Implementing Payments in SAP: Do’s and Don’ts for Implementing Payments in SAP

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Introduction / Overview

As a company, your goal is to serve your customer effectively and profitably, efficiently generating sales and collecting revenue. The nature of the sale and payment can take many forms, but more SAP users have noticed that many customers are shifting their expectations, and want to use credit cards as the method of payment.

While card payment is a convenient payment form for customers, it can be costly for a vendor. Processing fees can range as high as 2.5 to 3.4%, or more, of the transaction total. And although SAP includes some of the capabilities required for card payment (known as the “payment card interface”), it requires additional software (known as “middleware”) in order to complete the transaction with the payment system, secure the customer’s information, and provide critical data to the finance group to reconcile the transactions and deposits at the end of the day. The SAP ERP solution does not include its own middleware (or payment application, i.e. the electronic bank connection) – there are too many communications formats to maintain and complex issues to consider. Rather, SAP has designated that its users should obtain middleware from certified SAP partners. These independent middleware providers offer a menu of options, from “plain vanilla” to very sophisticated tools designed to manage and reduce your payments processing expenses.

This white paper explains the business of credit card payments and describes SAP’s requirements for processing payment cards. It also presents tips for getting the best bank rates and simple “Do’s and Don’ts” that help you optimize payment processing, save employees’ time in managing back-office payment functions, and substantially lower overall interchange fees to reduce processing costs. Using the best practices described in this paper, companies can save $5,000-7,000 for every million dollars in payments processed.

The Business of Card Payments

Most people are familiar with the basics of a credit card transaction: the customer supplies the card information to the vendor company, which “runs the transaction” and receives authorization for the payment. The charge posts to the customer’s card and the company’s bank account receives the funds.

The Action Behind the Scenes

When the customer swipes the card information (or provides it via telephone, printed form, or Web), the data is sent to the vendor’s payment processor. The payment processor handles communications with the credit card associations, who ultimately communicate with the customer’s bank (the issuing bank) to collect payment and deposit the cash in the vendor's bank.

1. The processor electronically sends the card details to the appropriate card association (Visa or MasterCard) or card company (such as American Express), and requests permission to charge the specified amount. This request is called authorization. The authorization process reserves the amount of the sale on that card account to ensure that the customer doesn’t go over his or her spending limit.
2. The issuing bank verifies both that the card is valid and has not exceeded its spending limit. This approval is transmitted back to the company through the processor. From the customer’s perspective, the purchase is completed almost instantly. Not so for the company.

3. After a payment card sale is completed, the company receives cash by a process called settlement. Unlike authorizations, which are performed individually in real-time (before the order is accepted), a vendor company typically submits settlements in a batch at end of day (or a few batches per day). The company’s bank (the acquiring bank) receives the funds from the issuing banks and deposits them to the company’s account 1-3 days after that.

For some businesses, such as hotels and auto rentals, the transaction itself proceeds over time: authorization is obtained “up front,” but settlement cannot be accomplished until the transaction is completed and the final amount known, an amount which often varies (within a limit) from the authorization amount.

4. The vendor’s finance department balances the books (usually once a day) against their bank deposit information to verify that all transactions settled as expected, and that the vendor’s transaction detail records match those of the processor and the acquiring bank. The amount of the deposit should equal the purchase price minus the interchange fees, and penalty fees (if any). This process of balancing the books is known as reconciliation of deposit detail; a smaller vendor might do this manually, on paper.

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**Debit Cards**

In general, debit cards are not widely used for corporate purchases, although the industry is starting to see more debit card purchases. Debit card purchases follow the same basic processes as credit cards, so the issues described in this paper apply to them as well.
There’s more to a payment system than just capturing transaction details and conducting authorization, settlement, and reconciliation. Your company should focus on three main considerations when implementing a payment system:

1. The core functionality of processing card transactions and collecting revenue from them, and the optimization of processing functions to lower interchange fees.

2. Compliance issues related to securing customer data, usually through encryption.

3. Easing the back-office burden of tracking transactions and reconciling the books at the end of the month.

5. If a vendor’s card payment volume becomes sufficient, manual reconciliation will become time-consuming and error-prone. If volume warrants, a vendor may seek out a middleware provider which also offers automated reconciliation processing, posting, reporting and exception handling.

**Encryption Requirements from the Card Associations**

Another critical consideration in payments processing is the encryption of customers’ personal card data, a security measure that is now mandated. In 2004 the credit card associations, acting jointly as the PCI-SSC published the Payment Card Industry Data Security Standard (DSS), which outlines the best practices companies must utilize if they store, process, or transmit sensitive payment card information such as the card number. In the revised 2010 PCI Data Security Standard (DSS), the card brands mandated that companies secure payment data with strong encryption techniques, using encryption engines that are segregated from the payment applications themselves.

The card associations now require larger companies which participate in the payment card system to be audited by a Qualified Security Assessor (QSA) or, for smaller companies, to vouch for their compliance with PCI-DSS through a self-assessment questionnaire, to ensure vendor compliance with data security standards. Companies who fail to meet these standards may face heavy fines from their acquiring bank.

In addition to meeting PCI-enforced requirements, deploying a strong encryption strategy and other safeguards is also good customer policy. It saves a lot of time, headache, and money should attempts at hacking occur.

**Card Payment in an SAP Environment**

The SAP ERP was designed to accept and store customers’ payment data (“the payment card interface”), but not to transmit it to payment processors, nor to receive data back from the processor. SAP needs a payment application, known as “middleware,” in order to electronically connect to the payment system. Middleware is configured for both the vendor company’s SAP and for the specific communications protocols of its card processor(s). Your middleware should be a PCI-SSC “Certified Payment Application.” PPS’s CardConnect became the first SAP-Certified Payment Application middleware in 1999.

Middleware adds both mission-critical capabilities and optimization features that enable SAP to process payments, including:

- Basic payment functionality (processor communications, authorization, settlement files)
- Encryption of data in processing, transmission and in storage (via segregated encryption tool)
- Reports
- System tuning functions, such as collection of supplemental data
- Reconciliation capabilities (optional)
The Payment Application

- Collects and encrypts the customer’s payment data for transmission
- Generates the request for permission to charge the card (authorization)
- Builds a list of transactions that have been authorized (and delivered, if done after the sale, and that is a condition of settlement)
- Securely transmits this settlement file to the processor and tracks acceptance of the file by the processor

These functions are critical; SAP cannot process, settle or reconcile credit card payments without middleware. In addition, some payment applications vendors also offer a number of add-on features that optimize the payment and reconciliation process. (For more information on implementing a solid encryption solution in SAP, request a copy of the white paper, *Passing the PCI Audit: Best Practices for Securing Payment Card Data in SAP* from PPS.)

Transaction Reports

While SAP features certain basic financial reports, over the years the SAP ERP community has requested more detail for easier summation and use. Some vendors of middleware have a library of add-on reports to enhance SAP’s basic capabilities. These augmented reports give you fast access to both high-level data and information about individual transactions. Many reports can be customized for needs specific to a client’s specific business needs.

Tuning

It is possible to tune your SAP payment system to qualify for lower interchange fees. Implementing capabilities such as address verification (AVS), card security code verification (CVV or CID), and collection of additional data about the customer and purchase (Level 2 and Level 3 data) can all reduce your interchange fees (the rates you pay for payment processing). Your middleware can fill in a gap if your version of SAP was not patched to capture this information.

The next section, *Getting the Best Rates from the Banking System*, discusses these optimization techniques.

Reconciliation

Reconciliation is the process of balancing the books after a batch of transactions have settled. SAP user companies may do this manually, or in a more automated fashion if enhancements have been made via the middleware package’s optional add-on, if available. During reconciliation, SAP user companies:

1. Verify that transactions on the SAP settlement reports and their bank deposit statements are the same, and ensure that all transactions sent for settlement went through properly. Any failed transactions must be investigated.

2. Review the summary of processing fees, to ensure that charges are correct. For example, a batch of transactions might contain $1,000 worth of purchases but only $965 is deposited into the company’s account. The summary file describes where the $35 in fees went.
Many people do not realize that SAP was not designed to process electronic card payments. Unless they use a Payment Card Interface tool for reconciliation, companies who accept card payments through SAP must manually compare this settlement file to their own records.

3. Research specific problematic transactions, such as a transaction that wasn’t paid because the card number turned up invalid.

Manual reconciliation of discrepancies is a human-resource-intensive and error-prone process. SAP user companies with heavier transaction volume like to automate this processing using reconciliation software, such as CardDeposit from PPS. Reconciliation software can automatically receive the deposit file from the payment processor directly into SAP and then reconcile it with the company’s own transaction/settlement file, highlighting information such as:

- Fees – may be assessed daily or monthly
- Chargebacks – can be positive or negative
- Transactions rejected by the processor when the settlement is received
- Transactions rejected in the overnight settlement processing
Getting the Best Processing Rates from the Banking System

Once you have appropriately powerful middleware in place, you can improve the interchange rates you are charged by your acquiring bank for transaction processing.

In general, interchange fees are lower for transactions with reduced risk and for transactions that include more data (which ultimately reduces risk). Consider the following steps to achieve the best interchange rates.

Collect Additional Data

Companies can reduce fees by providing as much information as possible about the customer using the card and about the products being purchased. Collecting the following details with the transaction helps bring down interchange fees:

- Customer’s billing address – The payment system can then use the Address Verification Service (AVS) to validate the accuracy of data. Having an accurate billing address that matches the card number substantially lowers the risk of fraud for the transaction.

- Security code – also called card verification value (CVV) or card identification number (CID). The security code is the three- or four-digit number printed on the card itself. This code is not printed on sales receipts or account statements, nor is it stored in payment systems, so providing a valid CVV helps customers prove that they have the printed card in their possession, again lowering the risk associated with the transaction.

- Data about the purchase – For transactions conducted with purchase cards, companies can collect Level 2 and Level 3 data, which provides additional details about the customer and items being purchased (itemized sales tax, item codes, descriptions, units of measure, etc.)

In-Person, “MOTO” and Web Transactions

Companies pay higher rates for transactions where the card is not physically present, such as for mail order/telephone order (MOTO) and Web-based transactions. As a result, they have a higher incidence of fraud than face-to-face transactions. Companies pay a higher rate to process them, a fee which can be as high as 3-3.4% of the transaction. In contrast, processing rates for transactions where the card is physically presented are about 1.9% of the transaction value. You can implement additional processes and procedures in your payment system, which bring down the rates for MOTO and web transactions to 2.6 or 2.7%.

International Transactions in SAP

A versatile middleware, such as CardConnect from PPS, enables SAP to accept multicurrency payments. If you need to process transactions with other countries, make sure to choose a payment application that works with international processors, (communications protocols may differ from US processors). If you connect directly to the international processor, your rate will likely be lower too.
**Chargebacks**

A chargeback occurs when a customer disputes a charge with the card company, usually on the grounds that the charge was unauthorized or fraudulent. Chargebacks are expensive to process, and they are often associated with fraudulent transactions, so the payment community penalizes chargebacks heavily.

If your company incurs many chargebacks, your interchange rate will increase. It’s a much less expensive alternative (not to mention better customer service) to address any disputes directly with customers, and to credit their cards if necessary. Credits, or returns, are a normal part of payment and do not incur penalties like chargebacks do.

**Shop Around for Your Processor**

Just as many companies have different prices for similar products, payment processors have varying rates and rules. It’s worth your time to shop around for a processor and to read the fine print in their agreements. Look for rates that suit your transaction volume and keep an eye out for exorbitant hidden fees. A single processor may not have the ability to process a varied portfolio of domestic and international, credit and debit transactions. Either confirm that your chosen processor can work with all of your transaction processing needs, or be absolutely certain that your payment application software can manage more than one processor.

**Connect Directly to Processors and Card Companies**

Companies can lower their interchange rates by connecting directly to a payment processor rather than through an intermediary such as CyberSource or FirstData. This is most likely to occur with American Express, so consider a direct connection to them if your transaction volume is sufficient.

**A Quick List of Do’s and Don’ts**

1. **Do** research the options for direct connections to payment processors to get the best rates. All fee structures are not created equal.

2. **Do** ask your bank which processors are available. Don’t just settle for the first one they suggest. Ask about what they like and don’t like about the various candidates (downtime, processing speeds, etc.)

3. **Do** read the fine print in processor agreements. They are normally quoted for the ideal transaction. Transactions that are late in settlement, get involved in disputes, are non-US currency, or do not have proper AVS or CVV data will typically cost more than the advertised rate.

4. **Do** ask your bank to identify the “break points” at which you are entitled to better rates – these may be based on transaction volume or dollar volume.

5. **Do** turn on the Address Verification System (AVS) to validate the customer’s billing address.

6. **Do** use the card’s three- or four-digit security code (CVV or CID) to validate that customer is in possession of a legitimate card.

Following these best practices and those listed in the next section to optimize payment processing in SAP. They can help you lower interchange fees by as much as 0.8%, which saves you $8000 for every $1M in transactions processed.
7. **Don’t** accept expired cards. Make sure to check the expiration date before accepting the card. This issue is particularly important for subscription (recurring) charges. Often your processor will provide an update service – investigate this.

8. **Do** settle transactions within three days of authorization or create a $1 authorization at the beginning of the purchase to confirm the validity of the card.

9. **Do** connect directly to American Express if your company has a high volume of their transactions.

10. **Do** collect and pass on Level 2 and Level 3 data for purchase card transactions.

11. **Don’t** do multiple authorizations for the same transaction, since each authorization ties up customer’s available credit.

12. **Don’t** increase the charge amount over the amount that is authorized if possible. If the price increases, you’ll have to change the authorization. You can settle for up to 15% more than what you have authorized if it has to do with shipping or taxes, etc. But if it’s more than that, the transaction can bounce and a chargeback can occur.

13. **Do** watch actively for chargebacks or disputes from your processor. Since no native SAP function accepts this data back from the processor, you either have to manually identify it, or use an automated reconciliation tool. If you don’t act on a customer’s dispute before the time limit expires, you lose the case even if your claim is valid.

14. **Do** make sure you properly designate recurring transactions, such as subscriptions, in your payment system. They typically qualify for a much lower fee than initial or one-time transactions.

15. **Do** monitor your processor account regularly for any significant change in fees, and to verify that you’re being charged the correct rates. If you find any discrepancies or changes, contact your processor. Ask for a report of all transactions that are not within a certain, agreed-upon discount rate and have them include reasons.

16. **Do** automate payment and reconciliation functions to reduce errors. You will save hundreds, if not thousands, of man-hours in your back-office processing department.

17. **Don’t** let a dispute with a customer progress to the point of a chargeback (a reversal of the transaction in which the cost is credited back to the customer). Chargebacks occur when customers dispute charges with the card association, claiming an unauthorized or fraudulent transaction. Encourage customers with any concerns to call you before they call their bank. A return is a lot less expensive than a chargeback.

By shopping for the best rates and then applying these best practices, companies can lower interchange rates from 3.3 or 3.4% of the transaction value down to 2.6 or 2.7%. For every million dollars in transactions processed, this lower rate saves $6,000-8,000.
Princeton Payment Solutions: The Experts in SAP

SAP commissioned PPS (formerly Trintech, Inc.) to build the first Certified Payment Application for SAP in 1998. We also built the first SAP encryption solution that passed PCI-SSC audits, and we offer an automated Reconciliation software package for SAP.

Our product suite includes a variety of industry-leading software products designed to complete and enhance the payment process in SAP:

- **CardConnect** Adds fully-integrated Authorization and Settlement to SAP
- **CardSecure** Protects payment card information in SAP with powerful encryption and token technology that helps companies to pass their PCI audits
- **CardDeposit** Adds fully-integrated Reconciliation capability in SAP
- **CardResolve** Adds fully-integrated Chargeback capability in SAP

Princeton Payment Solutions will help your company plan, specify, and implement a full payment solution for SAP. Our years of experience show themselves in the quality of our products, which are long-proven and exceptionally solid. CardConnect ERP users appreciate our simple, direct and no-nonsense approach to building out the right system quickly. And to ensure smooth deployment, our experienced services team is available for installation, implementation of and training for the new payments infrastructure.

Most importantly, CardConnect ERP works dependably. Even in cases of network glitches, CardConnect ERP continues its job with auto-recovery tools in place.

Contact us for a free evaluation of your SAP environment, and you’ll understand why we’re regarded throughout the payments industry as the experts in SAP payments.
Conclusion

Without certified payment application middleware, SAP is not able to perform authorizations or conduct settlement activities – and no money is received! Optimizing payment processes with proven, tailored, secure software helps companies:

- Expedite the order to cash cycle
- Protect customer data and comply with card association and government security mandates for data in processing, in transit, and at rest
- Reduce cost of electronic payment processing (both interchange rates and cost of back-office processing)
- Improve operational efficiency in the finance/accounting functions
- Expand revenue opportunities by supporting global payment options, such as multiple payment channels, business to business purchase card support, and multicurrency support

Because there are so many crucial areas to consider when implementing a payment system in SAP, it’s important to work with a middleware partner who understands both payments and security, has experience with SAP and its design, and is fluent in the demands and restrictions of the payment community. Princeton Payment Solutions can help you deploy a cost-effective and efficient middleware application that works flawlessly and saves your company the maximum amount of money and time in its payment processes.

About FTS | PPS

Princeton Payment Solutions is a division of Financial Transaction Services, LLC (FTS). FTSiPPS takes a consultative, service-focused approach, partnering with clients to provide tailored, comprehensive responses to payment components such as back-office and web-based integration, payment solutions in complex ERP environments, PCI compliance, interchange and penalty fee reduction, and robust online reporting capabilities. FTSiPPS’s CardConnect for SAP is now in its 14th year. FTSiPPS was the first company to encrypt data within an ERP system and pass the PCI audit standards with our CardSecure solution, which also offers a proven tokenization option to take ERP systems out of scope on a PCI audit. FTSiPPS staff participate in both the PCI Security Council and various technical groups, which inform our innovative approaches to the latest card payment issues, such as P2PE. Their collective experience includes decades in bank operations, bank software development, and bank card technology; their credentials include advanced degrees in both business and economics. Our staff understand your business challenges, and offer payments and security expertise to match.

For more information about how to implement and optimize a payment solution in SAP, please contact Princeton Payment Solutions.

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