



CHARGELYTICS **C**ONSULTING



Case Study: Understanding the Impacts of Consumer Authentication on Approved Transactions

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Case Study: Understanding the Impacts of Consumer Authentication on Approved Transactions

Executive Summary:

In light of recent changes in the marketplace, including an increase in data breaches and the U.S. adoption of EMV, fraud professionals are looking at solutions such as the 3-D Secure protocols (3DS) to help prevent Card-Not-Present (CNP) payment fraud. While the benefits to merchants are vast, there has long been a fear that 3DS hinders sales conversion rates. Chargelytics Consulting, along with CardinalCommerce and Amtrak, set out to study the impact of Cardinal Consumer Authentication (CCA) on the number of orders approved by both the issuing banks and the merchant. Consumer Authentication enhances existing 3DS protocols, allowing merchants to receive the benefits of 3DS, while adding multiple levels of data for higher transaction confidence. CCA gives the merchant control of when to initiate 3DS, based on different factors such as the consumer experience and the transaction's risk.

The objective of this case study is to determine if the use of Cardinal Consumer Authentication can increase the number of transactions a merchant has authorized, while avoiding negative consumer experiences which can lead to shopping cart abandonment. The methodology of this study looked at the authorization rate from all issuing banks, as well as the total number of orders approved that were not cancelled by the merchant due to the suspicion of fraud. The data proves the study's hypothesis in two ways: first, increases orders approved by the issuer and second decreases merchant declines.

After using Cardinal Consumer Authentication on over two-thirds of their transactions, Amtrak realized a 2.4% rate of improvement on their overall authorization rates. At the same time, Amtrak experienced a 69% rate of improvement in transactions approved by the merchant over a 13 month

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period, due to higher confidence that the transactions were not fraud. Said another way, both an increase in authorizations and an increase in merchant approvals yielded more orders for Amtrak.

The key is maximizing sales while balancing both the risk and consumer experience. Amtrak, like many other CNP merchants, has discovered that working with the right partner helps merchants navigate this complex ecosystem to maximize their results.

Background:

The global need for Cardinal Consumer Authentication continues to grow. As demonstrated by recent issues impacting the global fraud landscape, especially in CNP channels, 3DS has moved further to the forefront as a valuable solution to authenticate a transaction. Key factors in increasing the need for Consumer Authentication utilizing 3DS protocols include:

- **Adoption of EMV** (chip-enabled) credit cards in the U.S. is imminent, with the first deadline in October 2015. As indicated by EMV conversions in all other markets, this change will cause a significant increase in CNP fraud rates.
- Over the last two years, several countries and regions have **mandated 3DS**, requiring merchants and issuers to accept 3DS, including India and South Africa. Meanwhile, the European Central Bank (ECB) has implied this is a strong consideration.
- In 2014, Visa EU introduced additional **fees** for each **fraud-related chargeback** when 3DS was not used at the time the order was placed.
- **Incentives for merchants** have been set by Visa and MasterCard include potentially lower interchange rates and the liability shift on fraud-related chargebacks when 3DS is utilized.
- The **increase in data breaches** in the US has provided fraud perpetrators with millions of card numbers, most easily monetized on CNP channels,

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increasing the need for enhanced authentication methods. As EMV rolls out in the U.S., stolen card numbers will be increasingly used for CNP purchases, since chip cards cannot be counterfeited for POS use.

3DS was originally developed by Visa more than 10 years ago as a way to improve the security of internet payments, to prove the buyer is who he says he is. Since then, the standard has been adopted by most major card networks, each with their own protocols. Examples of 3DS include Verified by Visa, MasterCard SecureCode, JCB J/Secure and American Express SafeKey. 3DS is an authentication system that allows card issuers the option to confirm an online shopper's identity pre-authorization process. When card issuers use the 3DS protocols to share data between the card issuer and the merchant, there is less fraud and fewer chargebacks for all parties involved. In addition, the issuer feels more secure about the transaction, which leads to more authorized sales.

The card issuer determines how they will authenticate their cardholder. There are many consumer experiences the issuer can choose. Using traditional 3DS, an issuer may ask the cardholder for a pre-determined password, or a one-time password that has been sent to their registered mobile device. If the issuer is using risk-based authentication, they can silently authenticate their cardholder utilizing various factors such as IP address and device identification. In rare cases, an issuer may also ask a cardholder to activate 3DS while the cardholder is checking out.

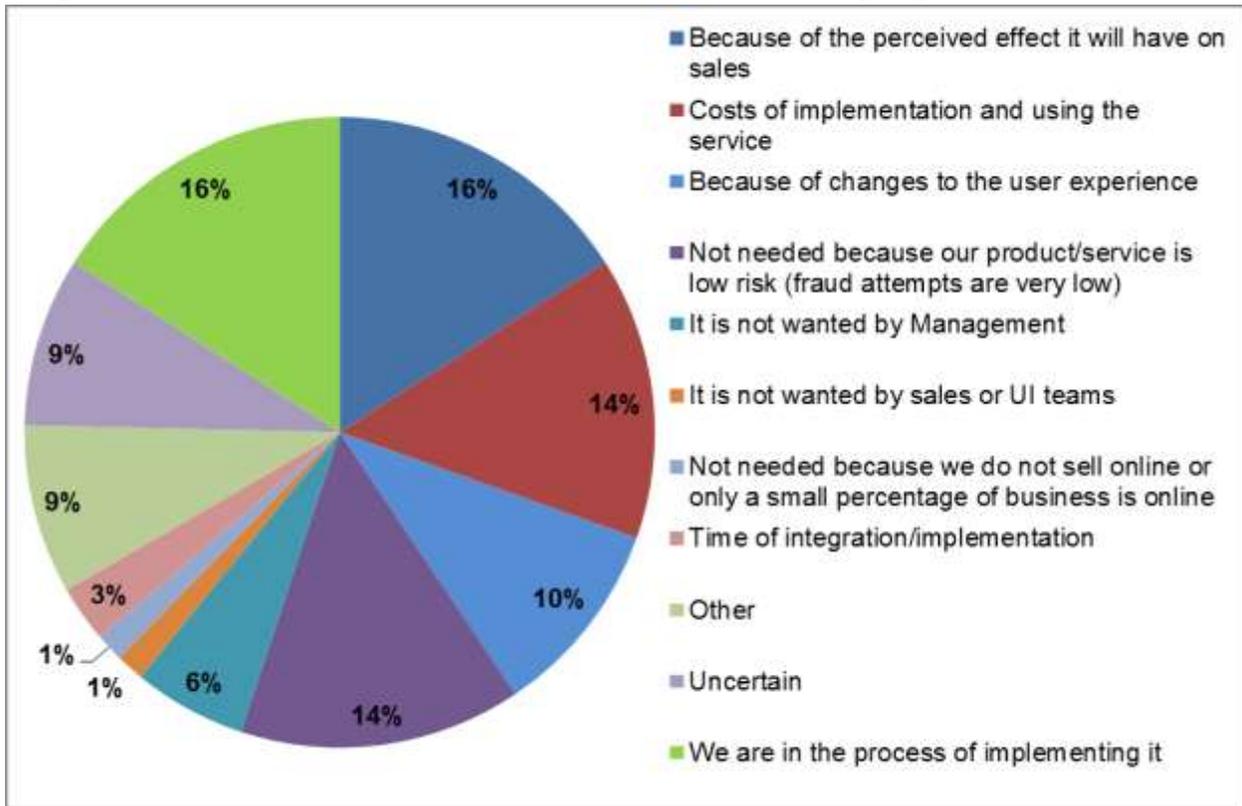
Beyond a merchant's confidence that a cardholder is the one initiating a purchase on their website, there are two major incentives provided by Visa and MasterCard for merchants to use 3DS in their online channel. The first is a shift in fraudulent chargeback liability when 3DS is used for Visa and MasterCard transactions. Traditionally, the merchant would be responsible for fraudulent chargebacks during a CNP transaction. This liability shift means that if the cardholder initiates a fraud-related chargeback, the issuer takes

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responsibility for the transaction amount, since the merchant has used 3DS to validate the consumer during checkout. The second benefit eligible to merchants using 3DS is a potential interchange savings, the fee charged to merchants by the card networks for processing credit. Lastly, most merchants have seen an increase in authorizations when 3DS is used, showing an increase in issuer trust once a cardholder has been authenticated. This is the only form of fraud prevention and authentication that provides these types of benefits to merchants.

With all of these benefits, we could ask why all CNP merchants are not using 3DS to authenticate their consumers. The main consensus is that the traditional implementation of 3DS often results in consumer friction during checkout, since transactions can be challenged. Some issuers require cardholders to enter a password or create a 3DS profile while shopping, which can frustrate the consumer and lead to shopping cart abandonment and lost sales. With the rise in risk-based authentication, a large percentage of 3DS transactions can authenticate without the cardholder being aware. Some merchants view the risk of losing potential sales with friction during checkout as greater than the potential cost savings in interchange reductions and chargeback liability shift. However, with Cardinal Consumer Authentication and its enhancements to 3DS, the number of merchants citing a perceived impact to sales as the reason they are not implementing it has dropped to 16%, down from 20% last year, according to the 2015 Survey on the Use of Consumer Authentication in eCommerce, performed by The Fraud Practice and Cardinal.

Why is Consumer Authentication Not Used Today? (Merchants)



Source: 2015 Consumer Authentication Survey; CardinalCommerce and The Fraud Practice

Cardinal’s Consumer Authentication was built around the 3DS protocols for each card network, to solve the challenges of a bad consumer experience especially friction at checkout. Using over 10 years of data, Cardinal Consumer Authentication gives merchants choice and control, by giving them visibility into the issuer’s authentication experience. The merchant works with Cardinal to create a set of rules to choose which transactions to authenticate and which to bypass, depending on the transaction’s risk and the consumer experience. For example, the rules would help avoid sending a consumer to an experience with high friction, which could lead to a sales abandonment. In addition to creating rules based on the consumer experience, Cardinal works with a merchant to select authentication based on customized rule sets that look at specific transaction parameters such as the transaction amount or a higher risk product. By having control over the consumer experience, the merchant can still benefit from the interchange and chargeback reduction, without the risk of negatively impacting their sales volume. This capability helps alleviate merchant objections based on previous experiences with traditional 3DS deployments.

Objective:

The objective of this case study is to determine whether or not the use of Cardinal Consumer Authentication can increase the number of approved orders.

Hypotheses:

The Hypotheses of this study are as follows:

1. A transaction that is authenticated is more likely to be authorized by a majority of issuers.
2. Using authentication allows a merchant to increase the number of orders sent to the processor for authorization, lowering their false positive rate hence increasing overall sales.

Methodology:

Chargelytics Consulting, in partnership with Cardinal and Amtrak, constructed the framework of this study to compare and contrast the impact of Consumer Authentication on authorization rates, by analyzing Amtrak's total authorized transactions using selective presentment. As an implementation strategy, Amtrak used a phased approach to introducing CCA to their payment acceptance process. The phased implementation first integrated Consumer Authentication on all cards issued by non-participating banks, providing Amtrak with the benefits of 3DS, without any risk of consumer friction. (This happens because the merchant attempted to authenticate the transaction, but when banks don't participate, the merchant receives the 3DS benefits.) In the second phase, Amtrak used Consumer Authentication on all cards with participating Risk-Based Authentication issuers. While the issuing bank gains more information about the transaction and the consumer, there is very little consumer friction. These two groups, non-participating banks and risk-based issuers, accounted for about two-thirds of Amtrak's total sales. This study focused on the authorization rates prior to implementing Cardinal Consumer Authentication to the present time. Amtrak will continue to integrate Consumer Authentication to gradually include other issuers, based on the consumer experience.

In addition to studying the authorization improvement rate, this study looked at the impact on merchant approvals, which is a result of lower merchant reversals or declines. Prior to implementing CCA, Amtrak relied on various tools and data points to determine if a transaction was high risk. High-risk orders were previously canceled. Once Consumer Authentication was deployed, Amtrak began to rely on the issuers' authentication models, as well as the chargeback liability protection they receive when a

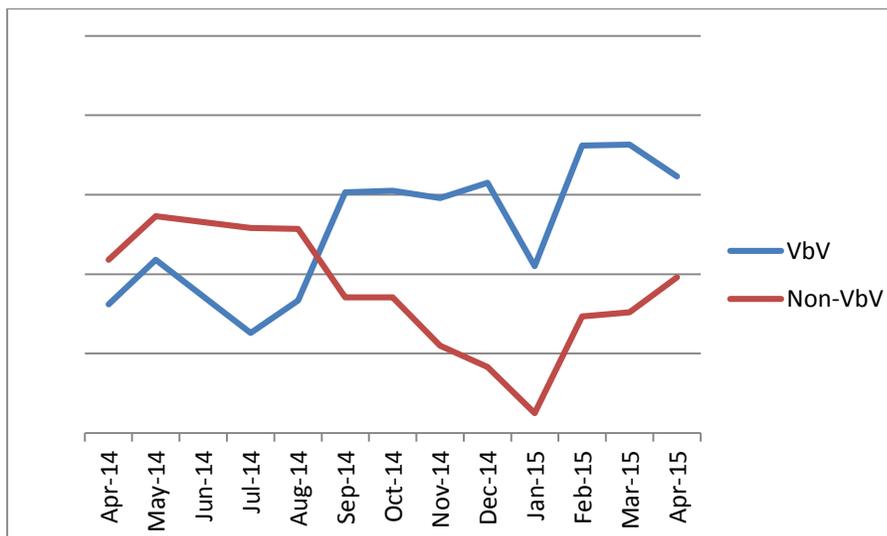
transaction is authenticated. Amtrak still uses the same fraud prevention tools they used before, as well as an extra level of protection on higher risk transactions.

Finally, in order to fully understand the additional benefits of Consumer Authentication, this study looked at the chargeback rates, post implementation. The assumption was that fraud-related chargebacks would significantly decrease once Consumer Authentication was implemented.

Results:

1. Results of the impact of authentication on authorization acceptance rates

After examining the data, the results are positive for Consumer Authentication. Across all issuers on transactions that were authenticated, Amtrak experienced a 2.4% increase on all authorizations using Verified By Visa (VBV). This increase is evidence that issuers have more trust in a transaction, and are more likely to authorize the transaction, when Consumer Authentication is used.

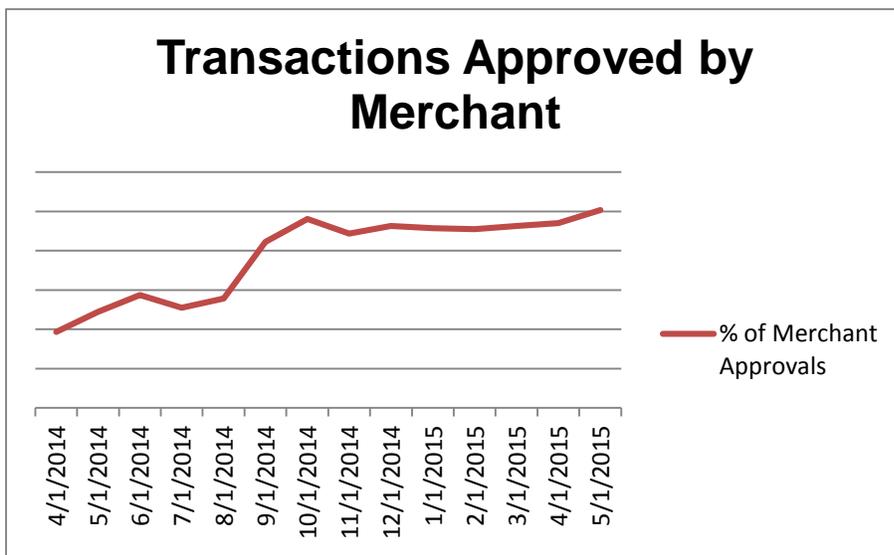


Amtrak experienced a 2.4% increase on all authorizations using Verified By Visa (VBV).

2. Results of the impact of authentication on total merchant approval rates

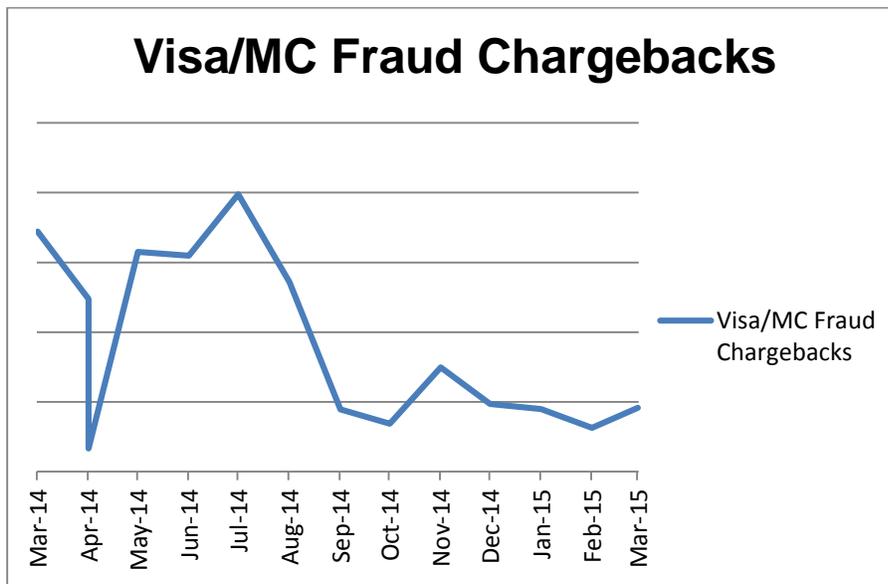
The data shows the transactions approved by the merchant after performing fraud analysis. Amtrak increased the orders they approved during the fraud review process by over 5 percentage points, providing a 69% rate of improvement. The increase in merchant approvals has a direct correlation to when Amtrak implemented Cardinal Consumer Authentication. Performing Consumer Authentication at the beginning of the authorization process with the issuer provides the merchant more confidence in the transaction. It also provides confidence that should an authenticated transaction result in fraud, they will not be liable for the chargeback.

Amtrak increased the orders they approved during the fraud review process by over 5 points, providing a 69% rate of improvement



Results of the impact of authentication on fraud related chargebacks

In order to understand the impact of Consumer Authentication on overall losses due to fraud, this study analyzed the chargeback volume with fraud reason codes. Amtrak saw a dramatic decrease (80%) in fraud chargebacks after they implemented Cardinal Consumer Authentication. As more transactions were authenticated, chargebacks decreased, due to the liability shift enabled with Consumer Authentication.



The impact on fraud chargeback volume after implementing CCA began between July and August. The remaining chargebacks reflect only the transactions that are not being authenticated due to consumer experience.

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Conclusion:

This study suggests that merchants who use Cardinal Consumer Authentication, enabling the various card network 3DS protocols, will experience an increase in authorizations and a decrease in merchant declines, translating into an increase in total sales volume. While implementing a traditional deployment of 3DS could potentially lead to a decrease in sales (due to the high amount of friction during checkout), the key to increasing authorizations is to implement Consumer Authentication in a selective approach, with the goal of an optimal consumer experience in mind.

“As expected, 3D Secure significantly reduced Amtrak’s fraud loss through the liability shift rule, and yet we experienced no noticeable increase in gross fraud or a shift of fraud to other payment channels,” Richard Ziolkowski, the Director of Payment Security for Amtrak adds. “The real bonus Amtrak experienced was in the improvement of our customer acceptance by up to 69%. By integrating 3D Secure into Amtrak’s risk model and leveraging its liability shift, Amtrak was able to relax or retire certain high-friction legacy rules. We now enjoy a better customer experience at checkout where valid customers can complete a seamless online transaction. Cardinal Consumer Authentication (enabling 3D Secure) forms a cornerstone of Amtrak’s next generation, multi-factor authentication strategy where the customer experience is our key focus.”

Knowing that the global marketplace will continue to rely on 3DS and authentication as a means of preventing fraudulent transactions, merchants should consider adopting Cardinal Consumer Authentication as part of a layered approach to prevent online fraud. The added benefits of increased sales, improved margins and an enhanced consumer experience should make this decision an easy one.

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Director of Payment Security for Amtrak.*

About the Participants:



Amtrak, America's Railroad was created in 1971 by the US government. Amtrak provides service on 305 daily trains to 46 states, the District of Columbia and three Canadian provinces. Amtrak services more than 85,000 passengers daily and 32 million passengers annually, with a mix of daily commuters traveling short distances and long distance travelers on sleeper car routes. With over 18 million transactions totaling over \$2 Billion in sales utilizing a multi-channel approach through traditional ticket counter sales, kiosk, mobile, e-commerce, call-center and on-board sales options. Currently, 90% of Amtrak's sales are card-not-present transactions.



CardinalCommerce is the pioneer and global leader in enabling authenticated payment transactions in the card-not-present payments industry since 1999. Through One Connection to the proprietary Cardinal SafeCloud™ payment platform, we enable friction-free, technology-neutral authentication and alternative payment services (including digital wallets and mobile commerce services). Cardinal services, partners with and complements most providers in the marketplace to deliver their One Connection solution to secure transactions. In accommodating this growing number of payment brands and methods, Cardinal's platforms serve as universal switches, supporting virtually all merchant platforms, wallets, legacy processing systems and authentication methodologies.

CardinalCommerce is headquartered in Cleveland, Ohio and services a worldwide Customer base from facilities in the United States, Europe and Africa. For more information, visit www.cardinalcommerce.com.

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Chargelytics Consulting is focused on offering consulting services and research in card-not-present fraud, payments and chargeback management. With a combined 17 years of experience as both merchants and acquirers, the partners of Chargelytics Consulting are passionate about providing customized solutions to reduce risk while maximizing revenue, as well as providing value to the ecosystem through customized research and reports. For more information, visit www.ChargelyticsConsulting.com.