

Standardisation: A *conditio sine qua non* for efficient payment services

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Gerard Hartsink was the Convenor of the RMG of ISO 20022 until 7th November, 2013, and the Chairman of the EPC until June 2012. He is currently the Chair of the Board of the CLS Group. In January 2014, he was nominated by the FSB as the Chair for the GLEIF (Global Legal Entity Identifier Foundation). He has considerable experience in the payments and securities industry and also as former director of the Boards of LCH.Clearnet, Euroclear Netherlands and of SWIFT. Gerard had an extensive career at ABN AMRO Bank as Senior Executive Vice President until June 2012. He holds master's degrees in political economy (University of Amsterdam) and law (Free University, Amsterdam).

ABSTRACT

Standardisation is an essential condition for delivering cost-effective, secure and easy to use payment services to customers. The cost of retail payments instruments in Europe are about 1 per cent of GDP. The globalisation of trade and the development of e-commerce require that national approaches to legal and technical standards should no longer be supported by policy makers and market participants (suppliers and buyers).

Keywords: *retail payments, legal standards, technical standards, ISO 20022, ISO TC 68, EMV, SEPA, Rulebook*

INTRODUCTION

This paper presents an overview on the development of standards in the payment industry, in particular for readers not familiar with these standards. To ensure easy to use, cost-effective and secure payment services to customers, agreement is required on technical and legal standards among suppliers of payment services and with their customers. The globalisation of international trade and rapid e-commerce developments require that these standards should become global.

STANDARDS

If policy makers and market participants in the payment industry talk about standardisation for the payment industry, they mostly have a different perspective in mind. The following meanings can be recognised.

- *Policy standards* such as the Committee on Payment and Settlement Systems–Technical Committee of the International Organization of Securities Commissions (CPSS-IOSCO) Principles for Financial Market Infrastructures, which were published in April 2014. The 24 principles are intended to harmonise the international

standards used by the public sector for their rule making, supervision and oversight for payment systems (and securities systems) that are systemically important. All CPSS and IOSCO members are expected to adopt and apply these principles to the relevant financial market infrastructures to the fullest extent possible in their jurisdictions.¹

- *Public legislative standards* such as the 'Directive on Payment Services' (PSD 2007/64/EC) and the draft 'Regulation on interchange fees for card-based payment transactions' (2013/0265 (COD)) of the European Union or the 'Final Rule Establishing Standards for Debit Card Interchange Fees and Prohibiting Network Exclusivity Arrangements and Routing Restrictions' (29th July, 2011) of the Board of Governors of the Federal Reserve System for the USA.²
- *Private legal standards* for the scheme participants in payment systems such as the SEPA Credit Transfer and the SEPA Direct Debit Rulebooks of the European Payments Council³ and the CLS Bank International Rules.⁴ These legal rules stipulate the legal relations between the scheme participants.
- *Technical standards* for the scheme participants and/or their customers and their clearing and settlement organisations. In the payment industry, many ISO (identifier and messaging) standards⁵ are used, but other standards such as EMV are also important.⁶

TECHNICAL STANDARDS FOR THE PAYMENTS INDUSTRY

The basic four-party model in Figure 1 gives an overview of the four market participants that are, in general, involved in the delivery of payment services.⁷ The payment service providers need an agreement (Rulebook) with the legal and technical standards to exchange the relevant

data for taking care of the funds transfer from the payer to the payee. Such an agreement is part of the cooperative space of for executing a payment. This cooperative space could be thin or thick, depending on the level of cooperation that was agreed in the payment scheme (Rulebook) of the market participants.

An efficient payment service is only possible if the scheme participants have an agreement on the legal and technical standards for the cooperative space of the payment service. The technical standards include identifier standards, messaging standards and remittance data standards.

The cooperative space of a payment scheme could also include the technical standards of the payment service provider (bank or others) to their customers. These standards are often optional, but can be recommended or mandatory (in the Rulebook or by legislation). An agreement on the technical standards of the service provider to customer space is often hard to achieve between competing payment service providers. Several business organisations and some public administrations have taken a leading role in this domain of technical standards.

COSTS OF RETAIL PAYMENTS IN SOCIETY

The development of payment systems in the individual jurisdictions resulted in efficient payment systems within that jurisdiction with the currency involved. The end-to-end efficiency for payment between a payer and payee in two different jurisdictions is not optimal, because few international standards were chosen for the payment scheme (or variants of international standards were implemented). Scheme owners of payment systems should take a proactive position to implement global technical standards to support the customers of payment service

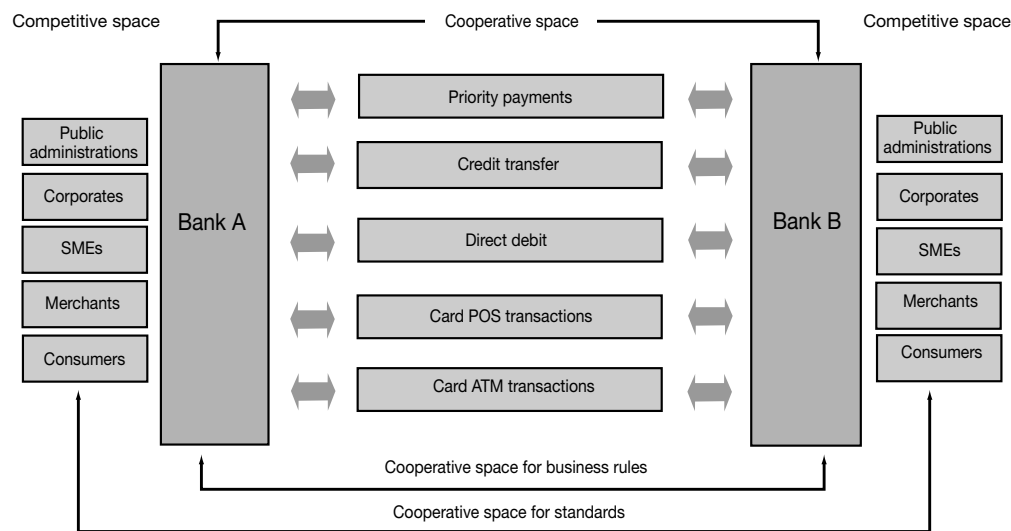


Figure 1
Competitive and
cooperative space
chart

Source: <http://www.abnamro.com>

providers in a globalised business world.

The costs of retail payments in society are mostly not understood by policy makers and market participants. In a recent study of the European Central Bank,⁸ based on a sample of 13 participating European Union (EU) countries, the social costs of retail payment instruments are being estimated close to 1 per cent of GDP. This study also concluded that 50 per cent of these cost are incurred by banks and infrastructures, and that 46 per cent are incurred by retailers. The remainder of the cost are related to central banks (3 per cent) and transit companies (1 per cent). In addition, it was concluded that economies of scale are relevant for all payment instruments. These economies of scale can only be realised if all market participants support the same legal and technical standards.

PORTFOLIO OF TC 68 TECHNICAL STANDARDS

ISO standards are increasingly chosen by payment scheme managers and imple-

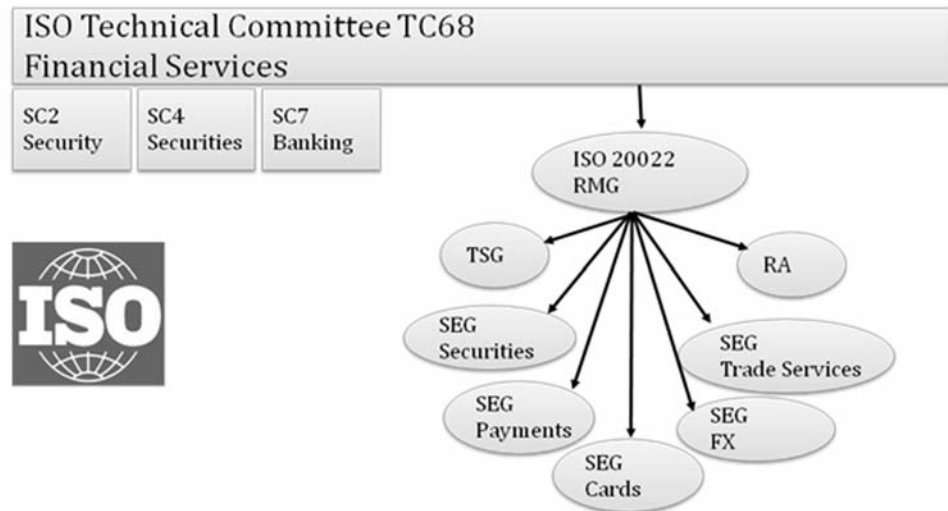
mented by scheme participants, often encouraged by policy makers and/or businesses. Many, but not all, of the technical standards for the financial industry are developed and maintained by ISO (see Figure 2).

A broad suite of relevant standards is available, such as the identifier standards for businesses (Business Identifier Code: ISO 9362), account numbers (International Bank Account Number: ISO 13616), currencies (ISO 4217) and countries (ISO 3166). The Standards Committee 7 (SC7) supports the necessary development of these standards.

ISO (TC 68 and all other technical committees (TCs)) has a strict maintenance process, with mandatory consultation to amend its standards if required by the market participants or asked for by the public sector.

On the initiative of the Financial Stability Board and with endorsement of the G20 nations, a Regulatory Oversight Committee (ROC) was established in January 2013.⁹ The ROC, with 70 authorities in its plenary meeting, oversees that

Figure 2 ISO technical committee flow diagram



Source: <http://www.iso20022.org>

there will be a unique identifier for each legal entity and that standards are applied to the origination and maintenance of a Legal Entity Identifier (LEI). The ROC and ISO agreed to create LEI standard ISO 17442 for this purpose. It is expected that, in time, all legal entities will have a LEI for including (mandatory or optional) in financial transactions.

Also, for messaging standards, payment scheme managers have several options to choose from, including several proprietary standards of organisations, such as the MT messages of SWIFT, messages used by Clearing and Settlement or RTGS systems and ISO messaging standards such as ISO 8583 for card transaction and ISO 20022 messages for payment transactions. ISO 20022 messaging standards are increasingly chosen by scheme managers of retail, card and RTGS payment systems.

ISO 20022 MESSAGE STANDARDS

ISO 20022 standards are messaging standards for exchanging data electronically in a structured way between market participants. The most widely used syntax for

ISO 20022 standards is extensible mark-up language (XML).

ISO 20022 messages are created with a ‘cookbook’, ‘ISO 20022 Financial Services: Universal Financial Industry Message Scheme’.¹⁰ The cookbook has eight parts, eg ‘Modelling Part 3’) and XML schema generation. The ISO TC 68 members take care of the maintenance and approval of any changes in the recipes.

The organisational process for creating ISO 20022 standards is described in the ‘ISO 20022 Registration Bodies: Governance’ of 15th May, 2013.¹¹ The major bodies are the Registration Management Group (RMG), which approves the Business Justifications of submitting organisation for the creation of a standard based on a business process description, the Standards Expert Groups (SEG) for developing, maintaining and approving the standard and the Registration Authority (RA). The RA has a notary public function for the process and filing of the standard. The Technical Support Group provides technical support to all ISO 20022 bodies and to the submitter of Business Justifications. All ISO

members are entitled to participate in the SEGs.

For the payments industry in particular, the work of the Payments SEG and the Cards SEG is relevant. For both business domains, a message dashboard is available that gives an overview of the business processes supported by either existing ISO 20022 message definitions or by candidate message definitions for which a Business Justification has been approved by the R.MG.¹²

For the payments (retail and large value) domain, there are many message standards available supporting cash account management, payment initiation, for payment clearing and settlement, cash management and for financial investigations of authorities.¹³

For the cards domain, there are messages available for supporting card transactions between acceptor and acquirer, acquirer and issuer, sale system and point of interface, terminal management, card clearing and settlement and fee collection.¹⁴

IMPLEMENTATION OF ISO 20022 MESSAGE STANDARDS

In many communities, a decision has been taken to implement the ISO 20022 standards for retail and large value payments. An overview of the majority of the implementations is available on the free downloadable app Forum Standards, with over 60 initiatives in the payments and securities industry.

The Single Euro Payments Area (SEPA) programme is the largest implementation for retail payments of the ISO 20022 standard, with more than 500 million citizens and over 20 million businesses and European public authorities. The SEPA regulation of the European Union (EC 260/2012)¹⁵ aims to create a single market for euro payments and marks 1st February,

2014, as the point at which all credit transfers and direct debits in euro should be made under the ISO 20022 formats of the SEPA Credit Transfer (SCT) and SEPA Direct Debit (SDD) of the European Payments Council as its scheme manager.¹⁶ Another example is the implementation of ISO 20022 for low-value cross-border credit transfers by partners in the USA and Germany of the International Payment Framework Association.¹⁷

For large-value payment, the prominent examples for the implementation of the ISO 20022 standard are the choices made by Reserve Bank of India and the European Central Bank for their RTGS.¹⁸

TECHNICAL STANDARDS FOR CARD TRANSACTIONS

The standardisation for card payments has the result that consumers are able to make card payments and cash withdrawals in any currency around the world.

In the card payments market, many stakeholders are involved, such as issuing and acquiring companies (banks), merchants, many domestic and some global card schemes, card processors and technology providers.

A large suite of card standards is available, such as ISO 7813: Financial Transaction Cards; ISO 7816: Integrated Circuit Cards; ISO 14443: Contactless Integrated Cards. ISO 7812 is the main standard for identification of the issuer (IIN: Issuer Identification Number), the bank (BIN: Bank Identification Number) and the customer (PAN: Primary Account Number). In addition to plastic cards, the chip of a mobile handset has become an important payment initiation device.

For messaging standards, there are proprietary and ISO standards available, such as ISO 8583 and an increasing number of ISO 20022 standards.

The EMVCo organisation, owned by the larger international card schemes, manages and maintains and enhances the specifications for integrated circuit chip based payment cards and acceptance devices, including the point of sale (POS) terminals and automated teller machines (ATMs).¹⁹ The PCI standards of the cards industry are focused on standards for security and data protection.²⁰

The public sector (policy makers, central banks, competition authorities) in many jurisdictions plays an active role in reducing the cost of card payment services and removing legal and technical barriers for market participants. In addition, the major merchants (food, non-food, petrol, travel) are asking for global solutions to reduce the cost of card payment services.

The European policy makers asked for a SEPA for Cards.²¹ To achieve this objective, a Card Stakeholders Group (CSG) was created, with five representatives of five sectors: banks, merchants, card schemes, processors and vendors (manufacturers of cards, devices and software).²² The major delivery of the CSG is, so far, the 'SEPA Cards Standardisation: Book of Requirements Volume 7'.²³ These requirements aim to achieve interoperability based on open and free technical standards within SEPA. The volume has six books covering areas such as functional requirements, data element requirement and security requirements. So far, there is no joint view of the representatives of the five sectors as to which technical standards meet the requirement of the public objective. In particular, for the POS to acquirer message standards a joint position will be hard to achieve.

Several industry initiatives are, in addition, taking care of part of the end-to-end process of card payment standardisation, such as the EPAS initiative, with a focus on terminal management, payment application and integration in retail systems²⁴

and the Berlin Group, with the focus on clearing and settlement messages.²⁵ These two initiatives support ISO 20022 standards for their domains.

CONCLUSION

To deliver easy to use, cost-effective and secure payment services to customers, cooperation on the technical standards of market participants (suppliers and buyers) is a *conditio sine qua non*. The globalisation of trade and the development of e-commerce require that national approaches to standards for the payment industry should no longer be supported. The public policy makers and the members of the CPSS of the Bank for International Settlements should encourage scheme managers and market participant to use only global standards, to ensure that market participant are not faced with technical barriers to their payments.

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- (6) See <http://www.emvco.com>.
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- (13) *Ibid.*
- (14) *Ibid.*
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