

Opportunities To Improve Payments Services:

Results from a Survey of Large Corporations

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Contents

I. Introduction	3
II. The Approach: Focusing on Users' Needs and Priorities	4
III. The Population and Survey Respondents	6
Respondent Characteristics	
Payment Instruments	
Cross-Border Payments and Receipts	
IV. Survey Results	9
Outcomes of Highest Importance and Lowest Satisfaction	
Areas of Greatest Opportunity	
Areas of Least Opportunity	
Discussion	
V. Conclusion	18
Appendix A: Desired Outcomes: Improvements That Large Corporations Want in Their Payments Systems	A-1
Appendix B: Section-by-Section Discussion of Outcomes	B-1
Appendix C: Description of Survey Population.....	C-1

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I. Introduction

A considerable amount of recent research and product development has focused on improving the efficiency and integrity of the payments process. However, many new products have failed to improve the process significantly. Market researchers suggest this failure may reflect deficiencies in properly assessing customer needs.¹ Meanwhile, the payments process continues to require a mixture of manual and automated procedures that often involve many time-consuming steps and inquiries.

This study attempts to improve the process of identifying what users of payments services want. The methodology we use, which the *Harvard Business Review* highlights as a best practice, identifies the *most important* and the *least well-met* areas of payments processing.²

In 2003 and 2004, we undertook a study that asked businesses what they seek to achieve in each step of the process of making and receiving payments. The questions were intended to help businesses identify their priorities for improvements. The study establishes which aspects of the payments process are most important and which are the least well met by current services. This study goes beyond past work that has tended to ask one or the other question but not both. By asking about both importance and satisfaction, we identified the top opportunities for improvement.

The first part of this study asked focus groups of payments experts from large, nonfinancial businesses in the United States to describe each step in their companies' payments processes and then identify the objectives for each step. This process identified ninety-one objectives, or "outcomes." The second part of the study used these ninety-one outcomes as the basis for a survey of a random sample of nonfinancial U.S. businesses with 10,000 or more employees. Survey respondents were screened to establish their expertise and the payment types used by their firms. Then, the survey asked them about the importance of each relevant outcome to their companies and the companies' satisfaction with their current payments services' abilities to achieve that outcome.

¹ See Anthony Ulwick, "Turn Customer Input into Innovation," *Harvard Business Review*, January 2002, and *Business Strategy Formulation*, Quorum Books, 1999, for a discussion of determining and assessing business customers' needs in other industries.

² See Ulwick 2002.

About 40 percent of the survey respondents note that reducing the time needed to detect and resolve unauthorized debits, as well as reducing their frequency and associated financial losses, are very important or critically important to their firms and that current services are less than satisfactory. In addition, the respondents put high priority on reducing the time required to identify insufficiently funded debit transactions, receive credit for overseas payments, and obtain sufficient information to process an incoming payment. Corporations also see a strong need to improve their abilities to reconcile information received from banks on use of payment services and reduce bank fees for payment services.

The survey results also provide insights into the payments options that companies rate as very important but with which they may not be sufficiently dissatisfied to invest in new products. For example, controlling fraudulent transactions generally is very important or critically important to virtually all respondents. However, the percentage of respondents who are dissatisfied with the ability of current payments methods to control fraud is lower than for many other payments objectives.

In a similar vein, the study identifies the payments areas where firms are dissatisfied but which relatively few firms rate as very or critically important. For example, a relatively low percentage of companies see making payments to the unbanked and various cross-border payments services as very or critically important.

The areas of opportunity identified by the study merit further discussion among corporations, their banks, and their service providers. The results provide a starting point for developing improvements to payments services that will lead to greater integrity and efficiency in payments processing.

II. The Approach: Focusing on Users' Needs and Priorities

This study employed a multipart process to identify and prioritize the objectives that large, nonfinancial companies expect to achieve through their payments processes. Objectives were defined in terms of *desired outcomes*, which are the goals that a user has for each step in a process. Previous research has shown the importance of asking customers what they want products and services to do for them but not asking them to devise solutions to fulfill those outcomes.³ Using desired outcomes that isolate underlying service needs enables service

³ Ulwick 2002 and 1999.

providers to design *solutions* that can exploit approaches and technologies with which users may not be familiar.

An example may help to illustrate the differences between desired outcomes and solutions. Years ago, office workers copied documents using carbon paper. If the office workers had been asked how to improve this work process, they might have suggested the use of erasable ink, less smudge-prone carbon paper, and maybe a quality of paper that lets one make multiple copies without intricate setup or strain on the original. These all are solutions. The desired outcomes would have included a clean copy, a copy that could easily accommodate changes, and the ability to quickly make additional, legible copies on plain paper. Note that these outcomes do not require a particular technology (for example, carbon paper) and can be achieved using more than one product, such as copy machines and word processors with printers. It is doubtful that carbon paper users would have imagined these dramatically different alternatives.

Accordingly, in the first step of this study, we formed focus groups of payments experts at large nonfinancial businesses and asked them to describe each step in their companies' payments processes. A facilitator then asked them to identify their objectives for each step.⁴ Participants were asked to avoid making judgements about how these objectives should be achieved. The facilitators helped them turn vague statements, solutions, and anecdotes into statements of desired outcomes that they, as users of the services want. Their desired outcomes were formulated to state the process being addressed (such as matching payments to the amount billed), the improvement required (typically, to minimize or increase) and a unit of measure (usually an amount of time, but also frequency). The interviews yielded ninety-one desired outcomes for payments services (see Appendix A for list).

For the second step of the study, we used the ninety-one desired outcomes to create a Web-based, interactive survey questionnaire. The questionnaire asked respondents to rate each outcome's importance to their companies and to rate their companies' satisfaction with the ability of current payment services to meet the stated objective.

The survey questionnaire asked for descriptive information about the respondent's expertise with each outgoing and incoming payments services, as well as about the organization's use of payments services. A respondent needed to be at least very

⁴ The sessions were facilitated by Anthony Ulwick and the approach was based on methodology he describes in Ulwick 2002 and 1999.

knowledgeable about a payment flow (that is, outgoing or incoming payments) to answer the related questions. Similarly, the firm needed to actually use a payment type for the respondent to be asked questions about that payment type. Thus, for example, only respondents who reported that their companies engaged in cross-border payments were asked about the importance of and their satisfaction with cross-border payments processes.

III. The Population and Survey Respondents

Our population encompassed 733 U.S. nonfinancial firms with at least 10,000 employees.⁵ We sent letters to a randomly selected sample of 200 corporate treasurers and chief financial officers from this population, requesting that the person most knowledgeable about the firm's payments needs respond to our online survey.⁶ In total, 101 surveys were completed, representing a response rate of 50 percent. This sample size is consistent with a 90 percent confidence level for the survey results and a confidence interval of plus or minus about 7 percentage points.⁷

Respondent Characteristics

Analysis of the data shows that our sample represents the population from which it is drawn.⁸ First, the distribution of industries found in the sample, based on standard industrial classification (SIC) codes, is consistent with that of the population.⁹ More than one-third of the respondents are service providers, a category that includes service companies, hotels, and educational institutions. More than 25 percent of the respondent organizations are manufacturers and another 20 percent are retailers. The remaining respondents are wholesalers, construction, energy, and transportation or communications companies. Although most of the respondents represent for-profit businesses, sixteen represent large nonprofit organizations, such as universities, hospitals, and public school districts (see Chart 1).

⁵ The sample was selected from a Dunn and Bradstreet database. The names of the corporations that participated in our survey are confidential.

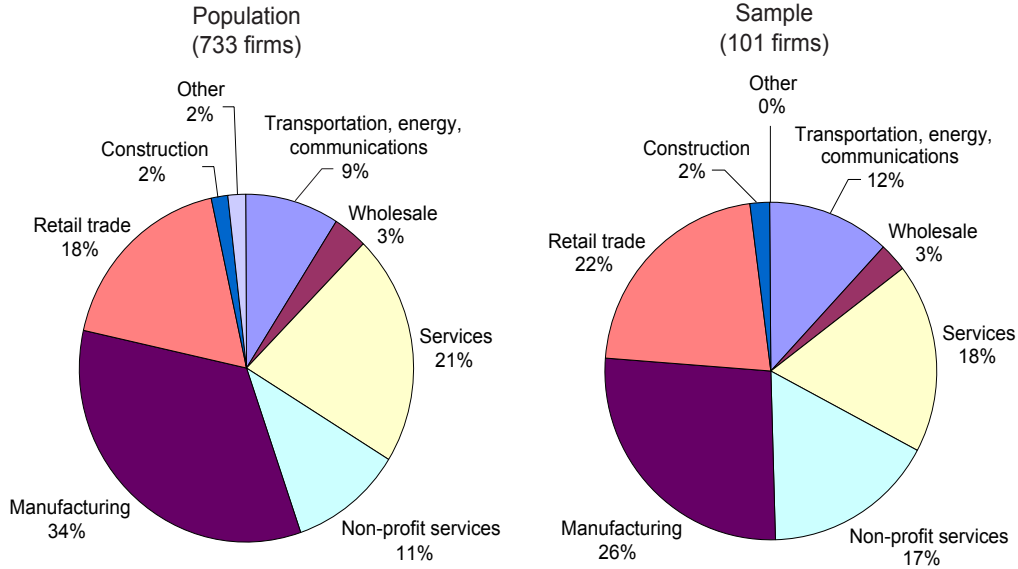
⁶ The survey was conducted in August and September 2003. In the few instances where the respondent was unable or unwilling to complete the survey online, the respondent completed a paper questionnaire.

⁷ This test used a two-sided confidence interval.

⁸ Percentages in tables may not equal 100 because of to rounding.

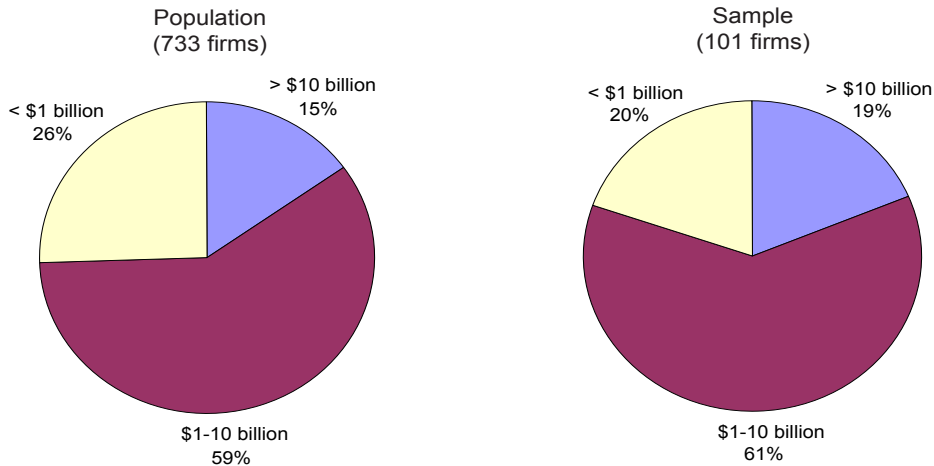
⁹ We retain the hypothesis that respondents were distributed across industries in the same proportion as observed in the total population (in a chi-square test) at an alpha = .05 level of significance.

Chart 1
Respondents, by industry



Second, the array of respondent firms according to level of sales is consistent with that of the population.¹⁰ About 60 percent of the respondents are from organizations with annual sales of between \$1 billion and \$10 billion. The balance of the responses are split about equally between organizations with sales of more than \$10 billion and those with sales of less than \$1 billion (see Chart 2).

Chart 2
Respondents, by sales

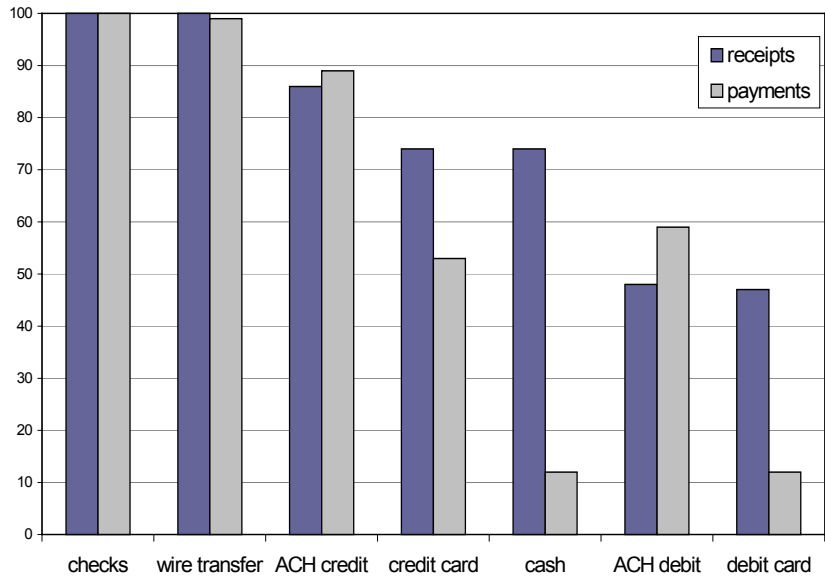


¹⁰ We retain the hypothesis that the distribution of respondents into categories based on annual sales was the same

Payment Instruments

The descriptive data supplied by the respondents show that the companies in our sample are heavy users of payments services and employ a wide variety of payment instruments for both payments and receipts. More than 70 percent of the survey respondents report making more than 10,000 payments each month, while about 60 percent receive more than 10,000 payments each month. On average, these organizations use more than four different instruments to make payments and accept more than five different instrument types. Checks, wire transfers, and automated clearinghouse (ACH) credits are widely used for both payments and receipts. Use declines across the categories of credit cards, cash, ACH debit, and debit cards and is almost always greater for receipts than it is for payments (see Chart 3).

Chart 3
Proportion of Respondents using a Payment Instrument



Cross-Border Payments and Receipts

Most survey respondents—88 percent—report either sending payments to or receiving payments from a foreign location. Sending a payment from the United States to a non-U.S. location is more common than receiving payments from a non-U.S. location: 87 percent of the respondents said their companies send at least a few cross-border payments, while 77 percent said they receive payments from non-U.S. locations. In general, cross-border payments do not

as observed in the total population (in a chi-square test) at an alpha = .05 level of significance.

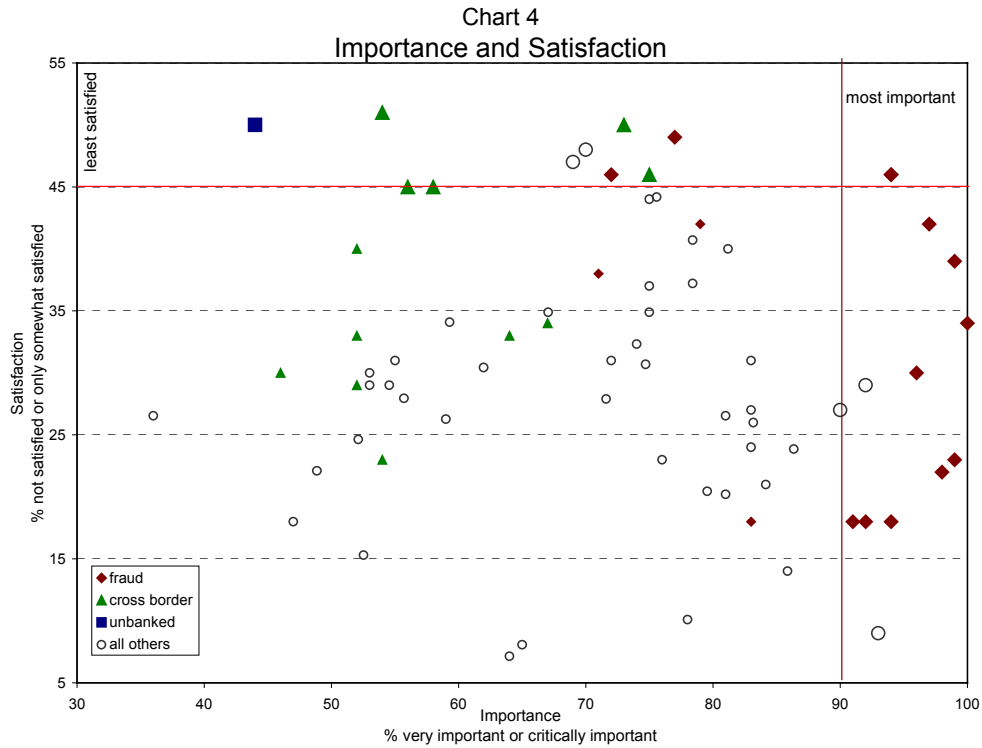
represent a large portion of the respondents' payments activities. Of those companies that engage in cross-border payments activity, about three-quarters report that the volume of cross-border payments is 10 percent or less of their companies' payments activity.

IV. Survey Results

As noted above, respondents were asked about the degree of importance of each of the desired outcomes and also about their firms' satisfaction with the ability of current payments options to achieve each of the desired outcomes. Respondents rated each outcome for its level of importance to the company. Respondents then rated the firm's level of satisfaction with their abilities to achieve that same desired outcome. On a five-point scale, an item of lowest importance ("of little importance") was given one point and the highest possible importance ("critically important") was given five points. We do not include "not important" in the scale because the focus groups only identified outcomes of some importance. The middle rank ("important") was given three points. A five-point scale was also used to evaluate satisfaction: the lowest rank ("not satisfied") received one point while the highest level ("completely satisfied") received five points. The middle rank ("satisfied") was given three points.

Outcomes of Highest Importance and Lowest Satisfaction

The scatter plot below (Chart 4) shows the ratings of all outcomes in the dimensions of importance and satisfaction. The horizontal axis shows the proportion of respondents that rate an outcome as very or critically important. The vertical axis shows the proportion of respondents who are less than satisfied with current services.



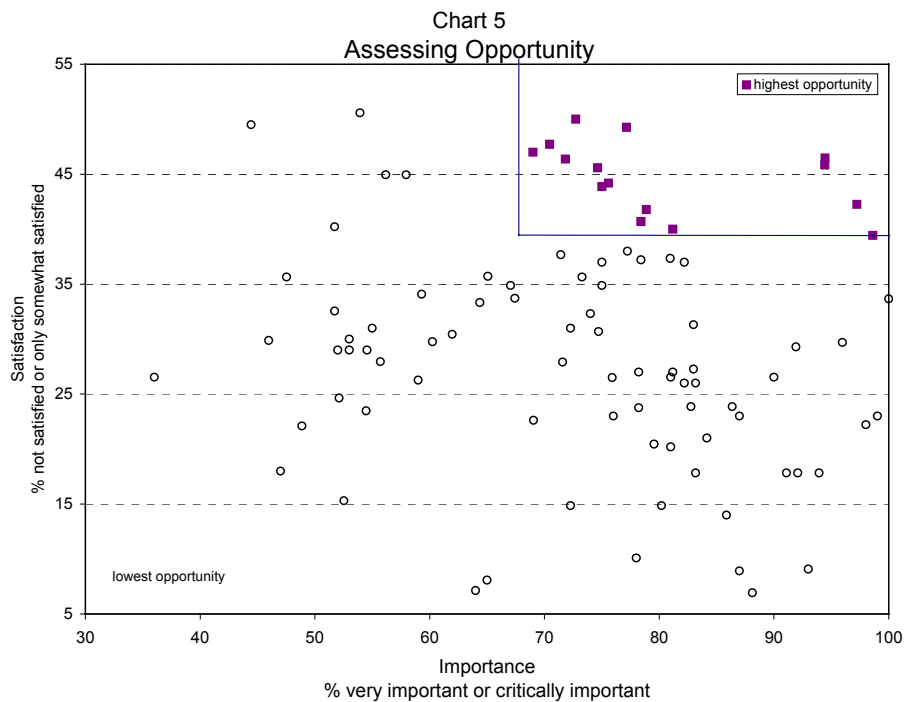
The red diamonds represent outcomes related to minimizing fraudulent transactions, including questions about minimizing the occurrence and financial losses from fraud, unauthorized debit transactions, and insufficient funds.¹¹ The clustering of these outcomes along the right-hand side of the chart illustrates that these are among the most highly rated for importance. Other desired outcomes that are top rated for importance include minimizing payments sent in the wrong amount, the potential for loss when a payment is sent in error, and the time needed to determine that a payment has not already been made.

The green triangles represent outcomes associated with making and receiving cross-border payments. The clustering of these triangles across the top of the chart means that these outcomes are among those with which firms are least satisfied. The blue square represents the responses to the question about sending electronic payments to individuals without bank accounts. The blue square's position on the chart indicates that a high percentage of respondents were dissatisfied with current outcomes but a much smaller percentage of respondents regard this area as very important or critically important compared with other outcomes. Other elements of the payments process that are associated with relatively high

percentages of less-than-satisfied respondents are unauthorized debit transactions, insufficiently funded transactions, the reconciliation process for and level of bank fees, and obtaining complete information needed to process incoming payments. For a detailed list of ratings, including importance, satisfaction, opportunity, and sample size, see Appendix B.

Areas of Greatest Opportunity

To consider importance and satisfaction together, we ranked the outcomes by the percentage of respondents who both rated an outcome to be very or critically important to the firm and also indicated that the firm was less than satisfied with the ability of its current payment options to achieve the outcome. We label this percentage “opportunity” on the theory that factors identified in this way offer the greatest potential for successful improvements. Of the fifteen outcomes that are ranked highest in terms of opportunity, at least 35 percent of the respondents rated each outcome as very or critically important and also rated their current ability to achieve the outcome as less than satisfactory. These fifteen outcomes cross five areas in payments: unauthorized debit payments, insufficiently funded debit payments, cross-border receipts, data requirements for posting payments, and payments administration (statement reconciliation and fees).



¹¹ We assume that unauthorized debit transactions primarily reflect fraudulent transactions. However, it is likely

In Chart 5, we reproduce the scatter plot of the two-dimensional ratings of all outcomes and place purple boxes around those outcomes that ranked highest using this measure of opportunity. Table 1, below, presents these outcomes and their rankings.

Table 1
Areas of Greatest Opportunity

Statements of Desired Outcome	Score ^a	Rank ^b
When an account belonging to your firm is debited by payor (for example, ACH debit, credit card, debit card) minimize...		
▪ the time it takes to detect an unauthorized debit to your firm's account.	44	1
▪ the time it takes to resolve an unauthorized debit to your firm's account.	42	3
▪ the occurrence of unauthorized debits to your firm's account.	41	5
▪ the risk of loss associated with an unauthorized debit to your firm's account.	38	10
When receiving a payment by debiting an account belonging to the payor, minimize...		
▪ the time that passes before learning that a payment was returned due to insufficient funds in the payor's bank account.	42	4
▪ the time it takes to collect on payments returned due to insufficient funds in the payor's bank account.	38	9
▪ financial losses due to insufficient funds in the payor's bank account.	37	13
When receiving cross-border payments, minimize...		
▪ the time that passes before an incoming payment sent from a foreign country is credited to your bank account in the United States.	42	2
▪ the number of incoming payments sent from a foreign country that are not credited to your bank account in the United States when expected.	39	7
When receiving a payment via a credit to your firm's bank account, minimize...		
▪ the time it takes to obtain missing information needed to process an incoming payment.	39	6
▪ the number of payments received that cannot be matched to a specific business activity (for example, a specific business transaction or customer).	38	8
When managing your firm's demand deposit account balances, minimize...		
▪ the time it takes to reconcile a bank statement with actual payments activity.	38	11
▪ the time it takes to reconcile bank fees to actual usage of payment services.	36	15
When receiving a payment, minimize...		
▪ bank fees associated with incoming payments.	38	12
When making outgoing payments, minimize ...		
▪ bank fees associated with making payments.	37	14

^a Proportion of respondents indicating very or critical importance and not or (only) somewhat satisfied with current services. The highest possible score is 100.

^b Rank is determined by sorting the percentage-based opportunity score from high to low.

Respondents' assessments of the high importance of each outcome and their lack of satisfaction with current services are generally consistent across subgroups of respondents that share business or payment characteristics. We tested for, but did not find, statistically

that at least some unauthorized transactions are inadvertent processing errors.

significant differences in ratings based on the number or types of payments instruments used, the proportion of cross-border payments, the size of the organization, and the respondents' industries.¹²

The results highlight five areas for improvements. First, the debit process represents a prime area of opportunity. As payors, respondents that use or permit their employees to make payments using ACH debits, credit cards, or debit cards perceive that there are too many unauthorized debits and that these transactions take too long to correct. Close to 30 percent of this sample of very large businesses do not even use the types of payment that can yield unauthorized debits, perhaps because of these risks.¹³ Second, as payees, these firms feel exposed to the risk that the payor's account will have insufficient funds and to the expense of collecting on payments returned for insufficient funds.

Third, large companies seek greater certainty and shorter time intervals for receipt of cross-border payments. A fourth set of high-scoring outcomes addresses minimizing the time it takes to obtain missing information needed to process incoming payments and minimizing the number of incoming credit payments that could not be reconciled with a specific business activity. This set of outcomes points to very specific steps in the payments process, in addition to echoing the general theme that businesses seek to reduce the costs of matching and appropriately posting incoming payments.

Finally, a fifth area for improvement pertains to the level of bank fees and the difficulty of reconciling them to actual services used. Our respondent businesses seem to experience difficulty reconciling their use of payment services with reports they receive from their banks.

Areas of Least Opportunity

Although this study has emphasized those attributes desired by corporate end-users of payments services that provide the greatest opportunities for improvement, it is also interesting to look at those desired outcomes that present the areas of least opportunity. For this metric, we use the attributes that fell to the bottom of the opportunity list, that is, those with the lowest opportunity scores.

¹² Chi-squared analyses and various logit regressions failed to find significant differences based on the descriptor variables mentioned. The sample size was insufficient to use "segmentation" analysis described by Ulwick as an additional technique to determine if response patterns varied by customer group.

Most of the outcomes with low opportunity rankings were so rated because respondents are at least satisfied with their firms’ abilities to achieve the outcome, rather than because the outcome is not important. By at least satisfied, we mean that the respondents are satisfied, very satisfied, or completely satisfied with their abilities to achieve the outcome. The two outcomes addressing (1) governance of a payment method by trusted parties and (2) operation by trusted parties provide good examples of this (see Table 2). These two outcomes are very or critically important to 88 percent and 87 percent of respondents, respectively. However, 93 percent and 91 percent of respondents indicate they are at least satisfied with their abilities to achieve these governance and operational outcomes, respectively. As a result, we calculate opportunity scores of 6 percent and 7 percent, respectively, for both outcomes.¹⁴ Similarly, minimizing the number of payments made in the wrong amount is very or critically important to 93 percent of the respondents, but 91 percent say their firms are at least satisfied with their abilities to achieve this, placing the opportunity score at 9 percent.

Table 2
Selected Satisfaction, Importance, and Opportunity Scores

	Governance of a Payment Method by a Trusted Party	Operation of a Payment Method by a Trusted Party
Percentage of respondents that rated outcome very or critically important	88	87
Percentage of respondents satisfied, very satisfied, or completely satisfied	93	91
Opportunity score	6	7

At the same time, several low-opportunity outcomes received mid-range importance ratings. For example, 64 percent of the respondents say that minimizing the time to determine the correct amount to pay is very or critically important. At the same time, 93 percent of respondents are at least satisfied with current services. As a result, only 5 percent of the respondents identify this attribute as an opportunity. Sixty-five percent of the survey participants indicate that minimizing the time needed to communicate outgoing credit payment instructions is very or critically important, but 92 percent are satisfied, suggesting that this

¹³ Because respondents reported that their firms do not make payments with ACH debits, debit cards, or credit cards, they were not asked to rate the outcomes for importance or satisfaction, and we do not know why they do not use these instruments.

¹⁴ That is, only 6 and 7 percent of respondents, respectively, rated the outcome as very important or critically important and also noted his/her firm was either not satisfied or somewhat satisfied with its ability to achieve the outcome.

attribute offers limited opportunity for improvement (an opportunity score of 6 percent). Further examination of the attributes on the low end of the ratings, in addition to those on the high end, may help service providers devise appropriate service enhancements or decide when not to tinker.

Discussion

We compared the results of this study with other recent work on payments system issues, including reports by the Federal Reserve System's Payments System Development Committee (PSDC), The Clearing House (CH), and the Association of Financial Professionals (AFP).¹⁵ Although the studies are not directly comparable because of differences in methodologies, we are able to infer some areas of consistency, as well as some areas of difference.

Five topics are addressed in at least three of the four studies:

- a trading partner's or bank's ability to send and receive electronic remittance information with a payment transaction,
- corporations' limited abilities to post electronically provided payments or payment information,
- security and fraud concerns, particularly for debit payment models,
- cross-border payments, and
- the lack of standards for payment methods.

The studies explore the role of remittance information in the payments stream in different ways. A key finding in the CH study is that businesses would like to receive remittance information electronically with the payment. Similarly, in the AFP study, corporate financial officers rated the inability of electronic payments to contain remittance information as the greatest barrier to receiving more electronic payments. However, both of these studies focus on solutions—precisely what our study seeks to avoid. The participants in the PSDC study focused more on the underlying business need, noting the value in receiving payment information that can be processed electronically. Our approach assesses the individual pieces

¹⁵ Payments System Development Committee, "The Future of Retail Electronic Payments Systems: Industry Interviews and Analysis," *Staff Study 175*, (Washington, D.C.: Federal Reserve Board of Governors, 2002). The Clearing House, "The Remaining Barriers to ePayments and Straight-through Processing" (New York: The Clearing House, 2002). Association for Financial Professionals, "Electronic Payments Initiatives and the Internet: Report of Survey Results" (Bethesda, MD: Association for Financial Professionals, 2000).

of the underlying process of sending and receiving payment information and finds that the greatest concerns are with matching a payment to a specific business activity and obtaining missing information needed to process an incoming payment. Attaching the informational details to the electronic payment is only one of several means of satisfying these two desired outcomes.

The relationship between a payment and a firm's accounts payable and accounts receivable systems also is a recurring theme. The AFP study notes that the lack of integration of a payment with accounts payable and accounts receivable systems is a major barrier to achieving straight-through processing. The CH work notes a number of products introduced to support automated straight-through processing but that few companies appear able to justify the cost. The relatively high opportunity score in our survey for minimizing the time needed to reconcile incoming credit payments with accounts receivable suggests there is a need that has not been met by recent approaches. Greater integration of systems and automated posting might also address other concerns noted in our study, such as the desire for faster identification of unauthorized debits.

Security and fraud risks surface as concerns in most of the studies, although not with consistent emphasis. As noted above, in our study, top areas of opportunity are reducing the cost and risk of unauthorized debits to the respondents' accounts.¹⁶ The PSDC study notes discussion of the need to improve authentication and authorization techniques to manage security and fraud risks for retail payments. Some discussants in the PSDC study said that the so-called risk-based assessment of higher fees for online credit card transactions does not really reflect risk. In the AFP paper, security over the Internet is recognized as a significant barrier to more extensive adoption of electronic payments. The CH study notes that companies rarely use ACH debits for regular business-to-business payments for three reasons: fear of unauthorized debits, mistakes in the amount debited, and loss of float.¹⁷

¹⁶ In our study, respondents rated two issues that directly address fraud as very or critically important: minimizing financial losses associated with fraudulent payments (99 percent) and minimizing the number of attempts (96 percent). However, respondents are not terribly dissatisfied with current services, so the final opportunity rankings are only moderate (forty-sixth and twenty-eighth of ninety-one, respectively). To reconcile these results with the concerns about unauthorized debits, we hypothesize that these might be significant issues in the specific context of electronic debits (incoming and outgoing, respectively) but that they are not as significant in the context of all payment processes.

¹⁷ The CH study is the only study of the four that finds loss of float to be a significant concern.

Cross-border payments are discussed in three of the studies. The PSDC and AFP studies report discontent with fees and incompatible standards for cross-border payments. In our study, respondents are dissatisfied with fees but do not rate this as terribly important. Rather, they express discontent with the timeliness of receipts from non-U.S. sources.

The use of standards in different aspects of the payments process is another frequently discussed area. For example, the PSDC study notes that the lack of agreed-upon standards for payments messages—such as message formats and the way in which payments information is included—and the consequent lack of systems interoperability, are the greatest problems for the financial industry. The CH study notes that corporations' origination of electronic payments is limited by conflicting, multiple message formats and a lack of minimum remittance information standards. Our study asks about the underlying business needs that may be met by standards. Thirty-five percent of our respondents whose firms work with multiple banks said that minimizing differences in bank-specific data requirements and formats when sending or receiving payments is very or critically important and an area of some dissatisfaction.

On a separate note, a finding of the PSDC study supports the general approach of this study. In the PSDC study, a number of interviewees stated that having a “business case” by providing a benefit to key participants is the most important factor in successfully introducing a payments innovation. The methodology used in our study asserts that product developers should focus on outcomes that are at least very important and also not well served by current products. In other words, we are implicitly assuming that these requirements are necessary to make a business case for innovation. Of course, there is an explicit cost dimension to successful products as well: cost considerations enter into the innovation process in a next step, when solutions to high opportunity outcomes are proposed and analyzed. The AFP conclusions are another reminder that the direct and opportunity costs associated with developing and implementing new automated systems can be barriers to innovation.

Examining recent payments innovations, we note that several appear to address some of the opportunities identified in this study. For example, the ACH transaction types that convert check payments to electronic payments may decrease the risk of payments being returned for insufficient funds, and they do reduce the fees that corporations must spend for payment

services.¹⁸ At the same time, two ACH transaction types that enable consumers to pay bills or make purchases electronically (TEL and WEB for instructions given over the telephone and Internet, respectively), perhaps benefiting both corporations and consumers, appear to have increased the occurrence and also the risk of losses associated with unauthorized debits to corporate accounts. Maybe recent experience with these transactions has contributed to high opportunity scores for unauthorized debits.

V. Conclusion

This study identifies what large corporations want to achieve when they make and receive payments. It also establishes areas of relative opportunity, based on the importance and need that payments experts in these organizations assign to individual steps of the payments process.

From this study, we find that the largest corporations in the United States see as a top priority the ability to minimize unauthorized use of debit payments and initially unfunded debit payments. Minimizing costs associated with making payments through one's banks, including the time to connect payments charges to actual usage, is another priority. Corporations also want to be able to link incoming payments more quickly to underlying business transactions, and they want to reduce the time required to receive overseas payments.

These areas of opportunity merit further discussion among corporations, their banks, and their service providers. They provide a starting point for identifying some necessary improvements to payments services that will lead to greater integrity and efficiency in payments processing.

¹⁸ These ACH transaction types were created by the National Automated Clearing House Association (NACHA) under its rules. The check-to-ACH transaction types referred to here include the point-of-purchase (POP) and accounts receivable conversion (ARC) standard entry class codes for point-of-sale and lock-box transactions, respectively.