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MERCATOR ADVISORY GROUP

ARE YOU MAXIMIZING YOUR REVENUE POTENTIAL?

HOW FRONT AND BACKEND PAYMENTS OPTIMIZATIONS LEAD TO BETTER OUTCOMES AND IMPROVE YOUR BOTTOM LINE

A Mercator Advisory Group Research Brief Sponsored by PayPal

PayPal

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Contents

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Executive Summary

Three Actions Merchants Can Take to Help Maximize Revenue

Merchants constantly update their e-commerce websites to attract more visitors and drive purchases, but attaining maximum revenue requires alignment of three environments. Most merchants know the first one well; the consumer-focused "front-end" of the e-commerce platform must be designed to reduce abandonment and facilitate a smooth checkout. Abandonment occurs when the shopper leaves the e-commerce site without selecting a product or checking out.

The second code to crack is which payment methods to offer. This may include traditional credit or debit cards, but demand is also increasing for mobile wallets and international forms of payment. Mercator research indicates that shoppers frequently abandon a site when their preferred payment method isn't offered. Typically, a consumer's preferred payment method offers two key benefits: it eliminates the need to type in payment and personal information, and it is a highly trusted instrument that makes the consumer feel more secure completing a purchase.

The third and often overlooked factor is the "back-end" conversion process associated with payment acceptance. A payment is not complete until the transaction is authorized by the consumer's card network and their card's issuing bank. If it is declined, the shopper is asked to enter a different form of payment, which increases the risk of abandonment. Sometimes, a payment is declined for good reason, such as insufficient funds or an identified fraud attempt; other times, a payment is declined unnecessarily due to processing issues. This is why, after heavily investing in acquiring a customer and getting them through the entire website and checkout experience, some merchants fail to realize the revenue from that hard-won purchase. Optimizing processing to boost approval rates is a critical opportunity to capture more revenue, and something that every merchant, small, medium or large, should consider.

Your Revenue is at Stake

While this sounds simple enough, it isn't. The systems and processes that make up the e-commerce site often become misaligned when enhancements are made to improve any aspect of performance, including efforts to reduce costs, increase revenue, or even simply better monitor the site's performance. Let's consider a hypothetical example to illustrate the impact optimizations can have on a merchant's bottom line.

A 2% increase in approvals could translate into millions of dollars of previously unrealized revenue

Let's take a website with 100 million site visits annually and an average ticket of $100. If the website introduces a better mix of payment methods resulting in increased conversions by just 2%, the site would increase its annual revenue by more than $3.4 million. If this same merchant also optimized its merchant processing and boosted approvals by an additional 2%, it would recognize $1.5 million in previously unrealized revenue.

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Note that boosting approval rates is great for revenue capture, but a merchant should not seek to boost approval rates to the degree where they are too permissive and fraud increases. The bottom line is improved when authorizations are optimized and, at the same time, fraud is kept in check with effective risk tools.

Evaluation of PayPal's Enterprise Payments Platform

Toward the end of the paper, we also evaluate PayPal's capacity to help solve for the aforementioned challenges through their proprietary payment method offerings including the PayPal digital wallet, Venmo, PayPal Credit (PayPal Credit is in the U.S. and subject to consumer credit approval) and their end-to-end merchant payment processing services. We find that PayPal's payments platform has established higher returns[i] for merchants by combining the power of its unique tools and data, deep relationships with global networks and financial institutions, and decades of expertise in digital payments.

Introduction

In an increasingly competitive environment and unprecedented shift to digital, merchants are quickly adapting to better serve their customers. Top-performing merchants are expanding their definition of "conversion" from simply converting buyers at checkout to a much broader set of considerations. Optimized conversion involves designing buying and checkout experiences with their customers' preferences in mind *and* employing a frictionless back-end processing set-up to boost approvals. Revenue is not realized until a transaction is approved and the payment is settled. An optimized processing infrastructure helps ensure that legitimate transactions are authorized effectively and that fraudulent ones are stopped in their tracks.

This white paper exposes the complexities associated with front-end payments operations that impact the likelihood of purchase across the buyer journey, as well as back-end operations that affect payment authorization rates. We will examine the ways merchants can tackle these challenges and then specifically evaluate PayPal's optimization tools and their approach to conversion.

Optimizing All Aspects of Conversion to Maximize Revenue

We will begin by looking at a typical customer journey, and then unpack the moments where payments solutions can help encourage a purchase and maximize revenue capture. **Figure 1** shows the customer journey, from the time the customer enters a website, shops, fills in card and shipping data during checkout, through the all-critical card authorization process and product fulfillment. On the far right, it also notes that in some instances the customer may lodge a dispute.

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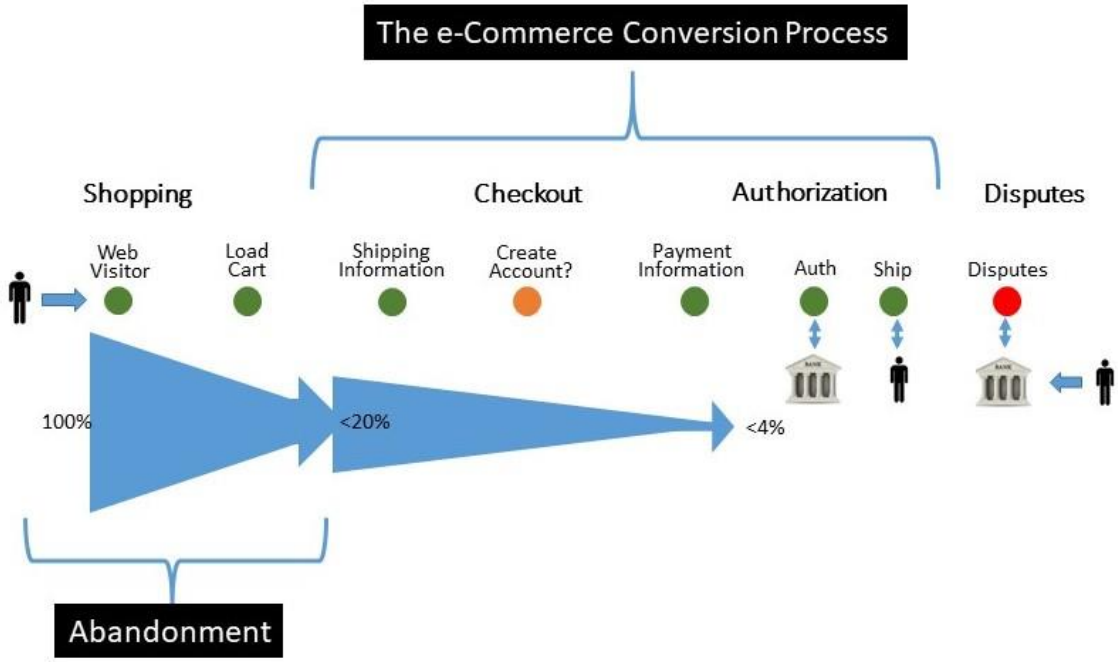
Figure 1: The conversion process ends successfully with an approved authorization.



Source: Mercator Advisory Group

On the front-end: Optimizing the buying experience to increase conversion

Mercator research suggests that optimizing the checkout experience can significantly increase the likelihood of a conversion into a purchase. While abandonment rates vary by category and average ticket price, our research[ii] suggests that more than 80% of visitors to a merchant's website leave without placing an item into the shopping cart – they abandon the shopping cart without entering any shipping or other personal data (this metric excludes bot activity). This significant dropout rate makes the remaining 20% of customers that enter the conversion phase critical to the merchant's profitability.

Payments are a means to increase the number of customers that enter the conversion process.

Mercator's research suggests that consumers have a strong preference regarding mode of payment, and when a preferred payment method or brand isn't available, the site will experience a larger than usual cart abandonment rate, which Mercator estimates will increase abandonment by 4% to 10%. For a large company, even a small percentage of cart abandonment can impact revenue by millions of dollars. Where sites fall within this large range depends on multiple issues including the merchant's brand recognition, whether purchases are domestic versus international, the dollar value of the transaction, the consumer's need or desire, and even the device the consumer is using to make the purchase. A simple way to help reduce friction is to make sure the consumer's

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preferred payment method is available during the checkout process, and preferably methods that have their card and personal information already stored.

In addition to offering relevant payments options and a smooth checkout, merchants should leverage commerce tools along the buyer journey that offer promotions or re-target customers who have abandoned their carts.

On the back-end: Optimizing processing to boost approval rates

While most merchants focus on improving the customer front-end experience, back-end optimization is equally crucial to conversion and revenue capture. In fact, authorization rates have become increasingly important not only to merchants, but to players all along the payments value chain, including acquirers, payment networks and even card issuers, all of which could benefit from higher authorization rates and reduced fraud. Consumers also benefit from authorization optimization when a transaction is processed without disruption. If a transaction is declined, a merchant risks cart abandonment and potentially the consumer's image of the brand.

A merchant's authorization rate, also called the approval ratio, is calculated by dividing all the payment transactions that were accepted by the total number of transactions submitted. For example, a merchant that successfully authorized 91,700 out of a total of 100,000 submitted transactions would have an authorization rate of 91.7% (91,700/100,000=.917 or 91.7%). The inverse of the authorization rate is the decline rate, calculated by taking the number of declines divided by the total number of transactions or in this case 8.3% (100,000-91700 = 8,300. Dividing the difference by the total number of transaction results in 8,300/100,000 = .083 or 8.3%).

Reasons for Declines

Payments can be declined for a number of legitimate reasons, such as insufficient funds, an expired card, or when a transaction is identified as fraudulent. However, good transactions can also be declined unnecessarily due to less-than-optimized processing. Some of the top reasons include:

- Overly strict fraud rules: While fraud is increasingly prevalent, particularly in "card not present" digital transactions, it is important to strike a balance that catches fraud without overestimating the risk of legitimate transactions and causing unnecessary declines.

- Outdated card and customer information: Too often, a transaction is declined because data, such as card numbers, are outdated. Major global card networks have produced tools to keep card information up-to-date. These important tools include Account Updater and Network Tokenization and can be obtained through a merchant's vault or gateway provider.

- Cross- border payment risk assessment: Cross-border transactions get declined more frequently because international cards often operate on local or regional foreign networks that are not connected to global networks, making it more complex to verify whether or not a transaction is legitimate. These

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international card acceptance issues often make global expansion difficult, requiring merchants to select acquirers that specialize in international card acceptance.

- Transactions processed in "high risk" or "less mature" markets: When merchants expand operations to international locations, they are sometimes surprised to discover that their authorization rates are lower than expected. For example, in countries like Brazil, 15% decline rates are considered to be conservative.[iii] This is why it is important to work with a payment service provider with experience and processing rails that can navigate local ecosystems.

- Data is not communicated properly: More detailed and accurate cardholder information could improve identification and therefore drive higher authorization rates, but only if that information is communicated effectively between the merchant, acquirer, network, and issuer across the authorization process. This is not always straightforward for a couple of reasons. First, the message structure used by payment networks is designed for speed, and limits the information that can be sent when a payment is being processed. Second, the authorizing banks are constantly changing their individual standards for the type of information required to approve a transaction—for example, one bank may require a zip code only and another will require a full address to be sent. An optimized gateway should manage this ambiguity on behalf of its merchants.

- Sub-optimal routing strategy: If payments are routed through the wrong processing channels, the chance of a decline could increase. A gateway can make a determination as to whether a particular transaction should be routed to certain processors or banks to achieve the best chances of approval. Optimized routing decisions can depend on the type of transaction, dollar amount, location of origin, and other factors.

- Not understanding the root causes of declines: Without understanding the reasons behind their decline rates, merchants cannot correct for them. They should analyze performance at the decline code, payment method, country, industry, customer and order levels. This should not be a black box or one-size-fits all process; each merchant should evaluate authorization and decline patterns according to their unique needs. A good payments service provider can often advise merchants in their analyses.

Where the process can break down: Asymmetrical data along the payments value chain

When purchase information has been submitted by the customer, the transaction goes into the authorization phase where it is evaluated for risk and likelihood of fraud by various stakeholders: the merchant, the acquirer, the card network and the issuer. Understanding the interaction between multiple risk detection solutions is critical to achieving maximum approvals. All of these fraud solutions risk generating "false positives," wherein a good customer or transaction is improperly identified as fraud.

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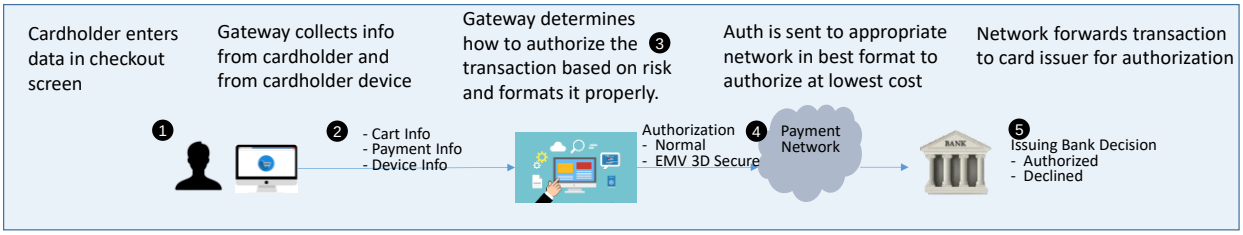
After checkout, a transaction begins its payment journey through fraud detection systems implemented by the merchant, acquirer, card network, and issuing bank. It is important to recognize that each participant has a different perspective regarding the risks, liabilities and potential penalties associated with each transaction. Each participant in the transaction approval process has limited information, for example:

- The merchant can see the cardholder's online device and site behavior and may also have historical data from past shopping events.
- The gateway has the data associated with this transaction and other transactions from that merchant's site, as well as transactions conducted by a cardholder at other merchants that use the same acquirer.
- The card network can see all of the cardholder's transactions and uses that information to better flag network fraud.
- The issuing bank will evaluate the purchase in the context of the cardholder's account and purchase history.

Merchants, acquirers and gateway providers

Many gateways collect information that they analyze to improve authorization rates, make smart routing decisions, and reduce fraud and disputes. This includes data from both the device and the user, such as the IP address, screen resolution, device type, and a range of other device-specific information. In addition, the gateway may collect behavioral information by looking at how the user holds the device, interacts on the screen, types, and other factors. A typical gateway also evaluates information received across all of its merchant locations and may even collect data from the networks in order to better prevent fraud and chargebacks caused by "false negatives" (undetected fraudulent transactions), all in an effort to help merchants. A merchant and its acquiring bank and gateway are best positioned to capture the real identity of the customer and decide if and how a transaction should be submitted to the network and ultimately the issuer. (See **Figure 2**).

Figure 2: Collecting & Using Identity Information to Guide Authorization Decisions



Source: Mercator Advisory Group

- In Step 1: The cardholder starts by entering their payment information at checkout, but on the back-end the information is actually going straight to the merchant's gateway provider. The merchant never sees the actual card numbers or payment credentials. This eliminates the need for the merchant to handle sensitive payment information.

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- In Step 2: As the cardholder interacts with the gateway, the gateway provider collects a significant amount of data, both from the user's device and perhaps from the user's behavior on the device, as the requested payment data is entered. This data is used by merchants and gateways as an additional method of authenticating the user and will slowly become more accessible to issuers as the global networks roll out Secure Remote Commerce (SRC), EMV 3D Secure and Network Tokenization (more to come on these topics below).

- In Step 3: A decision is made regarding the process or route using the payment and device data collected from the user. This may be as simple as passing the transaction data directly to the issuer's network, or it can be an extremely complicated decision that takes into account the likelihood of fraud, performs mitigation, and implements a routing algorithm to determine which issuer or processor will be most likely to authorize the transaction at the lowest possible cost. Perhaps the largest cost savings occurs in the case of a debit card that is capable of accessing global networks but is also recognized as operating on a PIN Debit regional network. The savings here can be significant; according to the Federal Reserve, signature credit and debit transactions associated with exempt banks costs merchants $0.54 each on average, while transactions routed through a PIN debit network cost only $0.25 on average.[iv] Once a routing decision is made, the gateway provider validates the transaction is formatted correctly and adheres to network and issuer standards. The transaction is then sent to the card network to enter the authorization, settlement and dispute cycles.

- In Step 4: The card network assesses risk based on its own data and ability to see transactions across multiple merchants, issuers, geographies, ATMs and even dark web activities to identify large-scale fraud efforts. When issuers suffer outages, they may request the network act as a stand-in-processor which then takes a proactive position to detect and decline what they perceive to be a fraudulent transaction. Networks are working for the issuer, so they may be aggressive in issuing a decline which also protects card holders and avoids costly chargebacks. If the network is too aggressive it will decline good transactions, lowering merchant conversion rates and increasing cardholder frustration.

  Card networks tend to implement fraud detection solutions that focus on blocking criminal organizations. Major global networks have come together to develop tools that keep card data fresh and mitigate risk. They offer Account Updater tools, as well as a powerful new Network Token scheme that updates and validates card information in real-time. However, networks are not in an ideal position to make an accurate determination for most fraudulent transactions because they have limited data available regarding the identity of the individual actually presenting the card at the point of purchase.

- In Step 5: The issuer receives the transaction and makes a decision as to whether it will authorize or decline the transaction based on the information that issuer has, including for example, the cardholder's purchase history, the status of the cardholder's account, and perhaps even additional details regarding other same-account cardholders and family and household income. However, the issuer has little data regarding who is initiating the transaction at a merchant location, so the bank needs to evaluate the potential fraud risk with

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the information they have, plus the limited information that the merchant sends them. This protects the bank and the cardholder's account. Sometimes their fraud rules are so strict that they flag good transactions as fraud risks. Only the largest issuers have invested in reducing these false positives. To avoid unnecessary declines, merchants and acquirers should ensure that they furnish the bank with the right information in the right format, according to each issuer's rules. While not shown in **Figure 2**, once the decision is made to authorize or decline the transaction that response is passed back through this chain to inform all participants of the decision, including the cardholder.

Liability Considerations for Merchants

The liability associated with each transaction must be taken into account. A merchant might accept the liability if the chances of fraud and the ticket price are both low. In this case, the transaction will be submitted as a standard authorization message. But if the risk of fraud is high or the transaction value is high, then a decision can be made to send all of the information collected from the user device via EMV 3D Secure to shift the liability to the issuer who will make the ultimate decision. This risk management calculation is important because merchants that do not catch enough fraud may exceed a fraud threshold set by the networks. In that case, they will be forced to pay additional fees and will need to have their acceptance programs certified to remove those fees—which is an expensive proposition.

Better Data Leads to Better Outcomes

In every instance identified above, the right decision is dependent on having the right data analyzed quickly to make payment decisions. Acquirers and gateways are building their value proposition for merchants along these lines by utilizing machine learning tools that evaluate millions of online transactions to distinguish between legitimate buyers and fraudsters. This includes scrutiny of transactions performed through the gateway, data that the networks make available, data that the gateway has access to due to other business relationships, and third-party data that the gateway purchases.

Machine learning and domain expertise are only as good as the data sets they are learning from. A differentiating feature for acquirers and gateways is their use of consortium data or perhaps the depth of their database that includes customer transaction history from multiple merchants in multiple market segments. For example, a gateway might claim that it can recognize over 90% of buyers that place orders on a merchant's website, offering the ability to detect fraud and optimize authorization rates. This can be achieved when a gateway leverages all of its data sources to improve its risk scoring analytics. Some of the factors they consider are:

1. Cardholder history analysis across as many merchants as possible that are active in the same merchant category
2. Order analysis to detect fraud patterns
3. Segment analysis to understand specific risks associated with a particular industry
4. Cross-industry analysis to detect new fraud patterns, including at the BIN level

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5. Network analysis to detect fraud patterns across the different card networks as well as card network specific transactional and data format best practices
6. Analysis to detect cross-border fraud, cardholder and BIN risk patterns, and transactional and data formatting best practices

New capabilities such as EMV 3D Secure and Network Tokenization will enable merchants and gateways to send issuers more accurate information regarding both the customer and the transaction. EMV 3D Secure is a new payment transaction type that can be used for high risk transactions to shift the liability for potential fraud to the issuer if they authorize the transaction. To implement the EMV 3D Secure transaction, device information and historical information regarding the cardholder is included in the transactional data sent to the issuer. Network tokenization is used to replace traditional card numbers in a digital transaction with a string of digits called a token. Tokens eliminate the risk that a card number will be exposed and, because they are not a physical asset like a credit card, they can be replaced easily if card data is exposed. The token also allows the issuer to assign various limits to the token including open to buy limits, time and geography limits, or to limit the token to a specific merchant when it represents a card on file. Access to this information will play an increasingly important role in improving authorizations and reducing fraud. Said another way, the sharing of information between the merchant and the issuer using these new tools is expected to reduce issuer declines.

Clearly collecting and analyzing all of these factors requires a payments partner that has a broad presence and deep expertise. Reviewing these and other factors on a regular basis, it is possible to improve authorization rates so that merchants can deliver the best possible experiences to their customers while also capturing the highest possible revenues.

Managing Disputes

For every transaction a merchant approves, there is some risk that it will generate a cardholder dispute. The cause may be legitimate, for instance when the consumer receives the wrong item, or it may be more insidious, for example when there is fraudulent claim of undelivered merchandise. Disputes have increased in part because issuers are making it easier for consumers to lodge disputes by automating the process online. A one-click dispute is sent from the issuer to the card network, which forwards it to the acquirer, and finally from the acquirer to the merchant. These disputes are managed by strict U.S. card network rules.

A bank dispute makes it difficult for the merchant to interact with the consumer directly. In addition, the network charges a fee for each dispute it manages. Typically, the only action the merchant can take is called re-presentment, whereby a merchant must provide proof to the issuer that the complaining customer has no right to claim a dispute. If the merchant and the issuer pursue further challenges to the dispute, the card network has a costly mediation function that is often not worth the expense, except in the case of high dollar transactions. While the chargeback fees paid by the issuer by payment type, a typical range is $4.00 to $20.00 per chargeback case. The fee for arbitration typically ranges from $250.00 to $500.00 with the arbitration loser obligated to pay the cost of the arbitration as well as the value of the disputed transaction.

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Dispute management is an area where a good payments provider can help by maintaining records associated with each transaction in a PCI compliant environment. The acquirer's fraud management solution should keep disputes low, but when disputes do arise the acquirer should be able to provide the merchant data that can be used during the re-presentment phase of the dispute.

The PayPal Approach to Conversion

Introduction to PayPal's Enterprise Solutions

There are two key components to PayPal's enterprise payments platform: the well-known consumer wallet and end-to-end merchant processing services. This means that they have unique visibility into both sides of a transaction from both the buyer and seller perspectives, which they refer to as the two-sided network. The wallet is a useful conversion tool at checkout and, importantly, also provides the unique consumer data and global rails that power and inform merchant payment processing globally. PayPal's enterprise solutions can improve authorization rates and reduce declines by leveraging its global infrastructure that includes global bank relationships and deep integrations with a wide range of payment related players, including Visa, Mastercard, American Express and other international card networks.

We will detail how PayPal achieves a broader perspective (relative to the cardholder and the issuer) than most other payments players because it has its own consumer-oriented payment method with back-end connections to most banks.

Leveraging the Unique PayPal Infrastructure

Touchpoints around the World

At its foundation, PayPal's payments platform has two unique differentiators: data and relationships. At the time of this writing, PayPal has 346 million global active accounts, which includes more than 26 million merchant accounts. Consumers can send and request money from friends, access credit offerings, pool cash between peers, establish savings goals, and pay merchants with their digital wallets. To deliver these services, PayPal has had to establish an infrastructure that most traditional acquirers simply don't have.

To create this global infrastructure, PayPal has created relationships with banks, bank regulators, and payment networks. This infrastructure enables the collection of significant, unique data assets. Data is collected from the user's mobile device, card account, and issuing bank, as well as mobile networks, payment networks and merchant accounts in more than 200 countries.[v] The aggregated data is analyzed by PayPal's proprietary risk algorithms to develop highly sophisticated risk scores for specific transactions. This allows PayPal to pass on more accurate information through the processing rails.

PayPal's Front-end Conversion Tools

First, we will address the power of PayPal solutions with regards to the front-end consumer payments experience.

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PayPal's Digital Wallets

The PayPal brand is recognized as a secure checkout by consumers and also represents one of the most convenient checkout experiences, as it significantly reduces the data entry needed to complete a transaction. The digital wallet reduces friction by eliminating the need to enter payment and other data during checkout and helps makes it easy to make payments internationally, across digital devices, and in physical stores.

Mercator's consumer research indicates that PayPal is highly trusted by a large and growing range of consumers. In fact, our research indicates that people between the ages of 18 and 34 have a propensity to utilize both PayPal and debit cards equally, and more often than any other form of payment, such as credit cards. The same research shows that PayPal is used more than any other payment mechanism for cross-border e-commerce payments.[vi] Plus, in the U.S., PayPal now offers Venmo, a digital wallet with a community of more than 60 million[vii] users that allows users to share their purchases with friends via its social media function.

Digital wallet customers connect their accounts directly to a funding source such as a bank account or a payment card placed on file. Many accounts connect to more than one such source, perhaps a bank and a payment card or multiple payment cards. This means multiple back-up funding instruments that can be used if the initial payment method is declined, enabling close to 99% approval rates[viii] in some cases when the PayPal wallet is used.

PayPal offers these services in more than 200 countries and has well-established relationships and connections to regulators, banks and regional card networks around the world. These relationships and technologies help PayPal deliver a secure and convenient payment experience, which in turn drives significant customer loyalty. This loyalty can translate into more revenue for merchants that present the PayPal marque. In addition, PayPal also presents credit offers to customers (subject to consumer credit approval). This can expand a customer's purchasing power and help enable a sale that might not otherwise have taken place.

Beyond the Wallets, Additional Conversion Tools

Beyond their proprietary digital wallet and credit offers, PayPal offers a range of other digital wallets, such as Google Pay, Apple Pay and Amazon Pay, and local payment methods to accommodate the preferences of customers in their local markets. It is critical to offer the right payment mix, as Mercator research finds that 26% of shoppers have abandoned a shopping cart when their preferred payment method is unavailable.

The PayPal platform also offers a suite of tools that helps enable conversion. Customizable checkout and recommendations give merchants control over their customers' buying experiences. Shopper tools include promotions, re-targeting abandoned carts, and targeted incentives that encourage conversion before, during, and after checkout.

One of their most fascinating, unique tools is the capability to share secure tokenized customer and payment information with other ecosystem merchants. Merchants can use partnerships to reach new sales channels and loyalty programs. The possibilities are seemingly endless.

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PayPal's Back-end Optimized Processing Engine

Leveraging Global Payment Rails

PayPal's relationships with the global payment networks would be very difficult for traditional gateways and acquirers to replicate because most traditional acquirers have no need for the degree of connectivity and processing optimization required to run the wallet. PayPal leverages global networks as a fundamental part of its own global acquiring solutions.

PayPal is positioned to stay ahead of changes in the industry. For example, the company knows well in advance what card networks and issuers need to approve a transaction, including data formatting, compliance, and risk mitigation standards that can impact authorization across local, regional and global networks. Bank account status, individual payment history across multiple merchants and banks, and global ecosystem reporting and fraud pattern information help PayPal to make routing decisions that optimize the chances for approval.

In addition, a significant amount of unique, aggregated information regarding consumer accounts and card data is analyzed to uncover patterns and detect risk. PayPal is able to rapidly ingest billions of consumer events into their data pipeline and then use proprietary features to send advanced authorization information, including a normalized score generated using buyer and seller risk history. Its fraud detection algorithms are powered by a vast amount of data not available to a typical payment gateway supplier. This information helps issuers make better decisions and approve more legitimate transactions.

PayPal passes on its learnings and expertise related to the payments ecosystem to merchants. It uses an adaptive routing approach to maximize the chances for transaction approvals. By using their combined scale, data and technology to dynamically create the most optimized transaction routes and messaging upfront, PayPal is in a unique position to generate high approval rates. Their focus is on optimizing routing *before* the decline and implementing sustainable strategies for handling declines -- sometimes retrying, sometimes re-routing.

Fresh Data

It is clear that PayPal has a large *quantity* of data, but the *quality* of that data is equally important to inform decision making. They offer batch and real-time account-updater products in the U.S., and have updates available for most major markets and card networks.

PayPal also offers network tokenization, the new scheme put forth by global card networks to make transactions more secure and keep card data up to date in real-time. Instead of transacting with a cardholder's account number, encrypted tokens replace the card number to protect the cardholder's account from hacking or fraud.

Unlike physical plastic cards, network tokens are instantly updated when a token replaces card-on-file data (this is true when a card is issued or re-issued regardless of card form factor - EMV dip or contactless tap). PayPal is one of

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the first and largest Network Token Service Providers and, at the time of writing, has already tokenized 220+ million cards on their payments platform. This means PayPal can apply learnings and optimizations to help their merchants realize the best possible Network Tokenization implementation for their businesses that also keeps payment data as fresh as possible.

Dispute Management

High chargeback rates can drive payment costs through the roof, especially if disputes are executed through the issuing bank and global networks as opposed to direct communications between the customer and the merchant. PayPal has Purchase and Seller protection on eligible transactions and helps manage dispute resolution, a less confrontational way of ensuring all parties are in the loop.

Potential Revenue Impact

Applying PayPal's value proposition to different merchant situations will make it easier to recognize why taking action today is important; it can have an impact on revenue. **Chart 1** demonstrates the impact of increasing authorization rates by 1.75% and 2.84%, given an 80% checkout abandonment rate. These increased authorization rates represent the median and the average, respectively, of 16 cases in which PayPal helped optimize authorization rates on behalf of its merchants.

Chart 1: Model portraying revenue increase possible with a 1.75% and 2.84% increase in authorizations.

	1M Visitors	20M Visitors	40M Visitors	60M Visitors	80M Visitors	100M Visitors
Revenue Increase if Auth Rate Increases by 1.75%	$329,000	$420,000	$840,000	$1,260,000	$1,680,000	$2,100,000
Revenue Increase if Auth Rate Increases by 2.84%	$533,920	$681,600	$1,363,200	$2,044,800	$2,726,400	$3,408,000

Source: Mercator Advisory Group Model

The Mercator model output shown in **Chart 1** indicates that a merchant with an average basket value of $100 may increase its annual revenue by $329 thousand to $3.4 million depending on the number of visitors, 1 million to 100 million respectively, to the e-commerce web site. Every merchant and segment will have different statistics and thus a different return, but this example clearly demonstrates the potential impact of an improved authorization rate.

Note that there are additional benefits if the site also optimizes the checkout process and presents the PayPal acceptance mark. A significant impact on revenue may be possible by increasing the number of visitors that complete the checkout process because of the simplicity and security of that process. Mercator research indicates that PayPal customers appreciate the simplicity and safety associated with the PayPal wallet, suggesting that this can be an important update to an e-commerce site. Additionally this Mercator model indicates that revenue will

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increase by 50% or more annually when the number of visitors that complete the checkout process is increased by just 2%, but of course, this is for the model represented in **Figure 1**, and will vary by merchant.

Conclusions

There are a range of actions merchants can take to increase revenue, but too many fail to understand the revenue potential of optimized payments. Small improvements can help increase the number of shoppers that make it through checkout and the number of transactions that are ultimately authorized so revenue can be realized. These improvements require precise and coordinated monitoring across the payment process so each step can be examined and measured. The keys to success are a simplified checkout, presentment of the right payment methods, and optimized processing that boosts authorization rates while keeping fraud and dispute rates low.

After evaluating PayPal's enterprise-grade platform, we conclude that it has distinct advantages in three critical areas. First, PayPal has access to multiple, unique data sources due to its hundreds of millions of consumers, tens of millions of merchants, and extensive global processing rails. PayPal has an advantage over most traditional acquirers in that they have access to consumer, card and issuer data through its operation of the PayPal wallet. Second, their machine learning analytics, delivers well-informed decisions in milliseconds. Third, consumer trust in the PayPal brand around the world helps merchants acquire new customers and can reduce the percentage of customers that abandon purchases. The results of these three differences are real, quantifiable and desirable in a payments partner.

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Mercator Advisory Group is the leading independent research and advisory services firm exclusively focused on the payments and banking industries. We deliver pragmatic and timely research and advice designed to help our clients uncover the most lucrative opportunities to maximize revenue growth and contain costs. Our clients range from the world's largest payment issuers, acquirers, processors, merchants, and associations to leading technology providers and investors. ***Advisory services*** include *Credit, Debit and Alternative Products, Prepaid, Merchant Services, Commercial and Enterprise Payments, Emerging Technologies,* and *Global Payments* practices, which provide research documents and advice. ***Primary data services*** include the *CustomerMonitor Survey Series*, which report and analyze data collected in our biannual consumer surveys, as well as the *Customer Merchant Experience Survey* and the *Small Business Payments and Banking Survey.* ***Consulting services*** enable clients to gain actionable insights, implement more effective strategies, and accelerate go-to-market plans; offerings include tailored project-based expertise, customized primary research, go-to-market collateral, market sizing, competitive intelligence, and payments industry training. Mercator Advisory Group is also the publisher of the online payments and banking news and information portal PaymentsJournal.com. Visit www.mercatoradvisorygroup.com.

About PayPal

In addition to offering one of the world's most popular digital wallets, PayPal provides end-to-end payments processing services that enable digital, mobile, and in person payments on behalf of consumers and merchants worldwide. Through a combination of innovation and strategic partnerships, the PayPal platform creates better ways to manage and move money, and offers choice and flexibility with modular, enterprise-grade solutions.

PayPal is committed to democratizing financial services and empowering people and businesses to join and thrive in the global economy. Available in more than 200 markets and in 100 currencies around the world, no other payments partner can match PayPal's global scale, reliability, and innovation.

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[i] Higher approval rates for merchants cited in this paper were derived by Mercator's analysis of global PayPal transaction data. Improvements may vary by region and engagement.
[ii] Mercator analysis of PayPal and published data.
[iii] https://thepaypers.com/expert-opinion/ralf-germer-pagbrasil-brazil-how-to-multiply-your-business-in-30-days--757764, The Paypers, accessed 10/20/2020
[iv] https://www.federalreserve.gov/paymentsystems/regii-average-interchange-fee.htm, Federal Reserve Web Site, accessed 7/12/2020.
[v] https://www.paypal.com/us/webapps/mpp/country-worldwide
[vi] 2020 Buyer PaymentsInsights – Payments Behavior, see https://www.mercatoradvisorygroup.com/Membership/PrimaryData/

[vii] https://www.wsj.com/articles/even-in-a-pandemic-venmo-tells-conned-customers-to-pay-up-11600939826

https://www.marketwatch.com/story/heres-how-paypal-hopes-to-turn-venmo-into-the-next-paypal-2020-07-31#:~:text=It's%20been%20just%20over%20five,company%20split%20from%20eBay%20Inc.&text=The%20company%20is%20looking%20to,the%2012%20months%20through%20December.

[viii] Communication with PayPal, data based on proprietary research.

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