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Edition 77

eBill – With a Focus on Customer- Centricity

Interview with
Patrick Graf,
PostFinance

The QR-bill Shows Off
Its New Look

Customer-Bank Data Traffic
with ISO 20022
– Blessing or Curse?

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Additional information about the Swiss payment traffic systems can be found on the Internet at www.six-interbank-clearing.com

FRONT PAGE

Patrick Graf, Member of the PostFinance Executive Board

Dear reader,

The next impulse for digital Switzerland is the QR-bill. I am looking forward to 1 July 2020, the date when bill recipients will find the first QR-bills in their P.O. Box.

When they receive their first QR-bill, private persons will ask themselves just how they can pay this bill in their e-banking system. "Where did that darned reference number go?" Retail banks, in particular, must decide early on when and how they will familiarize their private customers with the QR-bill, and which tools they will make available to help them easily deal with the QR-bill.

Companies must ask themselves whether their accounts payable software will support the processing of the QR code on 1 July 2020. Even if the accounts receivable department does not yet intend to issue QR-bills. Correspondingly, banks should already inform companies regarding the accounts payable aspect and motivate them to sensibly plan, budget and implement an upgrade of their software by 1 July 2020.

The question for software providers is: What is the latest time for completion of the development and testing of the software, to ensure that there is sufficient time to supply all their customers with the QR-capable version of their software by 1 July 2020? For banks, it means making their test systems available as soon as possible so that software providers may test the QR-bill against the banks' systems ahead of the rollout.

Individual banks will find out on 1 July 2020 whether all stakeholders were given sufficient consideration, if the right steps were planned, initiated and implemented in the right order and whether the frontline staff has been adequately trained and are up to performing their support role towards their customers.

An exciting challenge! The ISO 20022 migration has taught us that the challenge can be met with early and proactive planning, timely allocation of resources and customer-oriented communication.

Parallel to the introduction of the QR-bill, it is also time to take a look contents-wise at the next impulse for a digital Switzerland – further development of the eBill. The issue of clarity you have in front of you gives you a glimpse of where the eBill journey is going.



We give you a little hint: With the possibility of converting a QR-bill into an eBill, the course is set for seamless, digital payment transactions.

Markus Beck

Head of Product Management Payments Corporate Customers, Raiffeisen Switzerland, Member of the Board of Directors of SIX Interbank Clearing

Patrick Graf,
Member of the
PostFinance Executive Board
and Head of Corporates,
Board of Directors Chair,
SIX Interbank Clearing



eBill – Consistent Customer Focus Is Indispensable

The strategic goal of the Swiss financial center to digitally process 80% of invoices to individuals with eBill by 2028 is an ambitious one. To convince customers, generate benefits, dispel security concerns and, last but not least, solve trivial process problems – those are the challenges according to Patrick Graf, Member of the PostFinance Executive Board and Head of Corporates, and SIX Interbank Clearing Ltd Board of Directors Chair. What is the correlation between eBill and the QR-bill? He also provides the answer to that question in the following interview.

Mr. Graf, how much paperwork do you have to pay your health or accident insurance bills, your tax or your dentist bills?

Too much. Still. However, when billers offer eBill, then I generally make use of that as a consumer. Nevertheless, I still receive a lot of paper bills.

The reasons for this are most likely diverse. Take healthcare, for example – doctors, pharmacies, drugstores, hospitals – with around 34,000 service providers. Why is it that only around 0.1% of them uses eBill?

In the health insurance environment there's a triangular relationship: the health insurance company, the service provider and individuals. The doctor generally does not participate in the eBill service, while the health insurance company does, since eBill is an efficient tool for them. Therefore, premiums are more frequently paid with eBill than are the individual services.

For regular payments, such as premiums, we are making promising progress with eBill; a single payment, such as that from a doctor, is normally not paid with eBill.

“Not only the biller, but also the bill recipient must be convinced of the benefits of eBill.”

Just over than 1,000 billers are currently using eBill. Where do we need to get things moving to ensure that a majority of the 600,000 Swiss companies use electronic invoicing?

PostFinance has around 1,500 billers that deliver eBills. Today, eBill runs through at least two systems, which is very time-consuming for billers. A certain billing volume is needed to make this effort worthwhile. The implementation needs to become easier for business customers so that eBill can be quickly put into use. That's an important point. The second point concerns individuals. We are dealing with a two-side economy here. Not only the biller, but also the bill recipient must be convinced of the benefits of eBill.

So it's the old chicken-and-egg conundrum?

Exactly. I believe that we have convinced the larger billers. They are, of course, wondering what the benefit is for them, because we currently have too few transactions if we compare the different payment types.

We need to do more work when it comes to potential eBill recipients. That's because eBill is well designed in operational terms, and is geared to the payments processes, but not to the needs of the end-customer. Here is an example: I have a bill that I wish to deduct from my taxes. What do I do now? How could I remember in March, when I fill out my tax declaration, that I should deduct from my taxes a payment made in August?

Print it out!

Voilà. And where are we then? Lost in piles of paper – as in your first question. We have to consider ways in which we can improve. On the business customer side, we need to clearly emphasize the advantages. eBill, for example, is a great cash management topic: more than

99% of payments that are invoiced via eBill are paid on time. If you know that tomorrow you will receive 99% of your outstanding payments, you can handle your liquidity quite differently.

Switzerland's new central eBill platform, to which all participating banks, with more than one million customers, will switch in the foreseeable future, shall be a pioneer for companies and consumers towards an integrated digital invoice processing. Why is this eBill platform pioneering? Is this the basis for what is still lacking, convenience and customer focus?

There's a great diversity in the B2B sector today; each financial institution has implemented its own eBill solution in its e-banking system. With the eBill initiative, the paying of eBills will become more convenient through this central platform. In addition, central processing should simplify processes and promote innovation. New features can be implemented on the central platform with no need for each financial institution to develop and operate them in parallel. This eBill standard makes it easier to convince billers.

But that would have been more than just a technical migration.

Yes, that's right. There's hard work behind such a platform. It will ensure that by 2028 we can reach our goal of digitally processing 80% of invoices to individuals with eBill. New requirements will emerge. For me, for example, the tax receipt is important. Other users need other things – things that perhaps could attract many more people to eBill than we can imagine today.

“We must increasingly think from the customer's perspective.”

When will this added value – e.g. for taxes – become reality? When will multi-banking customers be able to proceed optimally?

This cannot yet be determined. We must increasingly think from the customer's perspective.

Currently, this is primarily taking place with steering measures, such as charging fees for the payment of paper bills...

There are always two possibilities for bringing about a change in behavior. You can convince people with good ideas and good products, or you can steer behavior through price setting. Naturally, we must work on both fronts. We cannot merely steer behavior. Otherwise, we will lose customers.

Speaking of steering. In our neighboring countries, Austria, Italy and France, suppliers to public administrations have been required to conduct electronic invoicing for some time now. The Swiss federal government followed suit in 2016. Since then, its suppliers must submit invoices exceeding CHF 5,000 electronically. This is also a steering measure. What influence does this e-governance measure have on the use of eBill in Switzerland?

The Swiss federal government receives around 60% of bills electronically – including PDF bills. There are recurring and one-off suppliers. The one-off suppliers, as far as I know, do not need to submit an electronic invoice. This measure really had an impact on the federal government. They have adapted their processes. On the other hand, eBill does not fit within the processes of many customers. Let's take, for example, an SME to which you send an eBill. Where does it arrive? In the e-banking application of the SME's bank. It does not arrive in the bookkeeping department where the invoice is booked, but usually in the release queue of the person in charge of making payments. What does he now do? He no longer has a receipt. He must first print out the invoice, and then book it. And only after it has been booked is it paid. So we must still solve quite trivial process problems.

You are talking about media disruptions. There's no straight-through processing for SMEs.

That's right. Now, of course, there's business software that attempts to coordinate these processes. Nevertheless: We have already been proceeding with eBill for a few years and unfortunately have not considered this aspect. We have mostly considered things from a bank-operation perspective and not placed ourselves in the customer's situation.

Why was this customer side forgotten? When it comes to the payment of bills, there are always two sides.

I suspect that the existing processes were digitalized in a first step, without considering the possibilities that digitalization brings for customer relations. The process may be excellent in the analogue sector, but then suddenly no longer so in the digital world.

Paying an electronic invoice is easy, safe and fast. At least according to the advertising on the new eBill website. But how secure is e-banking really? From hackers? From data theft? Many individuals are skeptical about eBill, not least for this reason. What arguments do you have against such reservations?

Probably around four to five million people in Switzerland have e-banking – truly a large number. Whereby, perhaps half of them regularly use e-banking. In regard to reservations or fears, it is always somewhat difficult to comprehend them. Currently among the non-users is a group of around 10% to 15% who have

“

To promote confidence in eBill requires clarification on the one hand and a certain goodwill promise by the bank, on the other.

”

Patrick Graf

security concerns and therefore do not use e-banking. This group is very much afraid of hackers. However, e-banking is more secure than cash, which can be lost, stolen or counterfeited. Cash payments are the most insecure payment option there is. Only – you see and hear a lot less about it than you do when a hacker attack is conducted successfully. Other payment options, such as payment orders on paper, also come with uncertainties. A payment order can be changed – therefore you have to bring it to the post office and cannot simply place it in a mailbox. Every payment method has its risks. Statistically, e-banking is the most secure. To dispel misgivings and promote confidence in eBill requires clarification on the one hand and a certain goodwill promise by the bank, on the other.

The eBill website features new imagery and advertises with slogans such as “Pay digitally – gain time for the essentials”. Both the language and slogans are rather untypical for the serious payments world. How did you react the first time you saw these images? What expectations do you have of these measures?

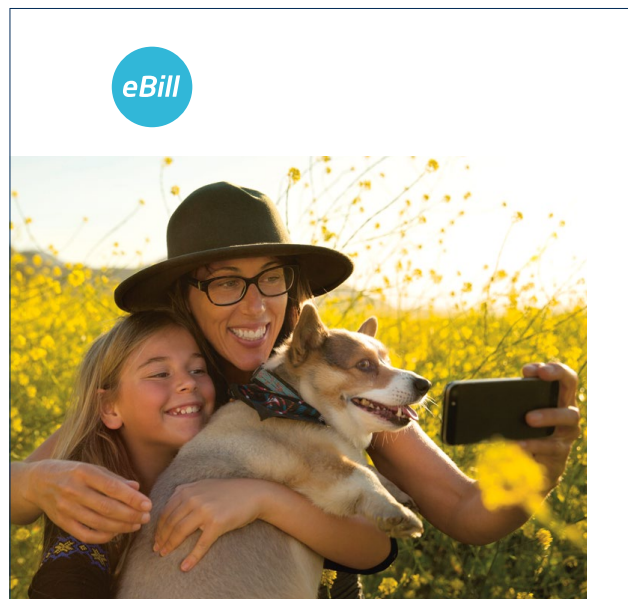
Paying bills is not the most popular pastime. That is why you want to spend as little time doing it as possible. The new imagery supports this notion by evoking emotions and making clear that: I no longer need to write down hundreds of things or type in reference numbers. I like the playfulness and the message that I gain time for more important things through eBill.

“We are now in the process of harmonizing the slip diversity with the QR-bill and are already taking the next step with eBill.”

The promotion of eBill at the expense of paper billing is the overriding goal of the financial center. And now comes the QR-bill, which can also be used digitally starting mid-2020. What is the relationship between the two schemes? Are they in competition, or do they supplement one another?

We are digitalizing payments in the Swiss financial center. We have harmonized the formats. We are now in the process of reducing the slip diversity with the QR-bill and are already taking the next step with eBill. Both products complement each other. It often makes more sense to use eBill. However, when you have a

The new eBill flyer



Pay digitally – gain time for what matters

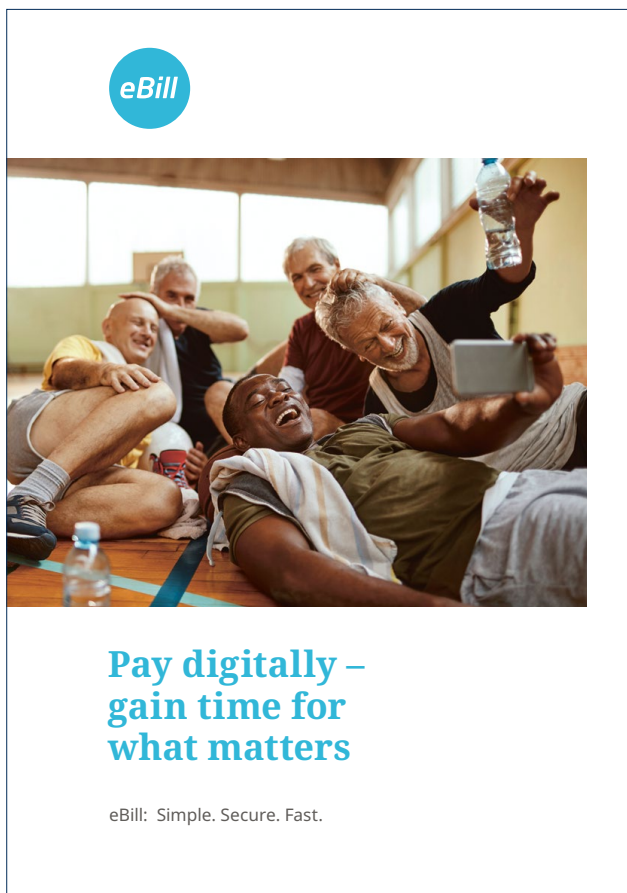
eBill: Simple. Secure. Fast.

single payment and know that there will be no long-term customer relationship, then a QR-bill could be more practical. This also applies for people who prefer to make their payments at a post office or who do not have access to e-banking. It is also possible that in the future they may no longer have a Swiss bank account, because they use foreign services or only have one payment services provider. It could be difficult to use an eBill in such cases. The QR-bill may be a better solution. Logically, both products compete somewhat with one another. That's alright, because it forces us to keep both products attractive.

Three years ago, SIX and PostFinance agreed to work together on electronic invoicing and direct debits. The intention was, “to achieve an e-billing solution for e-banking clients across Switzerland which will also facilitate interbank direct debits with all Swiss banks.” Nothing further has been heard about this since then. What has happened to it?

The eBill initiative was launched by all the banks, including PostFinance. The other issue is the merging of LSV and Debit Direct into a single direct debit

The new eBill flyer



The flyer features a blue circle with the text "eBill" in white at the top left. Below it is a photograph of a diverse group of five people (three men and two women) sitting on a wooden floor, smiling and looking at a tablet held by one of the women. The background is a bright, modern interior with large windows. At the bottom, the text "Pay digitally – gain time for what matters" is written in a bold, sans-serif font, with "Pay digitally –" in blue and "gain time for what matters" in black. Below this, in a smaller font, is the tagline "eBill: Simple. Secure. Fast."

**Pay digitally –
gain time for
what matters**

eBill: Simple. Secure. Fast.

scheme. At first, we saw this as a necessary intermediate step, but in the course of the project we then found out that such an undertaking did not deliver any added value. It was therefore discontinued. We do, however, seek a joint market solution. Just what that will look like should be clear by the end of 2018.

As long as there continue to be different direct debit schemes, does this mean, for example, that a creditor who has both a PostFinance and a bank relationship must continue to send two files – one to the PostFinance system and one to the bank system? And that billers must in the future make their collections on at least two interfaces?

The two schemes, LSV (banks) and Debit Direct (PostFinance) will remain in operation until further notice. A change will only occur when we have a new direct debit market solution. And that's exactly the crux of the matter: to find a market solution that generates added value, which forces the replacement of LSV and Debit Direct.

Let's assume that the strategic goal of the Swiss financial center to process 80% of bills to individuals digitally with eBill by 2028 will be met. How far are we from the penetration of eBill at the POS or in online shops?

eBill itself will offer a new function that enables the biller to establish whether a recipient uses eBill. If you can do this automatically, then you can also use eBill at the POS or in an online shop if the recipient has enabled this function. This is technically possible. Whether it really will become a reality is another question. Do you shop online? Take a look at the payment methods: there are credit cards, debit cards, PayPal, etc. and "per invoice"! That's completely anachronistic; you buy a book online and then pay using a payment slip! And you know what? This is usually the cheapest option for you as a customer. While there are often fees added for cards, when you click pay "per invoice" you pay exactly the price of the book. It would make much more sense in this case to offer eBill to a customer who is already online. As a merchant, you accompany your customer not only online during the book purchase, but also during the payment process and thereby strengthen the customer relationship.

So, if this is technically possible, why not offer it?
We intend to do so.

Interview:

Gabriel Juri and Karin Pache

SIX

The QR-bill Shows Off Its New Look

The redesigned QR-bill was presented to the public in mid-November 2018. The most obvious new feature is the receipt. In the run-up to the redesign there was intensive discussion with numerous user groups, which culminated in a large-scale consultation procedure in autumn. The period until the first dispatch of QR-bills on 30 June 2020 must be used to make technical adaptations among banks, software providers, Swiss Post acceptance points and corporate customers.

It is particularly important that all bill recipients are technically enabled to automatically process and pay incoming QR-bills on Monday, 1 July 2020. With the final specifications now available, corporate customers, software companies and financial institutions have a reliable orientation tool to use for undertaking all necessary measures up to the go-live of the QR-bill. The successful, exemplary cooperation during the introduction of ISO 20022 throughout Switzerland should serve as a positive benchmark.

Consultation Procedure

Since the first publication of the Implementation Guidelines for the QR-bill in April 2017, much market feedback on the design of the QR-bill has been received – particularly in regard to the paper-based processing thereof. In the middle of this year, the Swiss financial center decided to subject the compiled new change proposals as an eight-point package to a comprehensive and broad-based consultation procedure. In view of the fact that the QR-bill affects all companies, government institutions and non-profit organizations, as well as all Swiss consumers, it was important to ensure broad support for the design of the QR-bill and to give all market participants a voice in the process. Towards this end, the consultation procedure was targeted at different user groups. Large billers were able to comment on the eight planned changes in workshops. Qualitative interviews were conducted with bank customers that send large numbers of invoices. Consumers familiarized themselves with the QR-bill in a user test (see article on page 12). And finally, interested parties were given the opportunity to express their position about the proposed changes during the public consultation from 31 July to 23 September 2018.

Major Echo

There was a large response from the consultation procedure targeted towards four different user groups. Many participants expressed their appreciation of the possibility to enter into a dialogue and contributed comments and explanations about their position and answers. The public survey, for example, recorded more than 200 market participants, which is twice as many as a comparable EU survey associated with SEPA.

THE EIGHT PROPOSED CHANGES

- Introduction of a perforation requirement for paper-based payments
- Introduction of a receipt
- Simplification of structured addresses
- No display of the biller's structured information
- Simplification of combination options for structured references
- For the time being, no use of the field "Ultimate creditor"
- For the time being, no use of the field for alternative schemes
- Introduction of an additional license-free typeface for non-Microsoft users

Approval and Criticism

The vast majority of participants in the consultation procedure clearly supported six of the eight proposed changes to the QR-bill Implementation Guidelines presented. There was less approval for the perforation requirement and the receipt.

The majority of financial institutions approved all eight proposed changes. Introduction of the receipt and adjustments to the structured addresses ("switch over now!") were evaluated more critically than the other proposed changes.

The situation for billers was inconsistent across all four survey methods. Some larger participants were rather indifferent or supported all the proposed changes, while others especially criticized the perforation and the receipt.

Charity organizations saw a risk in the QR-bill if the difference to the current payment slips is (too) great. Nevertheless, the eight changes proposed clearly received a positive assessment.

Some software providers especially objected the introduction of perforation, because it requires a more complicated printing control. Others, however, tended to approve all eight proposed changes.

The perforation requirement and the receipt were especially assessed positively by consumers and their representatives. The other proposed changes are also met with approval by the target group.

Some financial institutions, software and service providers have rejected the proposed change in regard to alternative procedures, because they are currently planning to offer services based on them.

Discretionary Decisions

Based on the findings from the consultation procedure, the Swiss financial center has decided to implement six of the eight proposed changes (introduction of a perforation requirement, introduction of a receipt, simplification of structured addresses, simplification of the combination options for structured references; for the time being, no use of the "Ultimate creditor" and introduction of an additional license-free typeface for non-Microsoft users). Any structured information for the biller will be imprinted as originally planned due to data protection considerations. The "alternative procedures" fields will be usable already as from mid-2020 as originally planned and not some time later. Competition considerations in view of specific demand have led to this decision.

Regarding the decision to introduce a perforation requirement and a receipt, this was based not only on the approval trend from the consultation procedure, but also on the importance of the Swiss Post's universal service obligation. It stipulates that all population groups, including those who conduct paper-based payments, must be taken into account, regardless of the technology used to provide services. With the perforation and the receipt, the Swiss financial center ensures that the QR-bill, including all content and visual changes and the integration of the QR code, can be understood and used by the Swiss population.

A detailed analysis of the results can be found in the consultation report at: [PaymentStandards.CH](https://www.paymentstandards.ch).

Gabriel Juri
SIX

Fictitious example for illustration purposes

Ms
Pia Rutschmann
Marktgasse 28
9400 Rorschach

Robert Schneider AG
Rue du Lac 1268
2501 Biel
Telefon: 059/987 6540
Mobil: 079/987 65 43
E-Mail: robert@rschneider.ch
Internet: www.rschneider.ch
Date: 01.07.2020

Dear Ms. Rutschmann,

We are billing you as follows for completion of the assigned activities:

Bill no. 3139

Item	Description	Amount	Individual price	Total
1	Garden work	28 Std.	CHF 120.00	CHF 3'360.00
2	Disposal of cuttings	1	CHF 307.35	CHF 307.35
	sum			CHF 3'667.35
	VAT rate		7.7 %	
	VAT amount		CHF 282.40	
	Bill amount			CHF 3'949.75

Thank you for the assignment. Please pay the bill amount within 30 days.

Yours sincerely,
Robert Schneider

Receipt

Account / Payable to
CH58 0079 1123 0008 8901 2
Robert Schneider AG
Rue du Lac 1268
2501 Biel

Payable by
Pia Rutschmann
Marktgasse 28
9400 Rorschach

Payment part



Account / Payable to
CH58 0079 1123 0008 8901 2
Robert Schneider AG
Rue du Lac 1268
2501 Biel

Additional information
Bill No. 3139 for garden work and disposal of cuttings

Payable by
Pia Rutschmann
Marktgasse 28
9400 Rorschach

Currency Amount
CHF 3 949.75

Acceptance point

Usability Test: QR-bill Impresses

How do consumers react to a stack of QR-bills? Are they easily and intuitively comprehensible or are they confusing and in need of explanation? The user experience test with several people has shown that the QR-bill with payment part and receipt is easily recognized and understood.

The real-world test, conducted by a user-centered design company, was focused on the manual handling of the QR-bill. That is why only test persons who pay their bills in cash at the post office or bank counter or who send the payment slips with a payment instruction to their bank were taken into consideration. The test group was mixed in terms of age, gender, education and place of residence. Some people only had little

knowledge of German. French or Italian speakers were not recruited because, as experience shows, such qualitative research among the various language regions has no bearing on user behavior.

Thinking aloud

Neither the 21-year-old commercial employee nor the 42-year-old policeman, the 55-year-old therapist, the 72-year-old retiree or the other test persons had come into contact with the QR-bill before the date of the test. In the test lab was a table with a stack of envelopes with an orange payment slip and five different versions of the QR-bill. The instructions were: "This stack of mail in front of you has accumulated in your P.O. box over the last days and weeks. Please go through it." And then: "Prepare to pay the bills as you would normally do." Without any prior information, they got to work in front of the camera while being asked by the test supervisor over the loudspeaker to please "think aloud".

The payment part works...

All the test persons more or less immediately understood that they could pay with the QR-bill exactly as they can with the present payment slip, and accordingly filled in the payment part easily. The follow-up interviews showed that some seemed not to even notice the new features at first. No critical comments were heard which was interpreted as great confidence in the QR-bill by the test administrators. The acceptance is primarily attributable to the payment process, which remains the same, enabling end-users to maintain

QUESTIONS & ANSWERS ABOUT THE QR-BILL

1. How can the payment part of the QR-bill be used?

- As a component of the bill on paper
- As a paper enclosure to the bill
- As in integral component of an e-mail bill (PDF format)

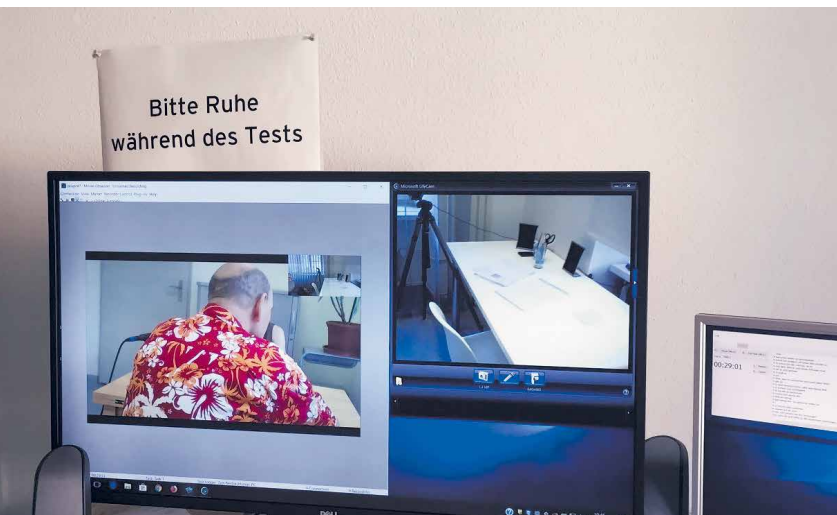
2. Which currencies can be used with the payment part?

Swiss francs and euro. The currency code CHF or EUR must be printed on the payment part beneath the Swiss QR Code and to the left of the amount field.

3. Can handwritten additions be made to the payment part after it has been printed?

The name and address of the payer, along with the amount, can be added in handwriting if these fields are not given with regard to content. Otherwise, no handwritten additions are possible.

More FAQs on the website [PaymentStandards.CH](https://www.paymentstandards.ch)



Inside the laboratory cockpit



A test person at work

their habits. Even the QR code, the principle of which was known to all participants, did not change this. The follow-up interviews clearly showed that no major obstacles need be overcome with the introduction of the QR-bill. The comments made by the test persons can be summarized as follows: "no big deal", "more or less the usual", "uncomplicated" or "like the old (payment slip), just a bit unfamiliar".

Some flaws and their consequences

The terms on the payment part were essentially clear to everyone. The majority of the test persons found the title, "Zahlteil QR-Rechnung" (German for QR-bill payment part) was unnecessarily complicated. The desire for a friendlier term for "Zahlungspflichtiger" (Debtor) was also unmistakable. The word "Zahler" (Payer) did the rounds. Also, the corresponding empty field was not always completely filled in by the test persons. The usability specialists therefore recommend supplementing the word "Zahler" with "Name/Address".

As a result of the feedback from the test persons, the Swiss financial center committees in charge made the following adjustments to the text: "Payment part" instead of "QR-bill payment part", "Payable by (Name/Address)" instead of "Debtor" and "Payable to" instead of "Creditor".

The crux of the empty fields

It was obvious that, compared with the present payment slips, in which it is immediately recognizable that content still needs to be entered, the design of empty fields on the new payment part do not make them immediately perceptible. The danger here is that the banks will receive many incompletely filled in payment parts in the processing of paper-based payments. The usability specialists also attribute this problem to the still untrained eyes of the users.

Another interesting finding from the usability test pertained to the many different handwritten ways to enter the payment amount: "50.-", "50.00", "50.00 -", "50", "Fr. 50.", "50 Fr.". In addition, some of the entries were made slightly outside the crop mark. The question is, to what degree can the diversity of such "entry styles" be automatically captured in the banks' document processing centers.

Therefore, when it comes to their customer communication, banks are recommended to always present prime examples of how the missing contents are to be properly added.

Gabriel Juri
SIX

The Do's and Don'ts of the QR-bill

The harmonization of payment traffic has entered the fourth phase with preparations for the introduction of the QR-bill. Payment capability for the QR-bill must be established throughout Switzerland by 30 June 2020. Although the QR-bill affects everyone who pays invoices, not everyone belongs to the same payer type. In the following are measures to be taken and refrained from.

In the fourth phase of the harmonization process, which began in mid-November 2018 with the publication of the Implementation Guidelines for the QR-bill, the aim is to ensure QR-bill payment capability throughout Switzerland. This is because the QR-bill will be used starting 30 June 2020.

Phase 4 is dedicated to preparing for introduction of the QR-bill. What does that mean specifically? It means that financial institutions must adapt their systems and processes to enable their customers to pay QR-bills across all channels (post office counter, e/m-banking, payment order by mail), which will start in phase 5. Bank customers who use payment software and deliver payment instructions to financial institutions with the pain.001 message type must update their software. The payment software must be capable of processing the three different variants of the QR-bill depicted in the pain.001. The existing ISR and IS variants can no longer be used for this.

The QR-bill Payer Types

Bank customers often belong to several types of bill payers (see box) because they tend to pay their bills by various methods. Determination of the bill payer type is important in regard to the QR-bill, both for customers themselves, as well as for the software providers and the customer's infrastructure operator, in order to define which measures must be taken.

These measures differ depending on the payer type. They range from "customer can passively wait for information and support" to "customer must actively start a major project with substantial budget and time

requirements". It is to be noted that the time and expense for migrating to the QR-bill depends on the complexity of the accounts payable solution and, under certain circumstances, may be greater than planned. A project duration of up to twelve months to prepare for the QR-bill is not unusual with more complex accounts payable solutions.

The Do's

During the transition phase (phase 5), in addition to the payment slips, the three variants of the QR-bill must also be supported:

- Variant 1: QR-bill with QR-IBAN and QR reference
 - Variant 2: QR-bill with IBAN and Creditor Reference
 - Variant 3: QR-bill with IBAN without reference
- With all variants, when paying, the following additional options must be supported:
- With or without message
 - With or without bill information
 - Amount and/or payer preprinted or filled in by hand

This means that the existing payment input masks for the variants of the QR-bill must be expanded. Solutions with scanning must be able to read the QR code. For solutions with payment templates, differentiation must be made in the future between ISR and QR-bill with QR-IBAN. For solutions with master data, these must be expanded with new fields such as the QR-IBAN. When generating the payment instructions (transaction within pain.001), differentiation must be made between IS, ISR and the three variants of the QR-bill, because a dedicated pain.001 transaction must be created for each of the five types. In addition, the new additional QR-bill data must be transported from the

OVERVIEW OF THE FIVE PHASES IN THE SWISS PAYMENTS HARMONIZATION PROCESS:

- **Phase 1:** SIC to ISO 20022. The Swiss payment system SIC migrates to the ISO 20022 standard – completed since 2016.
- **Phase 2:** Financial institutions to ISO 20022. All Swiss financial institutions migrate interbank payments to ISO 20022 – completed since 2017.
- **Phase 3:** Companies to ISO 20022. All Swiss companies migrate electronic payment instructions from DTA/EPO to the ISO 20022 standard. The aim is to complete this phase in 2018.
- **Phase 4:** Comprehensively introduce QR-bill payment capability – current phase.
- **Phase 5:** Start of QR-bill and migration of ISR/IS payment slips to the QR-bill – starts on 30 June 2020.

input/scanning at the beginning of the process across all systems involved in the accounts payable process on through to generation of the payment instruction.

Master Data vs. QR-bill Data

Depending on the software solution architecture, all QR-bill data will be transferred and used to generate electronic payment instructions, or data will be read from the creditor master data, which has generally been managed according to the four-eyes principle. In the latter case, the following information is typically taken from the master data for generating the payment instruction:

- Creditor IBAN
- Creditor name and address
- Debtor name and address

To be considered in this regard:

- The QR-IBAN cannot be derived from the IBAN for some financial institutions. Therefore, the master data must be expanded and maintained with the QR-IBAN in addition to the IBAN. It is also not possible to derive the QR-IBAN from the existing ISR master data.
- The reference type is new and must be transmitted for recognition of the variant across all system components end to end through to generating the pain.001 transaction.
- The QR reference is new (but very similar to the ISR reference) and must be present in variant 1 and validated according to modulo 10.
- The Creditor Reference is new and must be present for variant 2 and be validated according to ISO 11649.
- If the addresses cannot be taken from the master data, the payment system must allow for structured and unstructured addresses. If only structured addresses are permitted, then no QR-bills with unstructured addresses can be paid.
- The unstructured message can now also be used for procedures with reference and must, if present, be transferred across all system components through generating the pain.001 transaction.

The Don'ts

QR-bills may not be paid as ISR. If a customer does so, a pain.001 will be generated as an ISR payment with participant number and BESR ID. The biller's bank will use the first six digits of the presumed ISR reference to determine the account to which the amount is to be credited. Depending on the financial institution, this can lead to the triggering of a return or the amount could even be credited to another customer!

Customer		Payment at post office counter or postal agency	Submission of payment part at bank	Electronic payment entry and release		
Type	Description			With a bank's e-banking system	With payment software, including generation and translation of electronic payment instruction (pain.001 message) to bank	With a mix of various involved software systems (standard and/or individual solutions)
Type 1	Post office counter	Yes				
Type 2	Mail		Yes			
Type 3	E-/m-banking			Yes		
Type 4	Standard software				Yes	
Type 5	Individual accounts payable solution					Yes

Figure 1: The QR-bill payer types

Customer		Information and support by				Complexity for customer	Project and budget necessary on the customer side
Type	Customer solution used	Swiss Post (represented by PostFinance)	Bank	Software providers	Internal IT or IT consultant		
Type 1	Post office counter	Yes				Minor	
Type 2	Mail		Yes			Minor	
Type 3	E-/m-banking		Yes			Minor	
Type 4	Standard software		Support	Lead	Support	Medium	Yes
Type 5	Individual accounts payable solution		Support	Support	Lead	Major	Yes

Figure 2: Measures according to the degree to which bank customers are affected as QR-bill payers

Various situations can cause erroneous credits and must be prevented by software providers and infrastructure operators with technical and communication measures. Examples of such erroneous situations include:

- Payment templates and master data are stored in the system as an ISR payment. Because the payment system is not QR-bill-ready, the bank customer must use the ISR input mask for the payment, even though he has a QR-bill in front of him.
- An ISR standing order will be updated with a QR reference.
- Although the system is QR-bill-ready, the bank customer chooses the ISR input mask for the QR-bill in front of him for the payment.

Attaining QR-bill Payment Capability

Software manufacturers and bank customers with in-house development should start their project as soon as possible. Precisely what needs to be done for the software to be able to pay the three variants of the QR-bill is described in detail in the Implementation Guidelines and the Processing Rules at PaymentStandards.CH.

Peter Ruoss
UBS Switzerland AG

Data Traffic Between Customer and Bank

The strength of the ISO 20022 standard lies in its standard definition of the individual elements. At the same time, it permits diverse use cases and variants. This increases both the complexity as well as the diversity, and also makes the offering of additional optional services attractive. Is this flexibility a blessing or a curse?

Reports recently made the rounds in various media about the impressive growth of transcontinental rail traffic between China and Europe. Efficient operation is provided despite different track widths, voltages and operating methods. Today, around two dozen trains carrying up to 40 containers travel the rails each week and complete the over 11,000 km trip in less than three weeks.

Individualization

The strength of ISO 20022 is its standard definition of the individual elements. The respective market practice may stipulate different rules regarding use, length, text characters and validation, but the individual elements are unambiguous for all participants. This flexibility makes it possible to not only define different messages, but to also implement a market practice.



The standardization of cargo through the use of containers is one of the success factors. At the same time, these containers also offer a large degree of individuality. Whether three cars, ten ventilation mono-blocks or two thousand teddy bears are loaded, the crucial factor is the weight, not the container dimensions. Exactly the same things applies to ISO 20022.

While, as a bank and its customer, we are not transporting teddy bears, but payment instructions or account balance information, ISO 20022 is a very flexible standard and allows for many different use cases and variants. This leads to increased complexity and often to diversity that is difficult to control.

In payment traffic, this is often geared towards a clearing system and/or a region.

The fact that the respective messages can be adapted to the local and market-related requirements without changing the element structure has led to relatively quick acceptance of ISO 20022. Payment traffic that is still largely national or, in the case of SEPA, international, was long determined by the proven, but inflexible and nearly inextensible formats for exchanging instructions and information. With the new message types, such as pain.001 for the payment instruction and pacs.008 for the interbank messages, it is now possible to react to changed conditions, such as very long IBANs or to offer an end-to-end ID, for example.

The switch-over to ISO 20022 in Switzerland has also shown that the many possibilities entice not only holding on to what is proven while profiting from innovations, but also to offer additional optional services. This presents several challenges to market participants, especially software providers. Their products will not become simpler, will need more individual characteristics and must partially cushion the deficits of a market solution for their customers. Furthermore, complex requirements often lead to errors due to a lack of understanding or poor implementation.

The bank, in turn, has two different objectives in such situations. The most efficient and therefore cost-effective processing of payment instructions requires an almost perfect degree of standardization. Optimal customer service, on the other hand, requires a certain degree of tolerance. One cannot underestimate that while payment traffic is very important to customers, it remains just a part of their sales or administration process. Payments and the associated high-performance systems are among the bank's core offers, but not among those of a corporate customer, such as a machinery manufacturer or retailer. How well a customer's market and service requirements are

challenges facing banks is the converting of customer instructions issued via pain.001 which, in the case of foreign payments, must be routed with SWIFT FIN. In such cases, pure mapping often does not work, because the available data scope in the MT103 is smaller. Which data supplied by customers may no longer be used must be defined. This can also involve crucial elements, such as parts of the address. Another case involves the limited possibilities of central core systems. Different data must be stored separately and then further supplemented later in one of the subsequent messages, e.g. a camt.053. Problems such as these have been part of daily business for a bank's product management or IT department or a provider of core banking solutions since before the introduction of ISO 20022. This means that, in most cases, the banks are relatively well prepared for it.

In contrast, corporate customers may encounter difficulties, because their solution often depends on a software provider. Depending on the version status, field of application or the complexity of the system landscape, the need to make adaptations ranges from a simple update of a component or a specific application to the evaluation and implementation of a



implemented therefore depends on how well they know their accounts payable and accounts receivable solution, and possibly on the quality of their respective supplier and the version used. A healthy balance and intelligent solutions are needed to successfully operate this system to the satisfaction of all involved parties. SIX also supports coordination between banks and software providers to keep the differences between the various implementations as minimal as possible

Mapping and Converting

Banks and their sometimes complex system landscapes, as well as corporate customers with their ERP or accounting software, must undertake the mapping and converting of data and messages, depending on the status of their solutions. Among the many

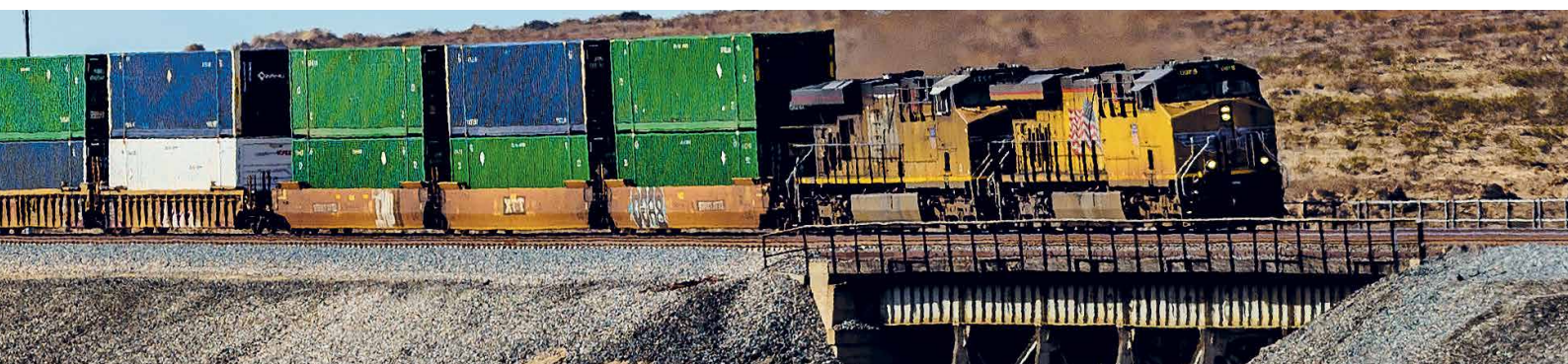
completely new software solution. To make matters worse, one solution may have to cover several markets or many different banks may have to be connected to it. Moreover, it is often the case that not just a single piece of software must be adapted, but various versions thereof. And furthermore, some business sectors or issues such as accounts payable and salaries are separate from one another.

In very complex cases, i.e. with many different systems, banks or markets, it makes sense to get support from an external conversion service. The resulting costs can be compared with the anticipated internal costs: Adaptation of the internal system – often at the worst possible time in terms of internal planning – special replacement purchases and the often underestimated,

yet necessary, development of the corresponding know-how. Purchasing such a service can also be used to decouple internal adaptation cycles from changing market practice or the bank. Even a general outsourcing of tasks belonging to what generally is not a core process of the company is an option. While the focus is on mapping when it comes to the use of older standards, in regard to ISO 20022, it often involves a combination of mapping and data cleansing: supplementation of the elements necessary for the respective market, e.g. the “local instrument”, or the removal of elements that may not be used in the specific context, such as the address of a creditor agent if a BIC is present.

If the customer has a system in use that is not ISO 20022 compatible, but is entirely sufficient for the specific use case, they can upgrade it to be able to exchange instructions and data with various banks in different markets – without replacing their own systems and processes.

The demand for additional technologies grows with these solutions. Quite specifically, being discussed in the ISO 20022 Standard Committee, both on the local and international levels, is whether JSON (JavaScript Object Notation) should be used instead of XML or ASN 1 (Abstract Syntax Notation One) as syntax to be planned for in ISO 20022. This naturally fuels the fear that they are already leaving the chosen path of a comprehensively usable standard. These concerns about falling back to the age of fragmented market implementation or proprietary solutions are justified. That is why experts on all levels are strongly advocating to preserve the most important achievements of ISO 20022: the standard definition of the individual elements. Because even if JSON is not planned for as syntax in ISO 20022, and if it is not necessary, or even does not make sense for an API to use fully-equipped messages complying with the rules of the respective market practice, such solutions can and must be developed in accordance with ISO 20022. It must be ensured that the respective elements – an address, a payment reason, a booking, and a balance – from the naming to the formal and content rules – comply with the models and definitions of ISO 20022 and the respective market practice. Only in this way can all participants benefit.



New Trends

The discussion worldwide is meanwhile about open application programming interfaces (APIs) and thus other technical implementations are underway. While the issue was triggered by the PSD2 in Europe, there are initiatives in other regions that originate in local markets. For example, in Great Britain there is the Open Banking Initiative, while in China demand has arisen through a technological push in the retail market, and there is the Corporate API Project in Switzerland (see the June edition of clearit).

With the expansion of the digital economy through technical access to bank accounts, the overall ISO 20022 model, including the metadata repository, must be technically designed as simply as possible without losing what has been previously accomplished. That is also one of the goals that we have set for ourselves in the Swiss community.

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DEEP DIVES:



More about the eBill market introduction
in the June 2018 edition



More about the payments harmonization
in the September 2018 edition