



Bill Pay Experience at a Point of Disruption

January 2021

Change Log Changes from Version 2.0 to Version 3.0

Page No.	Change in Content Comments	5	
4	Created an executive summary		
7	Created an insights summary for section 1: Bill Pay Market Overview		
8-10	Updated content to reflect latest bill pay market trends in 2020 and most prominent customer bill pay habits today		
12	Created an insights summary for section 2: Customer Pain Points and Need for RTP®		
13	Updated customer pain points associated with bill pay		
14	Added costs associated with today's bill payment experience		
15-16	Updated content to reflect most prominent customer expectations around faster payments		
18	Created an insights summary for section 3: Biller Pain Points and Need for RTP®		
19-20	Updated biller challenges to reflect most relevant pain points today		
21-22	Updated content based on latest reports to reflect current RTP® adoption timelines and the need to enable RTP® capabilities		
23-25	Created a section on how RTP® solves customers' and billers' pain points		



Glossary of Terms Used In This Module

Acronym	Description		
ACH (Automated Clearing House)	Refers to ACH debit, where electronic payments are made through the Automated Clearing House network by debiting directly from customers' bank accounts		
Bill Presentment	A process that allows invoices to be created, processed and paid via offline or online payment channels		
Biller Direct	A bill payment channel that allows customers to view bills electronically and make payments to the biller through the biller owned web portals or websites		
ank Bill Pay A bill payment channel that allows customers to pay their bills through bank's online or mob			
RfP (Request for Payment)	A payment-related message (ISO20022 pain.013) that is sent by the biller to the customer through their respective financial institutions, to request an RTP payment in response		
RTP® network	The network for real-time payments hosted by TCH		



Executive Summary

Real Time Payments is well positioned to resolve bill pay pain points and capitalize on the existing forces disrupting the landscape

The Bill Payment Market Today

- Out of 15.5B bills paid in 2019, approximately 65%, are made as one-time payments, and 35%, are set up on a recurring basis¹. Majority of bill payments continue to move online. In terms of bill categories, utilities contributed to largest category by number of bills, and credit card by Gross Dollar Volume (GDV)
- Biller Website is the channel of choice for most customers to make bill payments today, with 76% of bills being paid via this channel in 2020, up from 62% in 2010¹. This includes demographics such as Gen Zers and Gen Xers, who pay 79% of their bills through this channel
- Of all the bills paid, ACH continues to be the most used payment method, with more bills paid with ACH than Debit and Credit cards combined 1

Customer Pain Points

- Customers' bill payment experience is plagued with possibility of late payments, lengthy payment processing times and complex bills
- Late fees are a major concern for customers who can't pay their bills fast enough, and end up paying credit costs and bank overdraft costs²
- Customer expectations are also changing; 74% of customers expect payments to be processed immediately or within a few seconds³. The timing, therefore, is ripe for retail banks to offer real time payments as customers look for immediate payment options

Biller Pain Points

- Billers today are faced with multiple billing and payment related challenges - High costs of paper bills, inefficient reconciliation, need to maintain higher cash reserves, etc.
- Additionally, as customers are moving towards Biller Direct as a preferred channel, costs related to bill presentment and contact center are also becoming significant
- Billers anticipate positive impact of RTP®, and plan to adopt it within the next 2 years, pushing banks to enable RTP® capabilities. But most of these billers are still in nascent stages of adoption largely due to unawareness

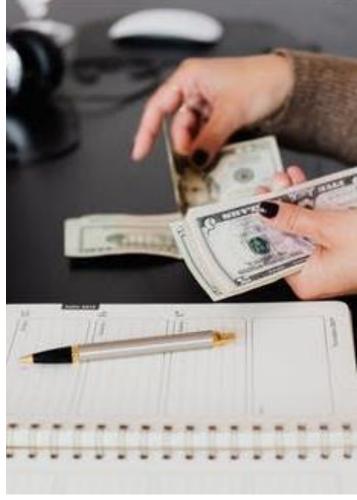
Customers' and Billers' concerns around timeliness, security and certainty, coupled with their changing expectations, all create an opportunity for Real Time Payments to solve persistent issues intoday's Bill Pay experience



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Overview of Bill Pay Market in the US and Curious about the current **Customer Bill Pay Habits Bill Pay Market?** Insights Summary Go to this section Bill Pay Market in the US Customer Pain Points and Need for RTP® Are you a retail bank and **Insights Summary** want to understand your Current Bill Pay Experience and Key customers' bill pay pain **Customer Pain Points** points? Go to this section Rise of New Customer Expectations Biller Pain Points and Need for RTP® Are you a wholesale bank **Insights Summary** and want to understand your corporate / business Challenges Faced by Billers Today clients' pain points related Rising Demand for RTP® to bill pay? Go to this section Current RTP® Adoption Level How RTP® can solve for How does RTP® solve for these pain points? these pain points? RTP® addresses customers' concerns

RTP® addresses billers' concerns



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How appealing is this to the billers

Bill Pay Market Overview and Customers' Bill Pay Habits



Bill

Bill Pay Market – Insights Summary



Bill Pay Market has significantly grown in the last decade, with select few dominant bill categories

The Bill Pay market is up 8% from 14.4B bills paid in 2010 to 15.5B bills paid in 2020 (est.). Select categories, such as utlities, credit card bills, cable/TV/Internet and cellphone take up more than half of the market share (~55% of all bills). ~65% of the total bill payments are made as one-time payments, and 35%, set up on a recurring basis



Bill payments are mostly made via biller direct, and ACH remains the most prominent payment method

Online channels dominate bill payments, most of which are paid via the biller direct channel. ACH continues to be the most used payment method to pay bills, with an increasing share of the market moving to this payment method over the last decade (36% to 45%). Checks have declined during the same period (37% to 15%).



Customers from different demographic segments are paying more bills using online channels

More than 50% customers across each generation use online channels to pay bills – Nearly 68% Millennials use online channels to pay their bills today, followed by 62% Gen Xers and Young Baby Boomers



Customers are increasingly placing significant value on speed and convenience while paying bills

While most customers prefer biller direct to deliver payments quickly, they also place significant value on the convenience of paying multiple bills at the same time, an option not available today via biller direct.



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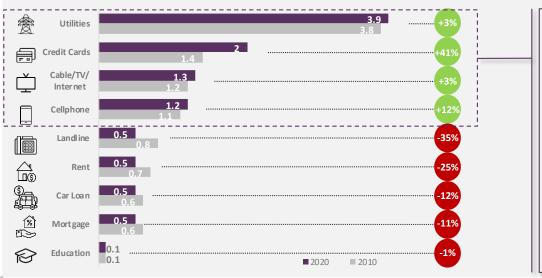
The Bill Pay Market has significantly grown in the last decade, with select few dominant bill categories driving growth





- The bill pay market observed a growth of 8% from 14.4B bills paid in 2010 to 15.5B in 2020 (est.)¹,²
- Out of these 15.5B bills, ~65% are made as one-time payments, and 35%, set up on a recurring basis¹

Total Bill Volume by Bill Categories in the US (in \$B, 2010 vs 2020 est.)^{1,2}

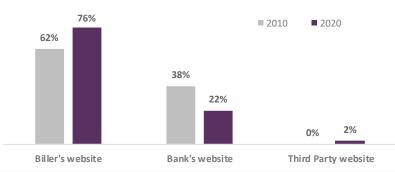


- Select categories, such as utilities, credit card bills, cable/TV/Internet and cellphone constitute more than half of the market (~55% of all bills)
- Credit Card bills contributed the highest (41%) to the growth of bill pay market in the last decade
- Biller generated bills in major categories such as Utilities, Cable/TV/Internet and Cellphone combine to form 41% (\$6.4B) of the total bill pay market, while Bank generated bills in Credit Cards, Mortgage and Car Loan category combine to form 19% (\$3B) of the total market



Bill payments today are primarily made via biller direct, with ACH as the payment method of choice

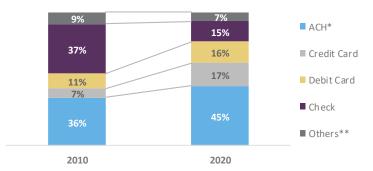
Online Bill Volume by Channel (2010 vs. 2020 est.)¹



Both one-time (\$10B) and recurring bill payments (\$5.5B) paid in 2020 are dominated by online channels (biller's, bank's and third-party websites)¹

The percentage of online payments made on biller sites has grown from 62% in 2010 to 76% in 2020 (est.), at the expense of bank bill pay, which declined from 38% in 2010 to 22% in 2020 (est.). Third-party sites, however, remained a relatively lesser preferred channel during the same time period 1

Total Bill Volume by Payment Method (2010 vs. 2020 est.)¹

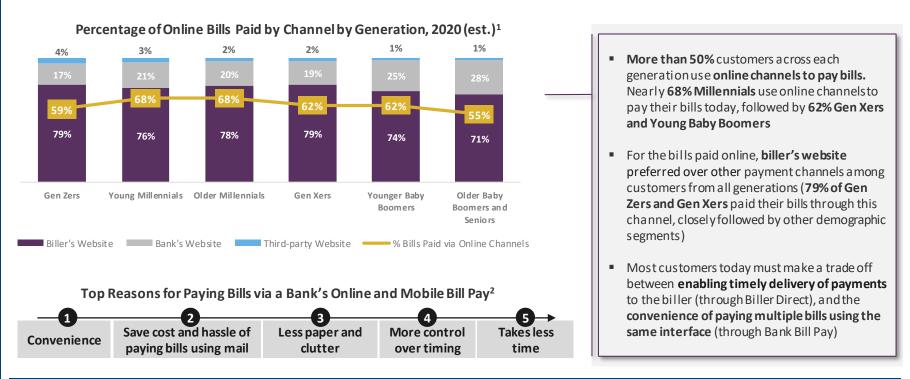


- Traditional payment methods such as ACH continue to dominate the bill pay space today. Between 2010 and 2020 (est.), the percentage of bills paid via ACH increased from 36% to 45%¹
- This growth came at the expense of more traditional payment methods such as checks that came down from 37% to 15%¹ during the same period

Source: 1. Aite Consumer Bill Pay Study 2020

^{*}ACH refers to ACH debit, where bill payments are made through the Automated Clearing House network by debiting directly from customers' bank accounts; **Others include cash, money order, prepaid debit card, etc.

Biller Direct is preferred by most demographic segments, particularly Gen Zers (18-24 yrs.) and Gen Xers (40-55 yrs.)



Customers are increasingly placing significant value on speed and convenience while paying bills



*Gen Zers: 18 to 24 years; Young Millennials: 25 to 30 years, Older Millennials: 31 to 39; Gen Xers: 40 to 55 years; Younger Baby Boomers: 56 to 65 years; Older Baby Boomers and Seniors: 66+ years

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Customer Pain Points and Need for RTP®



Customer Pain Points and Expectations – Insights Summary



Customers today are concerned about complexity of bills, lengthy processing and late payments

The bill payment experience today is time consuming and frustrating, leaving customers overwhelmed with the complexity of bills (71%) find it difficult to navigate hard-to-understand bills), disappointed with payment processing speed (65% are frustrated by the length of payment processing) and concerned about late payments (46% pay at least some of their bills afterdue date).



Costs associated with late payments add to the list of concerns for customers

Late or missed bill payments lead to some often - overlooked costs for customers, such as credit costs, late fees, and bank overdraft fees, adding up to nearly \$70.5B in household expenses each year.



Changing customer expectations are driving the need for a reimagined bill pay experience

Customer expectations around real time payment delivery are pushing for the need for RTP Bill Pay – 95% of late payers expect payment reminders to help them pay on time, and 78% are extremely or very likely to pay on time using real time payments.



The timing is ripe for retail banks to offer real time payments as customers look for immediate payment options

Nearly 89% of customers today expect financial transactions to be processed in less than 2 minutes, and more than half expect immediate processing. Additionally, the expectation of "within a few seconds" has increased from 24% in 2017 to 29% in 2019.



Customers today are concerned about the complexity of bills, lengthy processing and late payments

The current bill pay experience is time consuming and frustrating...

73% of customers find it challenging to remember different due dates for different bills1

46% of customers pay at least some of their bills after the due date²

anxious about the different bills³



71% customers find it difficult to navigate hard-tounderstand bills²

payment processing²

..leading to some key customer Bill Pay pain points¹

Difficulty in managing/ preventing late payments Managing multiple due dates / bills

"I want to pay everything on time but it is just impossible"

"I wish there were a 'onestop-shop' for all my bills, with **reminders** of what was comina due!"

Managing paper bills

Delayed ACH processing

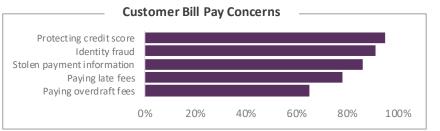
"My current bill pay experience is... "Cumbersome!" "Terrifying!" "A mess!"

"It is **frustrating** that it's 2020 and it sometimes takes days for funds to go through"



Costs associated with late payments add to the list of concerns for customers

- According to a 2020 consumer sentiment survey¹, while making bill payments, protecting credit score emerged as a top concern for US customers due to the detrimental impact from late or missed payments
- Three of the often-overlooked costs of bill pay (credit costs, late fees, and bank overdraft fee) add up to \$70.5B in household expenses each year





*Percent of households with 1+ incidents of bank overdrafts/late fees/credit costs per year



Credit cost / Potential Savings Potential interest savings for households that improve credit score by 35 points = \$301 per yr

An average household has \$72K in debt in mortgage, auto Ioan and credit card. Interest rates typically depend on the credit score. A 35 point dip in credit score can cost \$301 per impacted household annually



Late fee

Average financial cost per household=\$132

Late fee impact is observed across bill pay categories. Among the households that have one or more late fees, the cost is \$243 annually



Bank Overdraft

Average financial cost per household=\$117

Bill payments predominantly drawn from checking accounts are the main cause of bank overdrafts. Among households that have one or more overdraft fees, the cost is \$354 annually

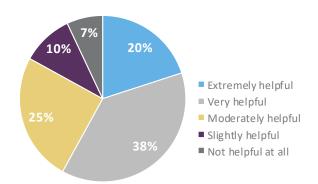


Changing customer expectations are driving the need for a reimagined bill pay experience

- According to a Q4 2018 survey¹:
 - 78% respondents who paid late bills and are interested in real time payments, are either extremely or very likely to pay their bills on time using real time payments
 - 95% of respondents who sometimes pay late, said that if the biller or the bank sent them a payment reminder, they would be more likely to pay on time
 - 78% of the respondents who pay on time, said real-time payments would be extremely or very helpful in helping them continue to pay bills on time
- According to a 2017 Fisery Study, 76% of customers expect real time payment delivery in their mobile banking experience³

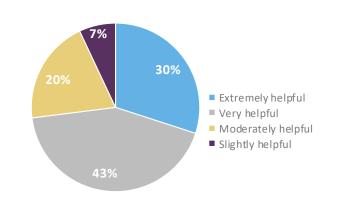
Almost 60% of Customers Feel Bill Pay Reminders are Helpful in Making On-time Payments¹

Q: How helpful are reminders about the due date in making your payments on time?



More than 70% of Customers Today Are Ready to Try Real-Time Bill Payments¹

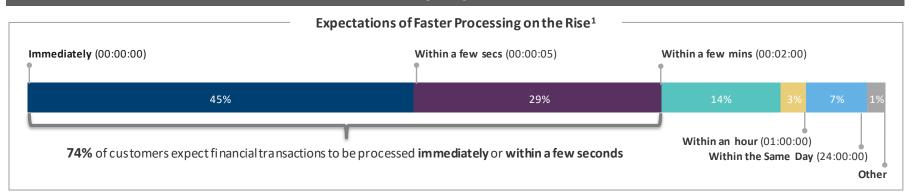
Q: How helpful would real-time payments be in paying your bill on time?





The timing is ripe for retail banks to offer real time payments as customers look for immediate payment options

The word "real-time" for financial transactions is beginning to resemble the standard across the rest of the world



The Definition of Real-Time by Customers

For most people, "real-time" financial transactions mean processing immediately or within a few seconds. The expectation of "within a few seconds" has increased from 24% in 2017 to 29% in 2019



Market White Space

Transaction Timeline	Market Players		
Other (Next Day)	Traditional ACH		
Within the same day	Same-Day ACH, Credit/Debit ²		
With an hour	Push to Card		
Within a few minutes	-		
Within a few seconds	272		
Immediately	RTP		

= Expectations of 74% of Customers

Biller Pain Points and Need for RTP®



Biller Pain Points – Insights Summary



Billers today are faced with multiple billing and payment related challenges

High paper processing costs associated with printing, mailing and processing paper checks, long processing time required by traditional payment methods, inefficient funds management due to lack of payment visibility, and high contact center costs are some of the challenges faced by billers today



Customers' shift towards biller direct is further adding to cost pressures

As customers shift towards biller direct as the preferred channel for making bill payments (\$1.2T on biller website vs. \$0.4T on bank website), costs related to bill presentment and contact center are becoming more significant - \$0.10 - \$0.53 cost of presentment per bill, and \$3.38 cost per average call to contact center



Based on anticipated impact, billers have started pushing their banks to enable RTP® capabilities

Billers are optimistic about the anticipated impact of faster payments and almost 70% of them believe they will adopt RTP® within next 2 years. This is creating a demand for RTP® capabilities that can be enabled by the biller banks



While billers see the benefits of using RTP®, most of them are in very early stages of adoption

RTP is a holistic AP/AR solution for billers which can help them manage their cash flow better and achieve cost efficiencies. However, most of the billers are in nascent stages of adoption, largely due to lack of awareness (35% of corporates)



High costs of paper bills, inefficient reconciliation, and need to maintain higher cash reserves are some of the challenges faced by billers today

- Billers spend large sums of money on account of paper billing techniques which leads to high operational expenses (Billers can save 65-85% in billing costs by removing paper, printing, mailing and manual processes²)
- Receiving and processing a paper check is 5 times more expensive than the cost of receiving an ACH for a billing company³
- Businesses today* hold a cash contingency equivalent to approximately 4.6% of annual sales, implying that a significant portion of businesses' revenue is held as a reserve and cannot be used for internal financing of working capital⁴
- Cost savings (processing, credit balance refunds, etc.), fraud control, better supplier/customer relations are top benefits for corporates adopting electronic payments⁵

Biller Pain Points



High Paper Processing Costs

- Higher costs of printing and mailing paper bills
- Costs of processing paper checks and accounting for lost checks intransit
- Additional resource requirements for managing bill payment centers



Ineffective Funds Management

- Expense Management and reconciliation of money from different channels and methods is tedious
- Lack of visibility in bill payments leads to need for higher cash reserves



Long Payments Processing Time

- Inability to receive the payments immediately after the completion of service, or make emergency payments
- Traditional payment methods take a long time to be processed before the funds reach biller accounts



High Contact Center Costs

 Most calls to the contact center are to enquire about payments (e.g., receipt of payments, duplicate payments, misdirected payments, misapplied payments) which add to contact center costs

Source: 1. Javelin, 2. Striata, 3. Payments Cost Benchmarking Survey, 4. Deloitte 2019 'Economic Impact of Real Time Payments' research report., 5. ACI Real-Time Payments Study

^{*}Deloitte conducted a survey of SME owners across a range of business segments and sectors, both in countries that have and haven't (yet) introduced real-time payments. We have used aggregate responses as a proxy for business sentiment in the US.

Customers' shift towards biller direct is further increasing biller costs, driving their need for Bill Pay modernization

- The percentage contribution of online payments made on **biller sites** has **grown** by **14**% during 2010-20 (est.), at the expense of **bank bill pay**, which **declined 16**% during the same period. This shift has been aided by growing use of mobile channels and dedicated biller apps ¹
- Bill presentment and customer contact center costs form a large component of the biller costs. Additionally, cost of card acceptance (interchange rates),
 and checks processing also contribute to higher costs for businesses
- An increasing focus on customer and mobile centric approach provides billers the potential to significantly reduce overhead costs, particularly for customer support staff and both onsite and in call centers

Costs incurred by billers on different channels

Bill presentment cost^{2,3,6}



- Billers pay \$0.10 \$0.53 cost of presentment per bill, depending on the mode bill presentment (paper bill vs. electronic bill vs. mobile push notification)
- Electronic bill presentment can save billers \$0.75 to \$1.25 per customer per month. For a large biller with 2M customers, shift of 10% customers from paper to electronic bills may potentially led to a net annual benefit of \$2M \$3M

Customer contact center cost⁴



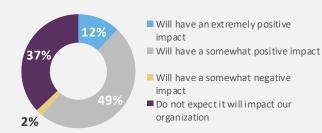
- Billers incur \$3.38 cost per average 6-minute call made by their customers to contact center
- 73% customers contacted their biller in 2018 13% contacted billers often, 26% contacted them every few months, and 34% called 1-2 times in the past year
- 49% of customers have not utilized any online communication tools providing an opportunity for billers to reduce contact center costs

Given that customers are moving towards biller direct payments which involve high costs, billers are increasingly looking atmodernizing their bill pay capabilities. They are primarily focusing on greater use of digital channels, and better integration and use of real time capabilities



Market is due for new Bill Pay solutions, and Billers have started pushing their banks to enable RTP® capabilities

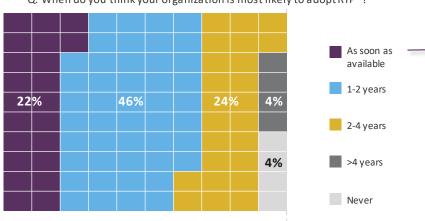
Anticipated Impact of Faster Payments¹ (Percentage distribution of billers)



- Over 60% of finance professionals are optimistic about the impact of faster payments on their corporates, with 12% expecting the impact to be very positive and 49% anticipating the effect to be somewhat positive¹
- 84% indicate that the ability for faster payments to carry extensive remittance information is either very important or important for their business¹

Anticipated RTP® Adoption Timeline²

Q: When do you think your organization is most likely to adopt RTP®?

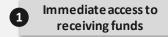


- Almost 70% of the corporates believe they will adopt RTP® within next 2 years, with 22% of them planning to adopt soon as it's offered for their business
- Despite lacking the resources of a large company, the smaller corporates have a shorter implementation timeline compared to the larger corporates
- 76% of respondent corporates believe RTP® will provide them with a competitive advantage

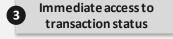


While billers see the benefits of using RTP®, most are in very early stages of adoption, largely due to lack of awareness and education

According to a 2020 survey conducted across corporates of different sizes and industries, following are the most appealing benefits of RTP® -



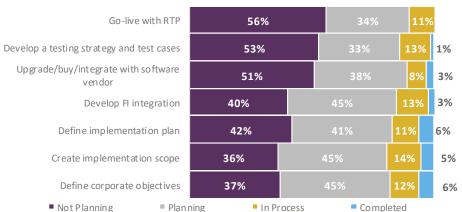
Improved control of cash flow



Corporates are optimistic about the benefits of real time payments, along with rich remittance data and other enabled capabilities. However, most are still in nascent stages of adoption.

Most Corporates are in Early Stages of RTP® Adoption

Q: When thinking of RTP® implementation, where is your organization in the planning process for each of these steps?



One of the biggest barriers to widespread RTP® utilization is lack of awareness at different levels of an organization

- 35% of corporates with no plans to adopt RTP® and 47% of respondent corporates that have plans to adopt or have already adopted RTP® listed lack of understanding and knowledge as a top challenge in considering RTP®
- One of the most prominent reasons is the lack of streamlined, consistent, and complete educational material expected from FIs and software providers. The survey data indicates that only 30% of corporates have been contacted so far by their Fl about RTP®





Retail banks can address customers' concerns around timeliness, control, security and certainty by offering RTP®



Challenges in Current Bill Pay Experience		R T P Bill Payment through RTP® Bill Pay	Bill Payment through Cards	Bill Payment through Same Day ACH
	ty in making nts anytime	Payments can be made/scheduled anytime 24x7x365	Payments can be authorized anytime	Available only on business days, leading to possibility of late payments
Difficult managin	ty in ng paper bills	RfPs may reduce the need for paper bills (Doc services available in 2021)	Customers may receive both paper/e-bills	Customers may receive both paper/e-bills
N 0(2)	payment sing time	Payment processing is immediate , within seconds	Longer payment processing time, although authorization is immediate	Payment processing is batched (3 per day) and conducted during business hours
Managii minute paymer	/ late	Enables customers to receive bill payment confirmation in real time (within few seconds)	Payments are not settled immediately, hence application of funds to biller accounts may take longer	May enable customers to receive same day confirmation

As a Retail Bank, you can offer your customers an RTP® bill payment experience within your banking interface so that they can:

Send, track and get confirmation of payments in real time, 24/7, all in an online or mobile bill pay experience with bank gra desecurity

Make partial payments / in full, now or later

Access tools for planning monthly bill pay with an organized view, along with reminders to stav on track





Wholesale banks can address billers' concerns around liquidity, visibility, and efficiency by offering RTP®



Challenges in Current Bill Pay Experience		R T P Bill Payment through RTP® Bill Pay	Bill Payment through Cards	Bill Payment through Same Day ACH
<u>\$</u>	High Bill Presentment Cost	Document services (2021) could reduce costs of paper bills	Electronic bill presentment reduces cost of paper bills	Electronic bill presentment reduces cost of paper bills
\$	Inefficient Funds Management	Real-time visibility into payables and receivables, reducing the need to maintain high cash reserves	Limited visibility into payables and receivables, especially for small billers	Limited visibility into payables and receivables, making it difficult to track last minute payments
	Long Processing Time of Payments Received	Payments are received withina few seconds, 24x7x365	Payments are received by billers in 24-72 hours	Payments are received withinthe same day, if initiated on a business day
	High Contact Center Costs	Real time visibility into payment status eliminating customer issues and reducing contact center costs	Lack of visibility into payment status leads to higher volume of customer issues	Lack of visibility into payment status leads to higher volume of customer issues related to last minute payments

As a Wholesale Bank, you can enable RTP® capabilities for your business customers so that they can:

Receive usable funds immediately

Get better visibility into payables and receivables, and achieve improved cash flow predictability

Achieve cost and process efficiencies by offering a cost-effective payment method, and automated reconciliation

