the capacity to data mine enabling businesses to run their everyday activities with data based decisions more than ever before.

This is just as well, as the explosion in data generation is quite awe-inspiring. In the decade between 2009 and today the volume of electronic data in existence has increased 44-fold, from 0.8 zettabytes to 35 zettabytes. Scary to think that a zettabyte is 1 billion terabytes, and contains the equivalent information as 85 newspapers for every person on the planet; however one tries to imagine it, it is a truly vast number and one that is growing exponentially.

At this point I imagine you have at least two questions; how do you extract meaning from this data in a commercial way and how can this help in the cash management sphere?

As said above, the value-add stage of asset connectivity and other aspects of IoT is effective data analytics and those operating in this market define three key tools for harnessing “Big Data”; OLTP (on-line transaction processing), OLAP (online analytical planning) and RTAP (real-time analytics processing).

There are dozens, if not more, established providers of these infrastructures (IaaS,

————— *Continued on next page*

*Continued from previous page*

infrastructure as a service) and applications (SaaS, software as a service) to provide the necessary expertise to bring value to your business. Often requiring bespoke development with the client, these providers open up possibilities for revenue growth, cost reduction and other benefits.

IMS Evolve are one such SaaS provider to the cash management industry. Their EV platform monitors ATM status' for a number of household names in banking and transfers real-time machine status data for 35,000 ATMs to monitoring teams worldwide. Tellingly the system's primary value is in capturing redundant information jettisoned by other vendors and using it to determine more accurate and quicker responses from service maintenance teams.

According to George Porter, Head of Evolve Productivity, where EV has been introduced machine fault-to-fix times for "second line maintenance" calls has reduced by an average of 5 hours per incident. Maintenance operations using EV have reported increased productivity of their engineers of over 100%, enabling savings of 20%+ in expenditure. Needless to say, the impact on machine uptime has been significant.

This example highlights one of the ironies of this emerging industry; that in many cases the all-important and valuable data already exists. The key to adding value has been to challenge the existing paradigms of what available information might be useful for and then working with the data warehousing industry to work out how to collect, filter and trend it is a format for the user's decision-making.

What is also illustrated by the EV example is the capacity for application partners such as IMS to drive service enhancement and cost reduction for business, driving real value from available data. However the area of greatest interest for most business

leaders is probably revenue growth, and therefore the data management industry is very focused on their product development in this area.

Marketing and advertising are front-of-mind for B2C businesses and we can all relate to how Facebook, Lazada, Amazon and others have sophisticated models for extracting data from their businesses and using it to drive sales and other revenue streams. For B2B sectors, potential revenue benefits come in different ways.

In the Logistics industry the prospect of using real-time data combined with dynamic planning capabilities is opening up opportunities throughout the market. Anyone who has ordered an Uber knows that the service price varies according to demand at the time and service availability. This concept is equally utilised by Amazon and any number of despatch services from DHL to Tesco on-line. As a result revenue growth is possible beyond the levels achieved with standard pricing structures.

A second revenue growth opportunity depends on connecting CIT crews to the business' network in real time through simple user interface apps. Through this technology CIT crews are able to feedback data on customer behaviours that cause service delays, service creep (where ad hoc requests are added to the service) or other chargeable items can be

effectively caught and presented to the billing team in a timely manner. Data analytics and back-end MI generation can ensure trends are picked up and corrective actions through contract changes or operational adjustments help drive the business forwards.

Opportunities for cash centre business are also numerous. Most operators recognise the vast amount of data already generated through the daily reconciliation process; cash stock levels, ATM return values and deposit sizes. However in many organisations this data is rarely analysed beyond the needs of reconciliation, and even less frequently is it presented in real-time and to departments outside of the accounting functions.

With the emergence of RTAP capability, decision-making information can be extracted and made available to management quickly enough for plans in resource and service delivery to be adjusted accordingly. Where central banks have implemented fund transfer mechanisms into the sector, this technology can cut hours or days from the existing, correspondent-based processes, presenting the banks the opportunity to take value out of their "on-book" floats.

*Continued on next page*



The availability of real-time data permits greater flexibility and dynamism, opening up opportunities for revenue growth.

*Continued from previous page* —————

The development of these new capabilities has a further benefit, as it can provide material for new propositions to be forged with the region's regulators, providing concrete evidence of the values of currency management outsourcing and the decentralisation of traditional central bank activities.

Perhaps this is one of the greatest opportunities presented by these new technologies for our industry; that they create the context and demand for new services and products from the banking industry, thereby ensuring our relevance is regenerated in line with customer expectations for future years.

It seems more and more clear that we are on the cusp of another technological

leap forward in the history of industrial man with Industry 4.0. The question for everyone is, how do we extract value from the new fuel that lies behind it – data.

---

Anthony McAndrew is the Principal Director of Astute Outcome Asia Sdn Bhd., a Malaysian company focused on using emerging technologies to bring value to the industry.

## UPCOMING ACMA EVENTS

### ACMA WORKSHOP AT THE ASIA CASH CYCLE SEMINAR IN YOGYAKARTA

**4-6 SEP 2018**

**Fees:** US\$250 per person (50% discount for ACMA members)  
See <http://asia.iccos.com/workshops> for more info.

#### *PART I: Future of Cash*

Cash is presently the main form of payment globally, except for Scandinavia, and cash in circulation continues to grow globally at 5% year on year. This is even more so in many parts of Asia and Africa, where high single-digit and double-digit growth rates are common.

However, digital payment methods are fast becoming more popular although more expensive per transaction in many cases when compared to cash.

In Sweden, there is concern that if cash was to be removed altogether, there would be no counter balance to the cost of digital payments.

The ACMA Workshop will explore per country basis Cash vs Digital payments, the impact digital payments will have on future cash payments and how the type of payments employed are linked to GDP, population mean age, percentage of unbanked population and average wage. It will also discuss legislation or regulation in the cash cycle and its impact on the commercial cash operations.

#### *PART II: Attacks/Fraud and Risk Mitigation*

Attacks against businesses that process and move cash and valuables is an ever-present risk from both internal and external losses.

The Workshop will explore the types of attacks experienced by each country represented by ACMA members and compare them to the losses experienced by European businesses where criminals or criminal gangs are more sophisticated and organised.

Mitigation is vital in reducing the known risks and anticipating future risks. This requires a clear understanding of the markets we operate in through a detailed risk assessment which in turn drives the measures required to mitigate the risks or future risks and will identify the investment needed to protect the assets and personnel under our protection.

Insurance is a key component, but does not remove the professional obligations that we as an industry need to put in place to protect all the assets in our control.

# KORTEN PÅ BORDET - THE UNTOLD STORY BEHIND SWEDEN'S PUSH FOR CASHLESS

*Tan Jit Kent*

To most non-natives, the mention of Sweden often conjures up several thoughts: meatballs, affordable home furnishings, and ABBA, to name a few. The monetarily inclined may also know of Sweden as one of the leading pioneers in a cashless economy, with the country's current trajectory towards total cashlessness often described as a successful model for both cutting costs and reducing crime. While this may possibly be true, it isn't quite the complete story, according to Björn Eriksson at least. In his 2014 white paper *Korten på bordet*, Eriksson dissects this issue in detail – identifying the main stakeholders driving the cashless movement, questioning the narratives they have put forth, and discussing what may be their actual reasons for pushing the cashless agenda. Eriksson's paper also discusses the vulnerable groups who stand to lose out in a society totally devoid of physical money – and according to him, this includes virtually everyone.

The cashless lobby in Sweden is led mainly by three major commercial banks, together with bank-owned credit card companies. The arguments put forth for this shift range from environmentalism and public health, to crime prevention, to cost reduction. In his paper, Eriksson has deconstructed these arguments and refuted them with his own thoughts and findings. He points out that cash generates virtually no return for banks, whereas digital money does. Very much so. And that's where the logic lies. Credit cards



Cash is an important bargaining chip in maintaining the balance of power between banks and consumers.

are already highly profitable for banks, and they stand to make even more profit if cash were to disappear entirely. With cash out of the picture, bank-controlled digital transactions would become the only means of payment. The banks would effectively have free reign, with near-absolute discretion to impose new fees and various controls for digital transactions. Consumers meanwhile would be at their mercy, having to accept potentially unfair terms in the absence of alternative payment methods. Eriksson thus highlights cash as the sole safeguard against such abuse of power by commercial banks and credit card companies.

The importance of cash isn't limited to that alone though, as Eriksson elaborates further in his paper. He provides four arguments for retaining cash as a payment option.

Firstly, cash provides its users with privacy and independence which cannot be rendered by digital payments. Digital payment service providers have demonstrated that they are able to authorise or block transactions to businesses which they deem immoral. Eriksson draws two conclusions from this: primarily, that businesses and consumers alike are at the mercy of payment service providers; and secondly, the more insidious notion that these companies monitor and record each and every attempted purchase from each and every customer.

Secondly, cash provides a level of inclusion that digital payments have not yet achieved. For instance, immigrants, individuals with debt, and former criminals may not be part of the banking system. Eliminating cash would make their already difficult living situations considerably worse.

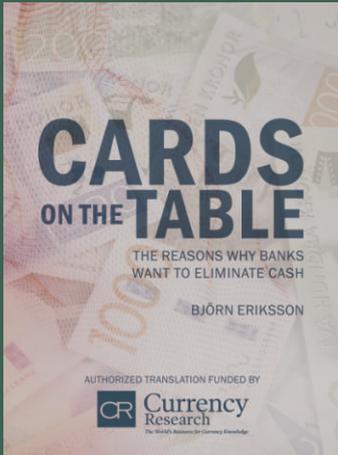
Eriksson's third argument is perhaps an extension of his second one on inclusiveness: small businesses and rural communities simply can't do without cash. The limited scale of small retailers' operations often precludes usage of card payment



Cash is a very important resource for remote rural communities in Sweden who are not yet equipped to go fully cashless.

*With cash out of the picture, bank-controlled digital transactions would become the only means of payment.*

*Continued on next page*



The English language translation of *Korten på bordet*.

*The response from investors to this threat has been to move a significant portion of their cryptocurrency assets off-line...*

*Continued from previous page*

machines. At the same time, they may be located in remote areas with no Internet connectivity. Going completely cashless would thus force such businesses to either move or shut down, resulting in rural municipalities experiencing further deteriorating services and greater emigration than ever before.

Finally, Eriksson argues that cash is valuable for its simple robustness. Digital payments are presently still vulnerable to malfunctions, hacking, and power outages. In Sweden, he says, power cuts are common. Having cash as a stable backup would go a long way towards mitigating the ensuing chaos in the event that digital payment is rendered unusable by some disruption or other.

*Korten på bordet* wraps up by concluding

that banks have a clear vested interest in eliminating cash as a payment method. And it is this which fuels their fierce lobbies to the Swedish government. With so much at stake for everyone, Sweden's elected representatives are faced with an important decision. And it is one which must be made with the wellbeing of Sweden's citizens in mind, rather than that of its banks.

*Korten på bordet* (translated as "Cards on the Table") is a white paper written by Björn Eriksson to draw attention to the strong lobby against cash, and its wider implications. The paper has been translated into English courtesy of Currency Research and this translation is available in its entirety [here](#).

Björn Eriksson is extensively experienced in a variety of security organisations and areas. He is currently Head of *Säkerhetsbranschen*, a lobbying group for the Swedish security industry, and has recently been elected as Chairman of the National Sports Confederation in Sweden.

## CRYPTOCURRENCY INSURANCE

*Dominic Watson*

Despite wildly fluctuating values, the rapid growth of the cryptocurrency market continues with an estimated 6 million people worldwide now owning cryptocurrencies. This has led to established security companies and financial institutions starting to enter the market.

This rapid rise in ownership has been mirrored by a huge increase in the amount of hacks and thefts from online platforms. The most famous case was in 2014 when the Mt. Gox Bitcoin exchange was hacked, losing 850,000 Bitcoins but stories of on-line exchanges and individuals losing their holdings continue today.

The response from investors to this threat has been to move a significant portion of their cryptocurrency assets off-line by storing the private keys to a Bitcoin address either on paper, a hardware "wallet" (similar to a USB device) or on an "airgap" computer (one with no internet connection).

The ultimate secure solution being offered by the exchanges, security companies and



With more people worldwide beginning to take up cryptocurrency, hacks targeting their platforms have also grown more frequent.

dedicated cryptocurrency custodians is to split the private keys into several parts and put them into "cold storage". The wallets or computers containing each part of the code are then stored in separate secure vaults, often thousands of miles apart.

### Coverage

JLT has been working with specialist markets, predominantly in Lloyd's of London, who can provide coverage for the physical

*Continued on next page*

Continued from previous page

loss or damage to cryptocurrency private keys resulting in either (i) the cryptocurrency becoming unrecoverable or (ii) an unauthorised transfer of cryptocurrency to a third party.

This product is offered by a limited number of Insurers currently but limits in excess of USD \$500,000,000 are available.

#### Demand

We have recently seen a strong increase in enquiries about this product as cryptocurrencies become more mainstream. As demand increases, we are seeing growing capacity and competition from the insurance market.

Clients are looking for cover so they can offer an insured service to their customers.

#### Information Required to Obtain a Quote

Usually a dialogue is required with Insurers in order for them to gain a full understanding of individual risks but key information is:-

- Background and experience of Insured
- Regulatory control and licenses held
- Financial crime risk controls - anti-money laundering, sanctions, bribery & corruption etc.
- Details of key/wallet creation and cryptocurrency deposit procedures
- Details of cryptocurrency withdrawal procedures
- Physical security of your premises

For further information, please contact Dominic Watson, at JLT.

**ACMA CURRENCY NOTES** is a quarterly industry newsletter read by over 4000 professionals in the cash handling industry globally.

Advertise with us to increase your presence across Asia, Africa, and Australia & Oceania.

#### **Members pay**

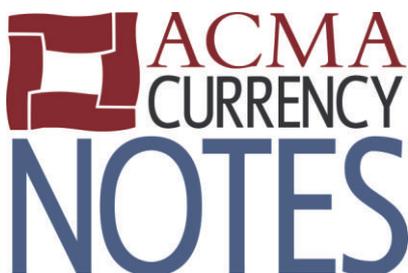
**\$400** for a full-page advertisement;

**\$200** for a half page; and

**\$100** for a quarter page.

**Non-members pay double.**

Send enquiries to Tan Chee Meng at: [tancmsia@gmail.com](mailto:tancmsia@gmail.com)



## SHARE YOUR INSIGHTS

If you would like to have an article published in the ACMA Currency Notes, please write to Tan Chee Meng at: [tancmsia@gmail.com](mailto:tancmsia@gmail.com)

# ABOUT ACMA

## *Mission*

To provide a platform for Cash Management Companies (CMCs) in Asia, Africa and Australia & Oceania to raise their professional reputation and standing in the Cash Handling and Cash Management Industry, and to act as a representative with the appropriate authorities on issues of common interest.

## *Founding Members*

AB Securitas	Phiroze Kevin Pestonjee
Currency Research	Richard Haycock
Linfox Armaguard	Scott Forster
Spearpoint Group	Ted Devereux

## *Office Bearers*

<b>Chairman</b>	Óscar Esteban, Prosegur
<b>Executive Director</b>	Ted Devereux, Spearpoint Group
<b>Secretary</b>	Tan Chee Meng, Currency Research

## *Committee Members*

Abdul Malek Bin Sutan, Meps Currency Management  
Scott Forster, Linfox Armaguard  
Huseyin Memis, Streamcorp Armoured  
Baskaran Narayanan, Brink's  
Phiroze Kevin Pestonjee, AB Securitas  
Charles Wink, G4S

[www.acma-asia.org](http://www.acma-asia.org)

To become a member, write to Tan Chee Meng at: [tancmsia@gmail.com](mailto:tancmsia@gmail.com)

## *Contributors to this issue:*

Anthony McAndrew  
Tan Jit Kent  
Dominic Watson