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Customer Acceptance is the Key to Success of Electronic Bill Presentment and Payment

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CUSTOMER ACCEPTANCE IS THE KEY TO SUCCESS OF ELECTRONIC BILL PRESENTMENT AND PAYMENT

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This thesis focuses on issue of broaden Customer Acceptance in Electronic Bill Presentation and Payment (EBPP). Following the overview of EBPP's concept, benefit, snapshot of the overall marketplace, the thesis studies the current existing models with it's entity, process, and relationship. The important part of the thesis is to explore the main elements to one of the key barriers of EBPP, Customer acceptance according to TAM (Technology Acceptance Model) and Diffusion of Innovation Model, and provides the several key solutions to broaden Customer acceptance of EBPP. The thesis concludes with pointing out the limitation of this thesis and the suggestion of possible future research and looking forward to the future market of EBPP.

Thesis contains five chapters. The CHAPTER I. INTRODUCTION defines the EBPP is the delivery of bills from Billers to Customers mainly through Internet; reviews the benefits to the both Biller and Customer; realizes the EBPP's potential market growth with current low adoption rate tepid the EBPP deployment. The CHAPTER II. ENTITY, PROCESS, AND RELATIONSHIP OF EBPP MODELS studies the six entities of EBPP, included Biller, Biller Service Provider, Biller Payment Provider, Customer, Customer Service Provider, Customer Payment Provider, and process of EBPP with Service Initiation, Bill Presentment, and Payment and Remittance. The complex process with a range of models, which include direct, consolidator, and syndicator is discussed. CHAPTER III. EXPLORE THE ELEMENTS TO AFFECT CUSTOMER ACCEPTANCE TO DEPLOY EBPP points out that low Customer acceptance impedes EBPP growth, studies the EBPP literature and user acceptance model in

MIS, and explores the four factors (usefulness, ease of use, observability, and risk) and related elements affect the Customer acceptance, which are Customer low awareness, lack of a compelling reason, lack of incentive, trust and risk, uncertainty about security and privacy, inaccuracy and unreliable, difficult to use, bank slow react, legal issue, standard, and poor Customer service. CHAPTER IV. SOLUTION AND STRATEGY TO BROADEN CUSTOMER ACCEPTANCE OF EBPP suggests six solutions to broaden the Customer acceptance, which are chose right model, build solid EBPP system, chose a right vendor, and provide good Customer service, make aggressive marketing approach, and be proactive bank and Biller. CHAPTER V. CONCLUSION provides the overall of future market of EBPP.

To my father and mother
With gratitude and love

AKNOWLEDGEMENTS

Very special acknowledgement and thanks goes to Dr. Yong Shi. I am deeply indebted to him for giving so generously of his time, and providing critical judgment that was invaluable in preparing this thesis. I am especially grateful for the many helpful suggestions from my committee members Dr. Peter Wolcott and Dr. Qiuming Zhu to make this thesis possible. I deeply appreciate that DST Officer Vicki Highfill provides insightful first hand knowledge about EBPP. My gratitude is extended to my husband Robert, who always supports my study, and my son Brian for all the patience and understanding an eight-year-old can master.

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CHAPTER I. INTRODUCTION

Davis observed: "User acceptance is often the pivotal factor determine the success or failure of information system projects" in 1993.[1] The development of Electronic Bill Presentment and Payment (EBPP) reflects and demonstrates the importance of above statement. After I reviewing the literature and observing some application of EBPP, I am so excited about the promising future of EBPP, concluding it would be one of the killer products in e-commerce. However, it has not been developed as fast as most of the experts expected. What are the barriers for EBPP's development? According to Davis' theory and my study of the EBPP literatures, I found out that low Customer Acceptance is the key obstacle for EBPP's development.

This thesis focused on issue of broad Customer Acceptance in Electronic Bill Presentation and Payment (EBPP). Following and overview of EBPP's concept, benefits, and a snapshot of the overall marketplace, this thesis studies the current existing models with it's entity, process, and relationship. The important part of the thesis is to explore the main elements of one of the key barriers to EBPP, Customer acceptance, according to TAM (Technology Acceptance Model) and Diffusion of Innovation Model, and provides several key solutions to broaden Customer acceptance of EBPP. This thesis concludes by pointing out the limitations of this thesis, suggesting possible future research, and looking forward to the future market of EBPP.

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[1] F.D.Davis, R.P. Bagozzi, and P.R. Warshaw, "User Acceptance of Computer Technology: A Comparison of Two Theoretical Models," Management Science 35 (1989): pp982-1003.

Thesis contains five chapters. CHAPTER I. defines that EBPP is the delivery of bills from Billers to Customers mainly through Internet; reviews the benefits to both the Biller and the Customer; realizes EBPP's potential market growth in contrast with current low adoption rate tepid the EBPP deployment. CHAPTER II. studies the six entities of EBPP: Biller, Biller Payment Provider , Biller Payment Provider, Customer, Customer service Provider, Customer payment Provider, and process of EBPP with Service Initiation, Bill Presentment, and Payment and Remittance. The complex EBPP process with a range of models, which include direct, Consolidator, and Syndicator is discussed. CHAPTER III. points out that low Customer acceptance impedes EBPP growth, studies the EBPP literature and user acceptance model in MIS, and explores the four factors (usefulness, ease of use, observability, and risk) and related elements affect that Customer acceptance. These elements are: Customer low awareness, lack of a compelling reason, lack of incentive, lack of trust and risk, and uncertainty about security and privacy, inaccuracy and unreliability, difficulty to use, Bank slow reaction, legal issue, standardization, and poor Customer service. CHAPTER IV. suggests six solutions to broaden the Customer acceptance. These include: chose right model, build solid EBPP system, chose a right vendor, provide a good Customer service, make aggressive marketing approach, be proactive Bank and Biller. CHAPTER V. concludes by providing an overall of assessment of the future market of EBPP.

Rest of this chapter provides an introduction to Electronic Bill Presentment and Payment (EBPP): what it is, how it benefits billing companies and their Customers, and provides a brief snapshot of the overall marketplace.

1. EBPP's Definition

Presentment is defined as the process of getting billing information to Customers. Payment is defined as the process of paying bill to Billers by Customers. Electronic Bill Presentment and Payment (EBPP) refer to the delivery of bills from Billers to Customers through a digital delivery "channel." This "channel" has been many things in the past such as telephone access and direct computer access via a dedicate line, but today the delivery channel that dominates this market is the Internet. The Internet presents billing companies and their Customers new methods to deliver and access billing and payment information. Linkata[2] defines EBPP in the following way:

> Electronic Bill Presentment and Payment (EBPP) refers to the presentation of bills and statements and (where necessary) their payment over the Internet.[3]

The Council for Electronic Billing & Payment (CEBP)[4] defined EBPP in similar way.

> The electronic presentation of statements, bills, invoices and related information sent by a company to its Customers, and corresponding payment for goods or services.[5]

In a paper-based billing and payment environment, billing information is sent to a printer that produces the hard bills, which are distributed via U.S. Mail. Upon receiving the paper bill, Customers usually write a paper check. The check and any supporting correspondence, such as a remittance coupon are mailed to a payment processor, typically

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[2] Linkata is an electronic presentment technology and services company. Their specialty is Interactive Information Presentment (IIP) in both the business-to-business (B2B) and business-to-Consumer (B2C) markets.

[3] Linkata, "White Paper #1 EBPP: Why, What, Where, and How It Works," (2000).

[4] The Council for Electronic Billing & Payment (CEBP) promotes electronic billing and payment services for Consumer and business applications. CEBP members cooperate on education and standards development to further adoption of electronic billing and payment.

the Biller's retail lockbox[6] service provider, or their own processing center, which processes the check information and deposits the check into the check clearing system. The process is slow and cumbersome to both companies and their Customers.

EBPP removes the costly paper delivery cycle. Electronic bill presentment and payment (EBPP) offers a powerful new opportunity for a business to strategically use its billing processes to sharpen its competitive edge in the Net Economy. Many corporations are currently evaluating or implementing EBPP solutions, especially firms in the financial services, telecommunications and utilities sectors where bills number in the hundreds of thousands to millions each month. These companies are leveraging EBPP to enhance Customer care, target their marketing programs more accurately and cross-sell products and services, while simultaneously reducing costs and saving Billers substantial sums of money and delivering convenience to the Customer. With an electronic bill presentment and payment system, Customers can view, store, and pay bills using their web browser or personal financial management software. More sophisticated EBPP systems also enable Customers, particularly business Customers, to analyze, dispute and recalculate their bills prior to payment.

2. EBPP's Market

The number and percent of electronic transactions has grown exponentially since 1979. This demonstrates acceleration in Consumer and business use of electronic forms

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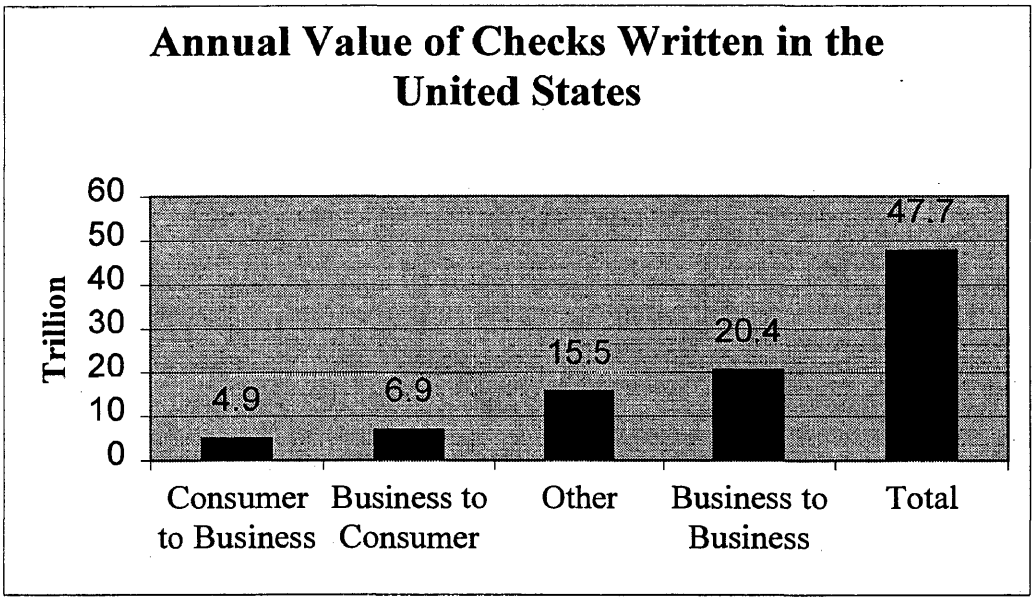
[5] www.ebilling.org, "What is EBPP."

[6] Lockbox is a special post office box where only the Customers' payments are delivered to the box. Then the bankers' couriers picked up these mails to process the check and deposit the payment to Biller's account.

of payment.[7] "Some 30 billion electronic payments now occur each year, most through B2B transactions that take place through credit and ACH networks. Recent statistic shows that roughly 40% of all payment traffic is now electronically generated."[8] The bulk of these generated by major Billers in four categories: telecommunications, finance, insurance and utilities. The Federal Reserve announced that the number of checks written in the United States has dropped from 65 billion to 49.6 billion annually. This is proof that the vision of electronic payment is no pipe dream. Checks now comprise only 60% of payments made in the United States (down from 85% in 1979).[9]

Following chart presents the source from Federal Reserve Check and Electronic Payments Research Project November 2001:



[7] Cathy Minehan, president of Federal Reserve Bank of Boston.
[8] Paul Doocey . "Just Thinking," (2002)..

According to predictions, EBPP will be one of the fastest growing areas of e-commerce over the next several years. There is a very simple reason for this. Every individual pays bills. Every company pays and issues bills or invoices. And everyone - business and Consumer alike - stands to benefit from electronic presentment and payment.

3. EBPP's Benefits

Electronic Bill Presentment and Payment uses the power, innovation, and ever-increasing reach of the Internet to expand a company's marketing and sales programs. EBPP develops stronger and long-lasting ties with Customers, and enhances Customer service by reducing costs and streamlining the billing and payment process. EBPP provides an end-to-end electronic transaction. It can improve Customer service dramatically and build Customer loyalty, while providing cost savings and revenue enhancement opportunities. The benefits are compelling and can be a value to the business and Customers.

3.1 The Benefit to Billers

- Improved Customer service

The concept of Customer self-service is central to EBPP. Customers can view bills and make payments at their convenience. The Web offers greater informational and Customer service-related features than a printed statement. Each item on an electronic

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[9] Ivan Schneider, "Push and Pay," (2002).

statement can be linked to more information. For example, if an item relates to taxes, the Customer can click on the item to get more detailed information. If a Customer wants to compare the current month's bill to the same month from a year earlier, that can be done easily. With Web enable of existing back-end systems and security-enhanced access policies, these systems can give your Customers controlled access to the data they need. It is symbiotic - while you are managing your Customer relationships, your Customers are receiving the tools to manage their relationship with you.

- Enhanced Customer loyalty

Facing de-regulation and increased competition has become a way of life for many industries. EBPP offers companies that are competing of Customer's enhanced methods to optimize bills to meet the needs of the most vulnerable and highest value Customers. Particular formats desired by important Customers can be achieved. Choices of language or bilingual billing can be done less expensively. Online data can provide corporate Customers not only standard reports, however, the ability to produce custom reports as well. It is no longer necessary to copy portions of a bill for review by several individuals. The company does not need to re-key information to track charges by internal categories, such as project or client. An online system can more easily deliver the information in the manner that the business requires and allows the Customer to retrieve billing component information in a format that is more useful. EBPP also provides capabilities to improve budgeting and forecasting for the company receiving the electronic bill.

- Customer support cost reduction

Often, Customer service inquiries are billing-related. Some estimate that 70 percent of telephone-based Customer support questions are billing-related. A significant percentage of these cannot be accommodated through automated voice response systems. They require person-to-person dialogue with Customer service representatives. These types of contacts are necessary, however, expensive, for companies to maintain. In contrast, EBPP can allow Customers self-access to billing detail, keeping the necessary function, while reducing costs.

- Increased marketing revenue potential

Electronic Bill Presentment and Payment provide a unique opportunity to touch the Customers in a new medium. It is more interactive and engaging than their paper-based counterparts. Since the tailoring and personalization of marketing information on a bill or statement is more easily accomplished electronically than with paper, individualized messaging is much easier. Each time a Customer views their bill or statement online, the EBPP company has an opportunity to present unique, targeted marketing messages and a sale can be finalized within the same session. This regular viewing of the one-to-one marketing by Customers provides a significantly better sales opportunity than that from paper systems. Further, measuring marketing effectiveness online is easier and more precise than using Web presentation techniques. Marketing campaign success or failure is more easily and quickly analyzed.

- Reduce billing and payments processing expenses

EBPP reduces the outbound billing costs of the printing, collating and mailing process and the inbound costs of extracting paper payments from envelops, data entry and reject handling. Many companies reduced one-third to nearly one-half of the current costs of printing and mailing bills or statements and collecting paper payments. Today, businesses send or receive approximately 26 million bills account statements and payments annually, which costs an estimated $17 billion dollars in postage alone. In addition, Billers pay from $0.85 to $1.50 to print, process and distribute paper-based bills. So, while sending and receiving bill in paper format costs a minimum of $4.25, an electronic bill is only about $.40 per round trip.[10]

- Improved cash flow

Paper-billing printing dates and payment receipt deadlines must currently allow for mailing time. EBPP affords a larger window of billing time, which can be used to capture additional Customer activity. Electronic payment and posting can decrease payment receipt time.

3.2 The Customer's Benefit

- Convenience and ease of use

The Internet provides Consumers with easy access and convenience to view and pay their bills, statements and related detail, such as historical data or billing details

[10] Tina Heintz, "Electronic Bill Presentation and Payment."

whenever they want, 24 hours a day and 365 days a year. With this information and integrated bill payment capabilities, Consumers can perform their financial chores more quickly, effectively, and at their convenience, which is a clear benefit to all Consumers.

- Cost savings

For those who pay bills by check, an immediate benefit is the elimination of ongoing stationery and postage costs. Billing discount incentives, provided by companies to encourage the usage of their EBPP solution, can also benefit Consumers. Today, the average American spends approximately two hours each month to pay, in the aggregate, an estimated 18.2 million bills each years, costing $4 million in postage annually.[11]

- Improved money management

Many EBPP services provide additional functions so Consumers can integrate their information directly into a personal money management package, or provide tools so Consumers can query their data online. In addition, EBPP services can be integrated with online services, such as financial and insurance. Together, these value-added services provide Consumers with the ability to better manage their finances and can save their time.

[11] Heintz.

- Operational efficiencies

For business Customer, the massive quantities of paper bills and statements received by major organizations must be sorted by teams of people. These teams categorize and extract appropriate detail to validate the bill before it is paid. In an electronic environment, it is easier to incorporate electronic workflow processes because the bill is already in an electronic format. This helps reduce the costs in processing bills and statements.

- Improved cash flow

The processing speed of an electronic billing environment, including more effective dispute resolution capability, enables quicker approval processes between partners as business Customer. This can help increase the speed and accuracy of payments for goods and services between organizations.

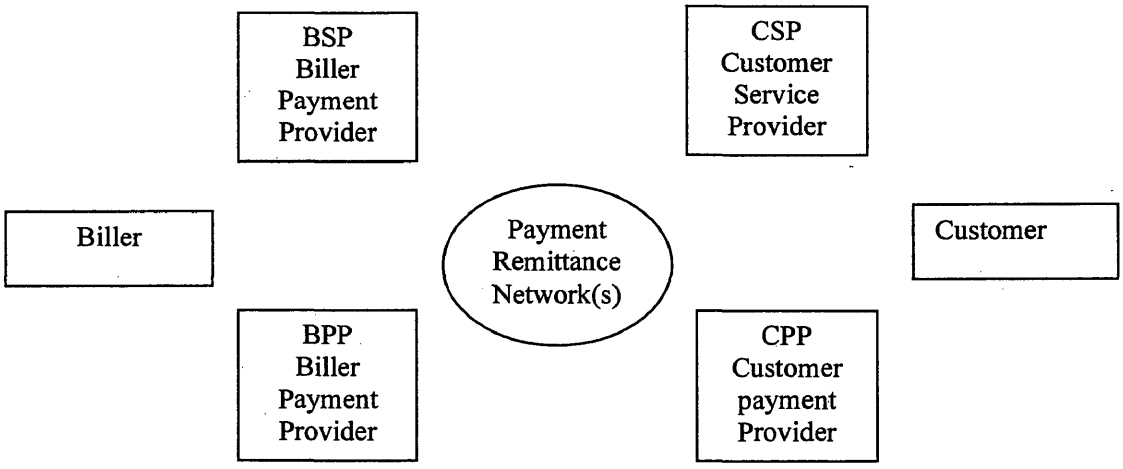
After we understood what is EBPP, why for EBPP, and where is EBPP (Current marketing position), we need to further study how EBPP works. In next chapter, we will review the EBPP's entity, process, and its relationship of EBPP model.

CHAPTER II ENTITY, PROCESS, AND RELATIONSHIP OF EBPP MODELS

EBPP is a word about entities, processes, and relationships.[12] EBPP focus on one aspect of that relationship. Other services such as marketing, delivery of goods and services, providing credit, fraud detection, and Customer service are vital parts of a business, but these remain outside the scope of this discussion. Here I am going to discuss about the EBPP's entities, processes, and relationships in the EBPP models.

1. Entity of EBPP

The model below describes the EBPP business one entity at a time. This description is based on IFX and its two originating organizations: NACHA and BITS.[13] The following "entities" are essential to EBPP. Each entity is a group of common responsibilities, but not necessarily a separate organization. See Diagram below:



[12] Linkata.
[13] Linkata.

- *Biller*, the company providing goods or services to a Customer.

The Biller is the company that provides goods and services to a Consumer, and then issues a bill or invoice with details and a payment request. The Biller has a billing system, an accounts receivable system, a Customer care function, and a relationship with a financial institution. These are key interfaces that service providers must deal with, but they are outside the scope of the core EBPP infrastructure.

- *Biller Payment Provider (BSP)*, which interfaces with the Biller's systems, and acts as the Biller's representative in the EBPP process.

The BSP (Biller Payment Provider) is a service provider that interfaces with data from the Biller's systems, in order to manage the Biller's profile and billing information. The BSP is the Biller's representative to the EBPP process.

- *Biller Payment Provider (BPP)*, which interfaces with a financial institution or other payment processor acting on behalf of the Biller.

The BPP (Biller Payment Provider) is a service provider that accepts payments on behalf of the Biller. The BPP interfaces with a financial institution (or may itself be a financial institution) acting on behalf of the Biller. When a Customer sends payment directly to the Biller, it is the BPP that processes the payment and forwards the remittance information to the Biller. When the Customer sends payment to a CPP, the CPP forwards remittance information to the BPP, which then forwards it to the Biller.

- *Customer*, who purchases the goods or services, and receives a bill in return.

The Customer is an individual or corporate entity that purchases goods and services, and in return receives a bill or invoice for that service. The Customer is expected to make payment by the due date.

- *Customer service Provider (CSP)*, which allows the Customer to access electronic bill information and initiate payment, and which acts as the Customer's representative or agent in the EBPP process.

In all likelihood, in the interest of providing one-stop shopping, the CSP will provide other services to a Customer (an example might be a financial services portal providing EBPP as one of a suite of personal financial management services).

- *Customer payment Provider (CPP)*, which interfaces with a financial institution or other payment processor acting on behalf of the Customer.

The CPP (Customer payment Provider) is a service provider that captures the Customer's payment request, and initiates the processing of that payment. The CPP interfaces with a financial institution (or may itself be a financial institution) acting on behalf of the Customer. The CPP also "warehouses" payments that have been future-dated or designated to be recurring. The CPP may also interface with credit card processing networks or payment gateways.

2. EBPP's Process

EBPP is composed of three key building blocks--initiating the service, bill presentment, and payment remittance--there can be a multitude of permutations of who

performs each element. In addition, Billers and others may choose to play more than one of the defined roles. The current EBPP industry has evolved into several models that are helping to clarify these roles.

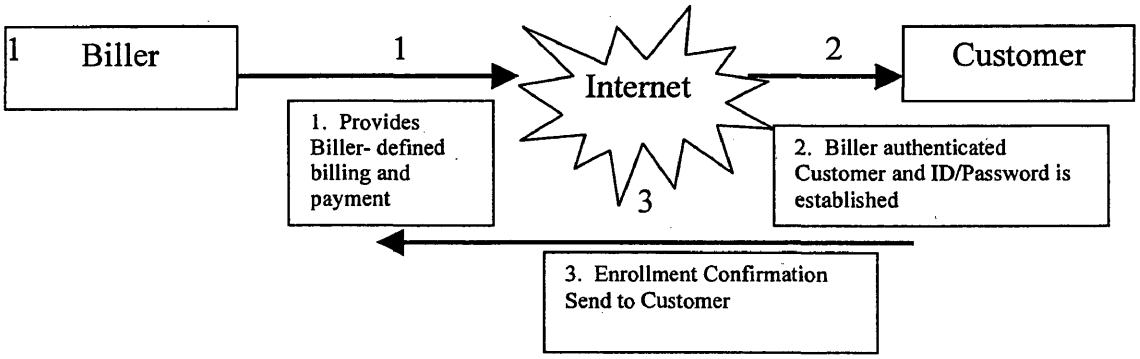
2.1 Service Initiation

Service Initiation (including enrollment and activation) is the process that the Customer goes through to sign up for the EBPP service. It includes enrollment with the EBPP service provider and service activation with the Biller. Service initiation also establishes service expectations, creates routing directions for bills and payments, establishes the authenticity of participants, and populates the database that will be the foundation for the EBPP service.

There are two type of Service Initiation:

2.1.1 Service Initiation-Directly with the Biller (See process diagram below)

Service Initiation-Directly with the Biller



Service Initiation Directly with the Biller Process:

1) This service initiation process is most commonly found with the Biller Direct model. Both the enrollment for EBPP service and the activation of the Biller occur at the same time. The Customer visits the Biller's Website to begin the service initiation process for EBPP. The Biller's EBPP Website or web pages provide the Customer with additional information about the EBPP offering, typically covering issues like

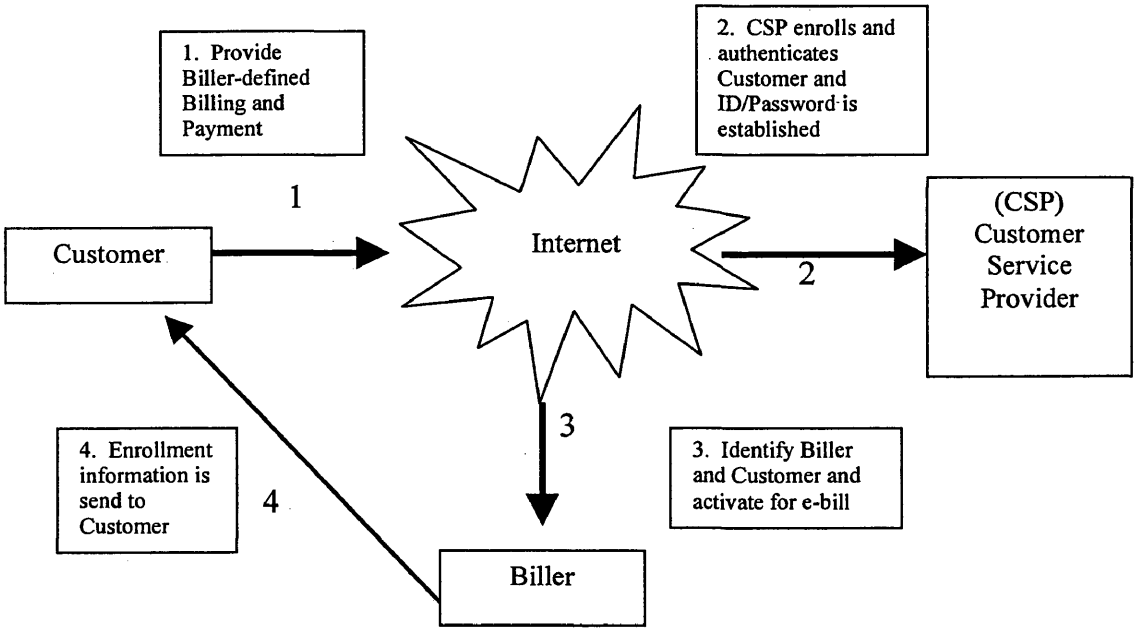
- Security
- Impact to existing paper bill
- Fees charged, if any
- Payment procedures
- Frequently asked questions

2) The Biller's service initiation process involves the Customer providing key account information in order to process the request and authenticate the Customer. This would include items such as name, account number, address, payment account information and e-mail address. The Customer may also select his own user ID and password for EBPP at this time. (In other cases, the Biller issues a user ID and password to the Customer). The Customer submits this information for the Biller to process. The Biller authenticates the Customer and establishes the Customer's user ID and password (either by accepting the Customer's choice or having the EBPP system issue them). The authentication process may occur real-time or via batch processing. During this process, the Biller typically notes in its master Customer profile/database that this Customer is activated for EBPP.

3) The Biller confirms the service initiation with the Customer, either real-time online, via e-mail, or with a physical letter. Additional details about the delivery and/or payment of bills are often provided with the confirmation. The Customer will use the authorized user ID and password when returning to the Biller's EBPP Website to view and/or pay bills in the future. In the event that a Customer forgets his user ID and/or password, the Biller provides Customer support to retrieve or reissue that information.

2.1.2 Service Initiation - Customer service Provider (See process diagram below)

Service Initiation - Customer service Provider



Service Initiation with Customer service Provider Process:

1) Service initiation via a CSP can apply to the Third Party Consolidation, Third Party Aggregation, or the Customer Consolidation models. In any of these cases, the Customer must first enroll with the EBPP service with the CSP and then request activation with individual Billers, although many CSPs allow the Customer to activate Billers immediately after enrolling with the service (i.e., during the same online session). The Customer visits the CSP to begin the service initiation process for EBPP. The CSP's Website or web pages provide the Customer with additional information about the EBPP offering, typically covering issues like:

- Security
- Billers offered through the CSP
- Fees charged, if any
- Payment procedures
- Frequently asked questions

2) The CSP's enrollment process involves the Customer providing key personal information in order to process the request and establish the Customer for EBPP. This would include item such as name, address, payment account information, and e-mail address. The Customer may also select his own user ID and password for EBPP at this time. The Customer submits this information for the CSP to process. The CSP enrolls the Customer and establishes the Customer's user ID and password. The enrollment process may occur real-time or via batch processing. The CSP confirms the enrollment for EBPP with the Customer, either real-time online, via e-mail, or with a physical letter. Additional details about the service are often provided with the confirmation.

3) Either immediately after submitting his enrollment, or at another time in the future, the Customer activates Billers from the CSP. The CSP provides a list of authorized Billers for the Customer to select from. The Customer selects which Biller he would like to activate for EBPP. The CSP asks the Customer for Biller-specific account information, such as the account number. The CSP sends the Customer-entered account information to the Biller for authentication. This may occur real-time or via batch processing.

The Biller authenticates the Customer's information and activates the Customer for EBPP with that CSP. During this process, the Biller typically notes in its master Customer profile/database that this Customer is activated for EBPP.

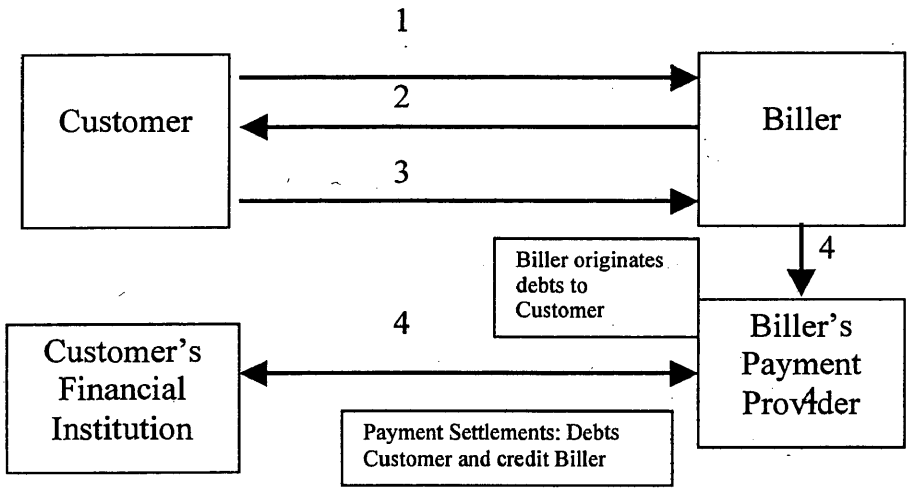
4) The CSP notifies the Customer of his activation status from the Biller. This typically occurs on the CSP's Website , but may also occur via other means. The Biller may also send a separate communication to the Customer notifying him of EBPP activation with the CSP. The Customer will use the authorized user ID and password when returning to the CSP to add Billers, view bills, or pay bills in the future. In the event that a Customer forgets his user ID and/or password, the CSP provides Customer support to retrieve or reissue that information.

2.2 Bill Presentment

There are three basic ways a bill can be presented:

2.2.1 Biller Direct - Customer accesses the bill at the Biller's Website .

Biller Direct Model



Biller Direct Model Process Flow:

1) The Customer signs up to receive and pay bills via the Biller's Website (Service Initiation).

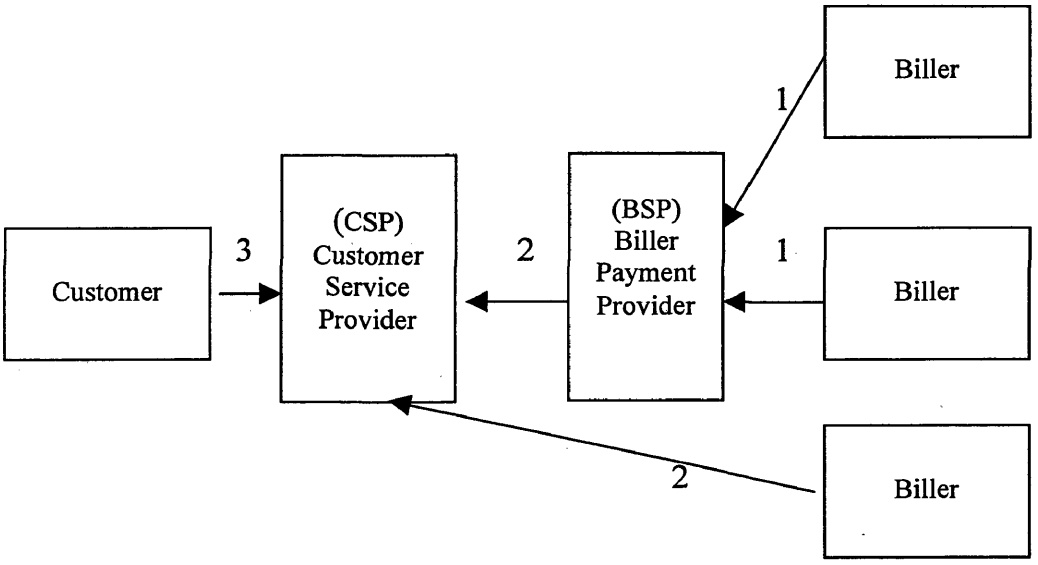
2) The Biller makes the billing information available to the Customer (Presentment).

3) Once the Customers view the bill, they authorize and initiate payment at the site (Payment).

4) The Biller then initiates a payment transaction, which moves funds through the payment system (Payment). The Biller updates its A/R system.

2.2.2 Third Party Consolidation/Aggregation Model ("Thick" or "Thin") - Customer accesses bills at the BSP's consolidated Website and/or aggregated from multiple sources (Billers; Consolidators) at a single CSP Website .

Third Party Consolidation/Aggregation Model



Third Party Consolidation/Aggregation Model Process Flow:

1) For each bill cycle, Biller sends bill summary (thin consolidation) OR both bill summary and bill detail (thick consolidation) to the BSP/Consolidator.

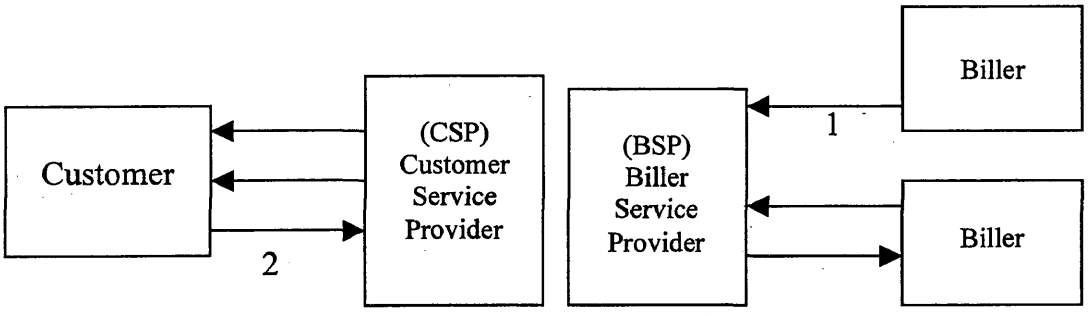
2) Bill summary, which links back the BSP who consolidates the bill with those of other Billers, is forwarded to the CSP who may aggregate the bill with those of other Billers

and/or BSP/Consolidators and made them available to the Customer (Presentment). In thick consolidation models the bill detail is also forwarded to the BSP/Consolidator.

3) Customer views bill summary and initiates payment instructions to the CSP (see Payment). In thick consolidation, the bill detail is view from the BSP/Consolidator's service; in thin consolidation, the detail is available at the Biller's server.

2.2.3 Customer Consolidation Model

Customer Consolidation Model



Customer Consolidation Model Process Flow:

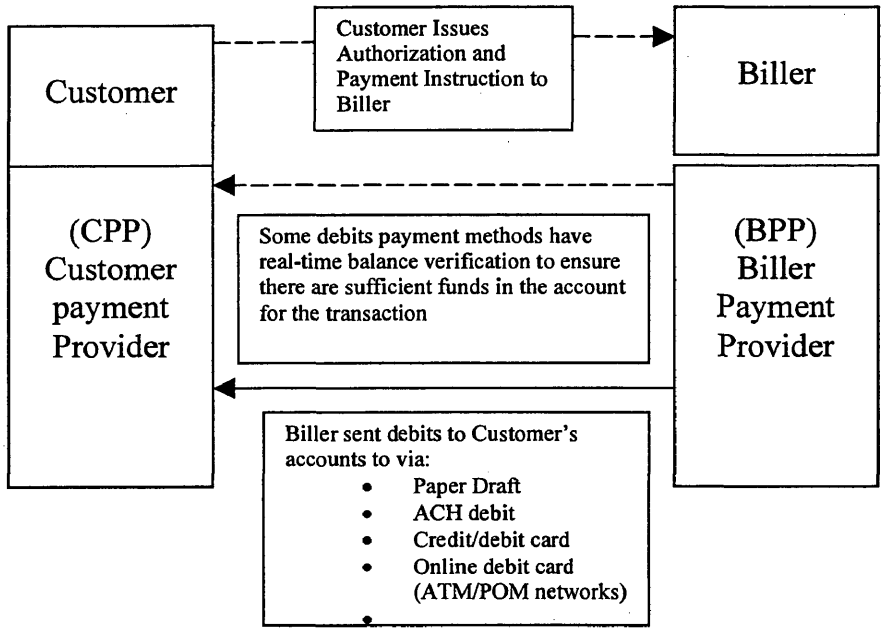
1) The Biller delivers bill to the Customer's desktop, which receives bills from multiple Billers. In many cases the BSP and the CSP may be the same entity.

2) The Customer reviews the bills and submits payment instructions.

2.3 Payment and Remittance

There are a variety of payment and remittance networks, each with their own distinctive characteristics. In EBPP. all payment options are authorized by the Customer. However, different parties EBPP payment options follow three basic flows:

2.3.1 Biller Originated



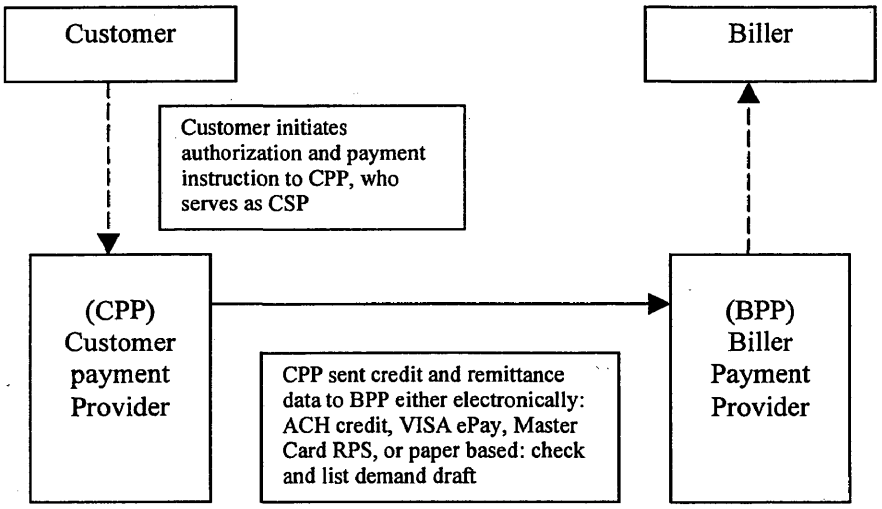
The advantage to Biller originated Debits is that Biller can easily post the transaction. However, there are many issues that a Biller should address when implementing a debit payment method:

1) Accuracy of Customer-provided payment information - If the payment information is not correct, funds that are posted may be returned.

2) Customer authentication - The Biller should exercise caution in case the Customer is not the Bank account holder.

3) Good Funds - Funds posted to the Customer's account with the Biller are subject to rescission because of insufficient funds, no authorization, or incorrect account information.

2.3.2 Customer Originated



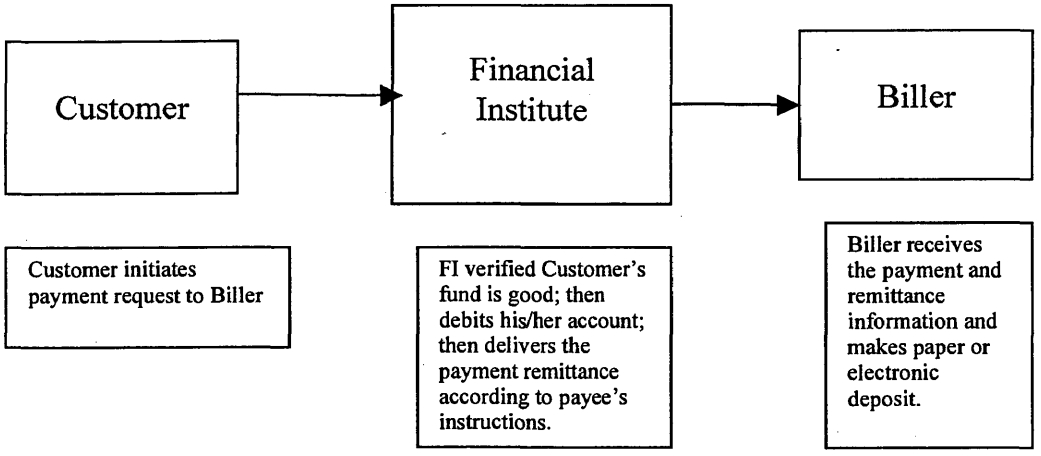
There are several advantages to the Customer Originated Credit. Perhaps foremost is the fact that any funds received by the Biller via this model are considered

"Good Fund"[14]. Also, the Customer has considerable control over the transaction. However, this model is presently underutilized due to lack of widespread availability as well as challenges that are faced by the CPP in providing acceptable remittance data to the BPP/Biller.

2.3.3. Third Party Originated

There are two types of models:

- Good fund model



[14] In good fund model, the funds are secured by the Customer Payment Provider before initiating the payment to the Biller.

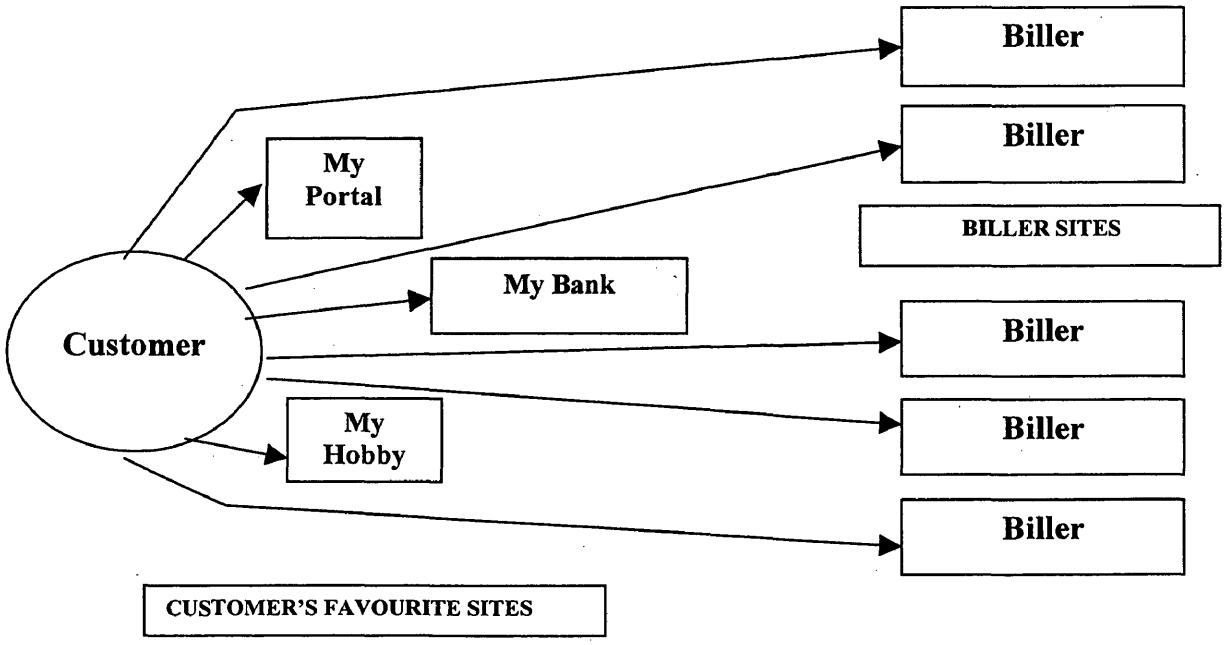
- Unverified Funds Model

Biller accepts risk for ACH debits (insufficient funds and disputes regarding unauthorized transactions), thus reducing time requires to post the transaction. First, Customer initiates payment and remittance request to Biller; then non-Bank service provider initiates ACH transaction to debit Customer's account; finally, Biller receives payment and remittance information.

3. EBPP Models

From above EBPP process flow, we see that there are three types of models: the Direct Model, the Consolidator Model ("Thick" and "Thin"), and Syndicated (or "open Consolidator") Model

3.1 The Direct Model



From the diagram, we can see that in the Direct Model, a Biller uses its corporate Website to present bills to Consumers. Consumers must visit the Website to review billing information and pay the bill. The Direct Model enables a Biller to maintain full control of the display of bills, other services, and marketing content. It also allows the Biller to preserve in-house control of important Customer profiles and billing data. The Direct Model requires expensive software, hardware and resources to implement and maintain. Ultimately, Consumers will request statements through channels other than direct billing or corporate Websites. If each billing company established it's own Website for bill presentment and payment, Consumers would be required to navigate various Websites and manage their passwords at each site, hence, reducing the convenience of online bill payment for the Consumer. Consumers will want to access all their bills through a single point of entry such as a bill Consolidator, Web portal or Bank Website .

Direct Model's Pros and Cons:

Advantages	Disadvantages
• Control: Biller maintains direct control of their Customer's experience and of all bill information. • Value-add: Biller has opportunity to cross-sell and packages other services within the Customer's experience of the bill. • Customer service: Biller can equip the bill to resolve common Customer service queries.	• Expensive to implement: it requires the Biller to implement extensive I/T infrastructure. Reduce the problem if outsource to an ASP. • Impractical: Customers must access the Biller site directly. If Customers make extensive use of electronic bill payment, they are forced to "hop" from one site to another to pay multiple bills.

to their bank's Website . This format makes a lot of sense to people because their Bank offers payment consolidation and is a trusted source."[107] Citing Yankee Group research, Perry says that 72% of Consumers say they want to get their bills from banks rather than other sources. Oct 22, 2001 Mobius's revealed over half of respondents from a survey choosing to pay bills online at their bank.

"For EBPP to fly, financial institutions need to improve the technology and convince Customers of its value. Banks have the trust with Consumers," said Jeanne Capachin, an analyst with Meridien Research. "So they're in a really great position to capitalize on EBPP and extend the franchise. Banks should be in the drivers seat."[108]

In the annual Technology Advanced Family Survey, which measures Consumers' experiences with more than 100 products and services, 55% of the respondents of Consumers said that their Bank was their preferred central aggregation site.[109] "Clearly, banks hold a trusted position with their Customers."[110] "Banks and credit unions are well positioned to encourage both Biller and payer adoption, while creating a significant transition in billing practices as they convert their own bills and statement to electronic formats," according to Beth Robertson, senior analyst in Tower Group's e-Banking research service.[111] Consumers will want to do electronic billing through a bank's

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[107] "EBPP-Customers Like Concept, but Remain Fuzzy on Details., AFP Exchange Vol.21 Issue 3, (2001): p72. Database: Academic Search Elite.
[108] Coffey.
[109] Bills.
[110] Lynn Koller, "New Tools Power Personalization Push," Bank Technology News Vol. 13 Issue 8, (2001): p22. Database: Business Source Premier.
[111] Towergroup, "EBPP Posed for Growth, Tower Group Reports," Bank Systems & Technology Vol. 38 Issue 7, (2001): p12. Database: Business Source Premier.

Website , because "the Bank is the institution they can trust when moving their money or handling their money."[112]

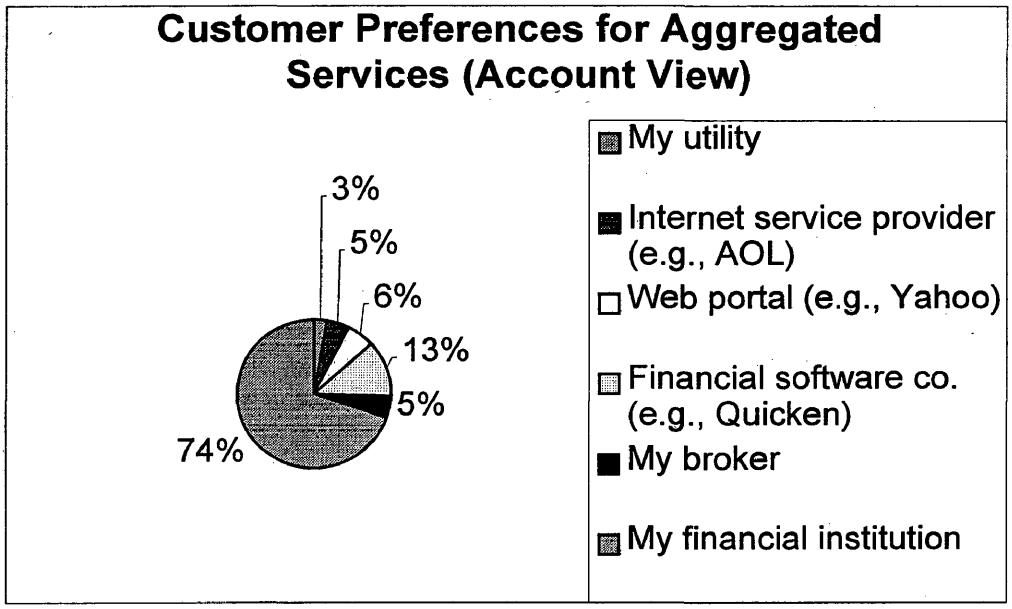
Other observers concur. "Consumers want to be able to manage their bills all in one location and they want to be able to get that service through a financial service institution," said Murali Chirala, president and cofounder of San Jose, California based Cyberbills, an ASP that allows Customers to view and pay all bills online, regardless of origin.[113]

Gartner's research, based on all Internet users (127.5 million), found out: 75% of Internet users would like to use an aggregated "account view" service, while 70% would like an aggregated "transaction" service. Their preferred providers: 74% of account viewers and 77% of transaction service performers prefer their financial institutions. Most aren't willing to pay for the service.

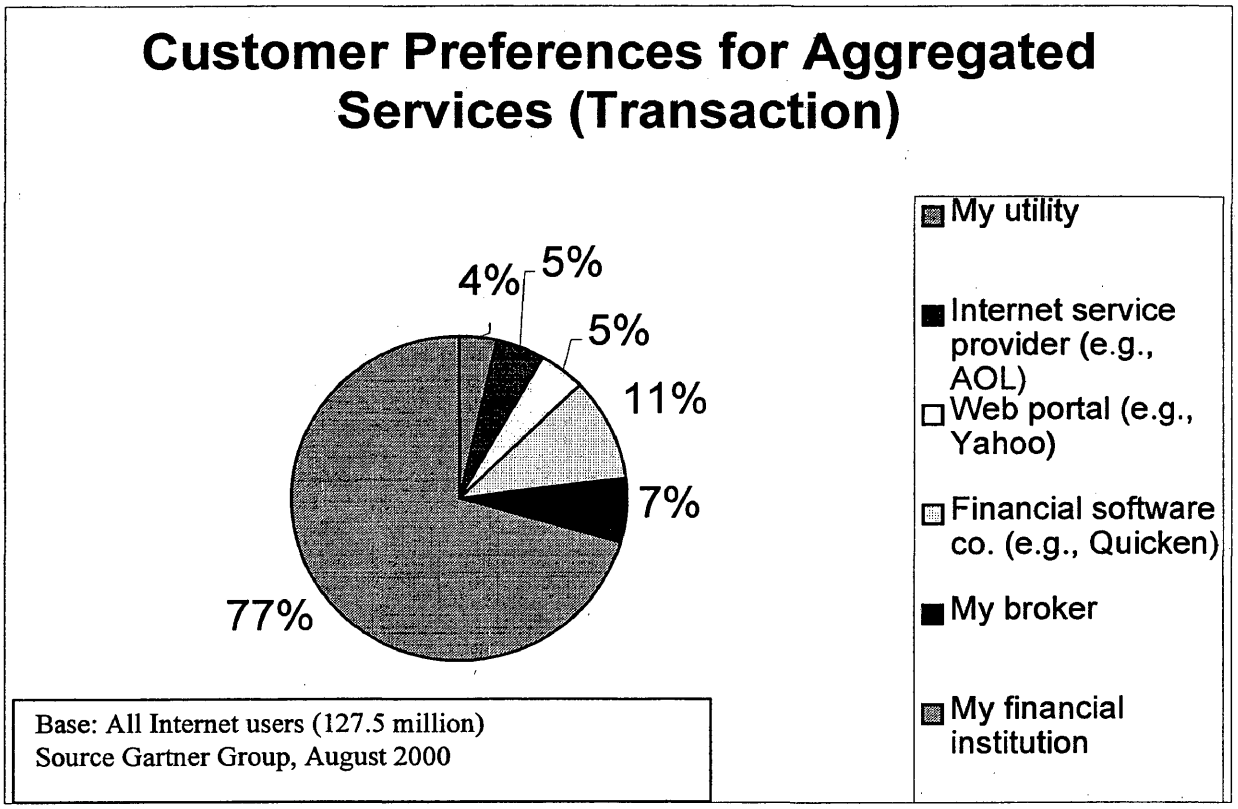
In next page, there are two diagrams from the survey question: "Which provider do you prefer?"

[112] Roth.
[113] Coffey.

1. View all accounts and bills with a single mouse click



2. Perform all financial services from single site with single log-on[114]



Integration of bill payment within EBPP is a natural fit for financial institutions such as credit unions and banks, which have strong relationships with both high-volume Billers (such as utilities or telecommunications companies) and payers.[115]

"The acceleration in EBPP activity among financial institutions will provide stimulus to the electronic presentment market," notes Beth Robertson, a senior analyst in TowerGroup's e-banking research and advisory service. "Credit unions and banks are well positioned to encourage both Biller and payer adoption."[116] Most Consumers who

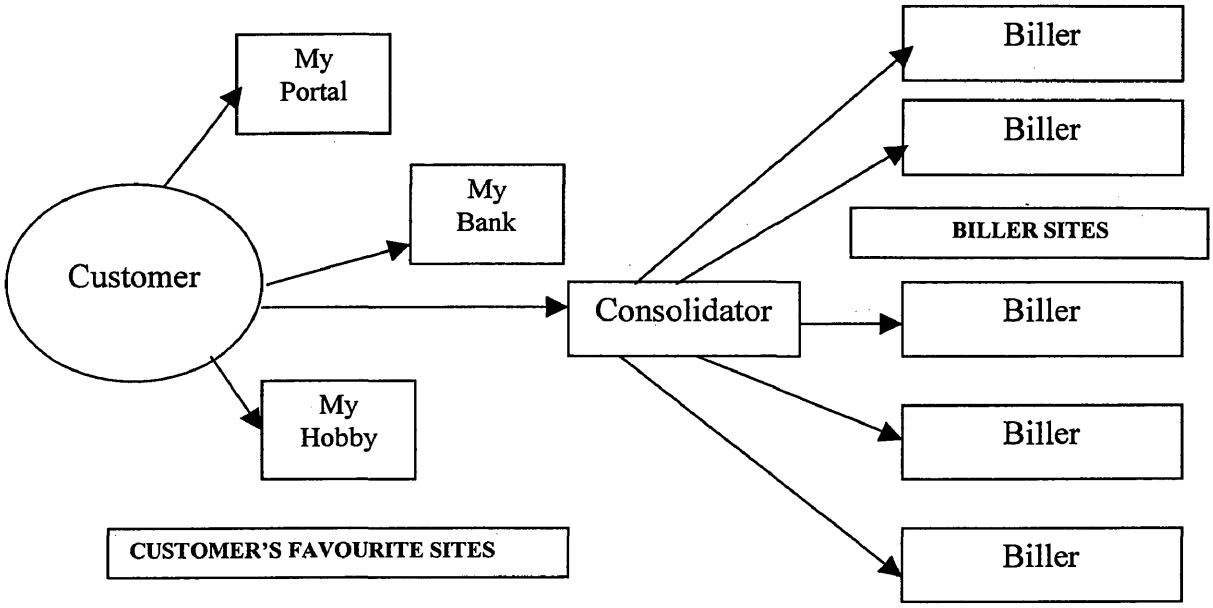
[114] Merrick, Bill, "Financial Institutions Will Drive EBPP," Credit Union Magazine Vol. 67 Issue 8, (2001): p18.
[115] Merrick.
[116] Merrick.

3.2. Consolidator Model

In the Consolidator Model, a Biller sends billing data to a third party called a Bill Consolidator or Consolidator. The Consolidator then consolidates data from multiple Billers and prepares bills for presentment through its bill payment Website . Customers can access their bills from their favorite bill Website and enjoy the convenience of one-stop bill payment. The most popular Consolidator Websites include CheckFree®, TransPoint™, and Quicken™. Because several Consolidator services already exist, Billers should consider their alternatives. They can transmit data (in various data formats) to multiple Consolidators or distribute electronic bills to several Consolidators with only one data transmission to an Application Service Provider (ASP), a company working on behalf of the Biller to provide EBPP solutions. Both methods ensure Consumers have a choice in bill paying Websites. However, managing multiple bill formats, remittance formats, pricing schedules, advertising terms, etc., can become quite challenging.

The two distinct types of bill consolidation/aggregation that have emerged include "thick" and "thin" Consolidation models.

Consolidation Model Diagram:



3.2.1 Thick Consolidation Model

The Consolidator gathers all billing data, including transaction details, from Billers and stores the information for electronic presentment to the Consumer. The Consumer sees all of their billing detail without visiting the Biller's Website . By preparing all billing data (including transaction details) for presentation on an aggregated Website , thick consolidation eliminates any contact between Billers and their Consumers.

Thick Consolidate Model Pros and Cons

Advantages	Disadvantages
• Less expensive: this costs less for Billers because of economies of scale. Billers send the bill or bill summary to the Consolidator. Consumers go to the Consolidator to pay bills. • Easier for Biller to implement: the IT is outsource. The Biller can offload responsibility for managing the CSP relationships for bill presentment. • More convenient: Consumers like going to one location to pick up multiple bills. This can lead to faster Consumer adoption.	• Indirect: Biller/Consumer relationship is less direct. It's less easy for the individual Biller to market directly and effectively, and the Biller/Consumer relationship risks being lost. The Biller's branding may be diluted, as they may lose control of the look and feel of the bill/screen. • Inflexible: Biller also loses the key benefits of electronic billing: "late due" notification, and ability to customize a specific marketing/catalog push. • Not entirely "natural": the Consolidator Website is probably not a location which Customers already visit as a matter of course. To pick up bills, Consumers still have to make a "special" trip there.

3.2.2 Thin Consolidation Model

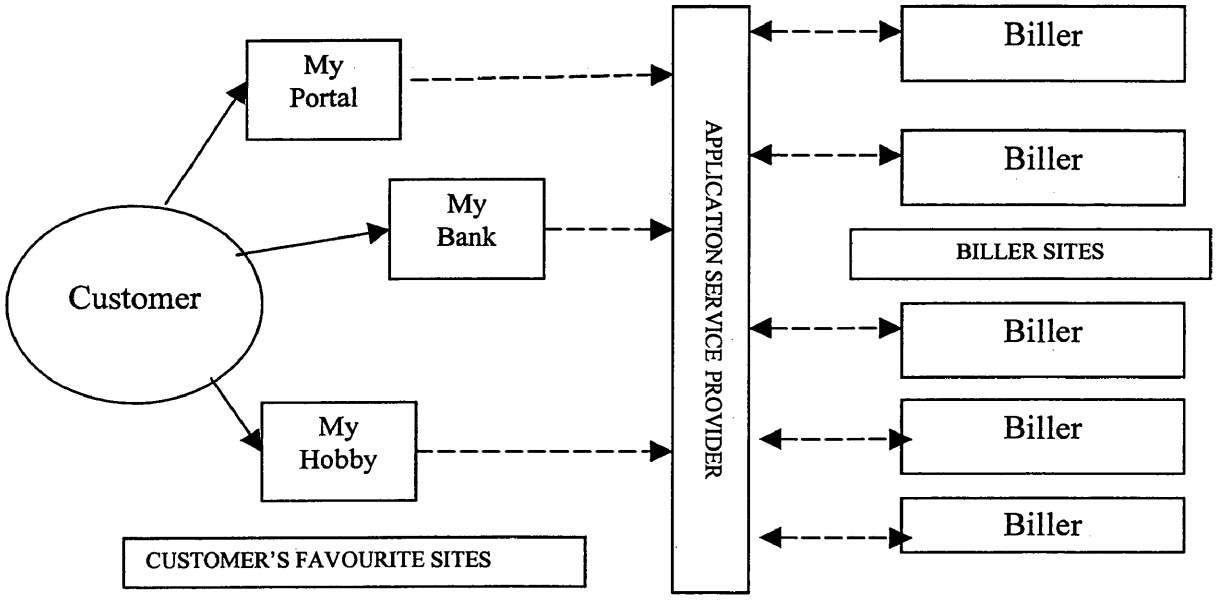
The Consolidator collects bill summary information (or a condensed Consumer record) for electronic presentment through the Consolidator Model. The Consumer sees only the bill payment amount and due date. The actual bill or bill detail remains housed on the Biller's (or ASP's) server, and is presented only on demand. Customers requiring transaction details click on a link to the specific Biller's Website , enabling the Biller (or ASP) to directly provide Customer service and marketing options. Thin consolidation has developed in response to billing companies that desire the broad reach of aggregation while retaining the strategic marketing and in-house data control of direct presentment.

Thin Consolidate Model Pros and Cons

Advantages	Disadvantages
• "Best of both worlds": Consolidator provides "one-stop" summary presentment and payment for multiple bills, but by retaining control of the bill details, the Biller maintains a relationship with the Consumer. The Consolidator site facilitates this relationship as a value-added service for its clients. • More convenient: Consumers like going to one location to pick up multiple bills. This can lead to faster Consumer adoption. • Least expensive to implement: economies of scale mean savings, especially when the Biller employs an external service provider to host the bill details on its behalf. • Brings traffic to the Biller's Website , allowing the Biller to preserve a direct relationship with the Customer.	Still not entirely "natural": the Consolidator or other service provider Website is probably not a location which Customers already visit as a matter of course. To pick up bills, Consumers still have to make a "special" trip there.

Of the two types of consolidation, thin consolidation best meets the needs of both Customers and Billers. It provides Customers with one-stop bill paying, and it gives Billers data control and the opportunity to build Customer relationships. Furthermore, thin consolidation allows Billers to achieve the broadest reach, still attract Customers to their Websites for bill detail, provide Customer care and targeted marketing programs, and leverage their investments in a direct billing site.

3.2.3. Syndicated (or "open Consolidator") Model



Syndication or virtual consolidation of bills means that Consumers can access them through multiple "natural" access point, such as Bank sites, and other sites. It is innovated by Linkata group and it has not been implemented yet. It takes best of all the model's advantages:

- Least expensive: economies of scale mean savings
- Most convenient: Consumer can go to any portal or Bank (i.e. locations that are already visited for other reasons) to pick up their bills. No special trips to each Biller site.
- Direct: Biller and Consumer relationship remains direct. The intermediary sites facilitate that direct relationship as a value-added service that they can offer to their client.

Through the first two chapters, we studied the EBPP's concept, the EBPP' benefits, the EBPP's current marketing lanscape, and how EBPP works. EBPP is one of the killing product in the e-commerce world. However, most of us still received paper bill and pay bill by mailing check. Some of us may pay bill online but we still do not receive or view bill online. Why EBPP didn't come to us as swift as what we expected? The following chapter is trying to find out the answer for this question by exploring the elements that affect Customer acceptance to deploy EBPP according to TAM theoretical framework and EBPP literature reviewing.

CHAPTER III. EXPLORE THE ELEMENTS THAT AFFECT CUSTOMER ACCEPTANCE TO DEPLOY EBPP

1. Low Customer Acceptance Impedes EBPP Growth

One of the key measures of a successful EBPP service is the adoption rate. "The real fundamental success is in driving adoption rates."[15] Without Biller and Customer willing to bill and pay bills electronically, the market has little value. As the adoption of this EBPP technology increases and more Customer and Biller begin to enter the market, the value of the market will increase exponentially.

Customer acceptance is crucial for broadening adoption rate of EBPP. Billserv executive vice president and chief financial officer Terri Hunter said "We believe strongly that marketing to the Consumer base is the key to increasing the adoption rate,"[16] Luo emphasized: "Customer acceptance of EBPP is crucial for Billers and financial institutions to successfully provide EBPP services. EBPP can be successful if it satisfies the needs and requirements of Customers."[17] Merdien Research also stated that "The most important goal for EBPP is to increase Consumer's demand."[18] Schmidt

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[15] Patricia A Murpy, "EBPP: All Dressed Up But Few Suitors Show," Bank Technology News Vol. 14 Issue 4, (2001): p1. Database: Business Source Premier.

[16] Debroah Bach, "Billserv Markets to Consumers to Spur EBPP," American Banker Vol. 166 Issue 92, (2001): p22.

[17] Wenhong Luo, David Cook, Jimmie Joseph, and Bopana Ganapathy, "An Exploratory Framework for Understanding Electronic Bill," Human Systems Management Vol. 19 Issue 4, (2000): p255. Database: Academic Search Elite.

[18] Merdien Research Inc., "Electronic Bill Presentment and Payment: Money Talks and the Postman Walks," (2001).

indicated: "EBPP faces some significant challenges, the biggest of which is buyer acceptance."[19]

EBPP Current Market Needs Critical Mass. Terri Hunter pointed out that EBPP technology has been struggling for Consumer attention over the past three years.[20] The EBPP got into the "cycle moves from high expectations through a backlash of skepticism to enlightenment and readiness for adoption, according to Ms. Litan says. And electronic payment and presentment, once hyped as a killer application, is now in the middle of that cycle - Consumer disillusionment - she said in a recent report on the subject."[21] Phoenix-Hecht Research presents the same market picture: "Electronic Bill Presentment & Payment (EBPP) is supposed to be the killer application on the Internet for companies looking to reduce the cost of distributing invoices and processing payments. Unfortunately, reality has yet to live up to the marketing hype surrounding the Consumer acceptability of these products."[22]

Several experts in EBPP Marketing who are analysts or CEOs of the EBPP's player present characterized the current market landscapein the following manner:

"TowerGroup estimates that of the 15.4 billion bills delivered to Americans last year, only 1 percent went through the entire billing cycle (presentment and payment) online. At the beginning of the year, Gartner estimated that only 17 percent of Internet-enabled Consumers preferred online billing."[23]

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[19] Schmidt, David, "Automation Tackles the Settlement Process," (2001).
[20] Bach.
[21] Roth.
[22] http://www.phoenixhecht.com/EBPP.html
[23] http://www.paystreamadvisors.com/page544458.htm

EBPP "must capture a large slice of the Consumer marketplace. Studies show that the EBPP penetration rate among Consumers is still well below 10%. For the most part, people still pay their bills through written checks sent through the mail."[24] Smith says the industry average adoption rate of EBPP is less than 1 percent.[25]

Merdien Research points out: "Little progress has been made in terms of market demand for electronic bill presentment and payment. Consumers still remain largely unconvinced of the benefits of receiving and paying bills electronically. Although Billers see the benefits thy can accrue, they have been slow to invest as long as Consumer's demand remains tepid."[26]

It is clear that the Customers would need to accept the EBPP technology. In the Consumer marketplace, experts say that even the most successful companies have failed to attract more than 4% to 5% of Customers to EBPP. Gartner, a consulting firm based in Stanford, CT, figures fewer than 200,000 Americans use e-billing networks to receive and pay bills in the Business-to-Consumer, or B-to-C, marketplace. Gartner estimates that 9% of companies today use the Internet to send electronic invoices to trading partners. However, nearly three times as many companies (26%) sell to other businesses via the Internet, which suggests that for the majority of businesses, paper-based billing and payment remains the norm."[27]

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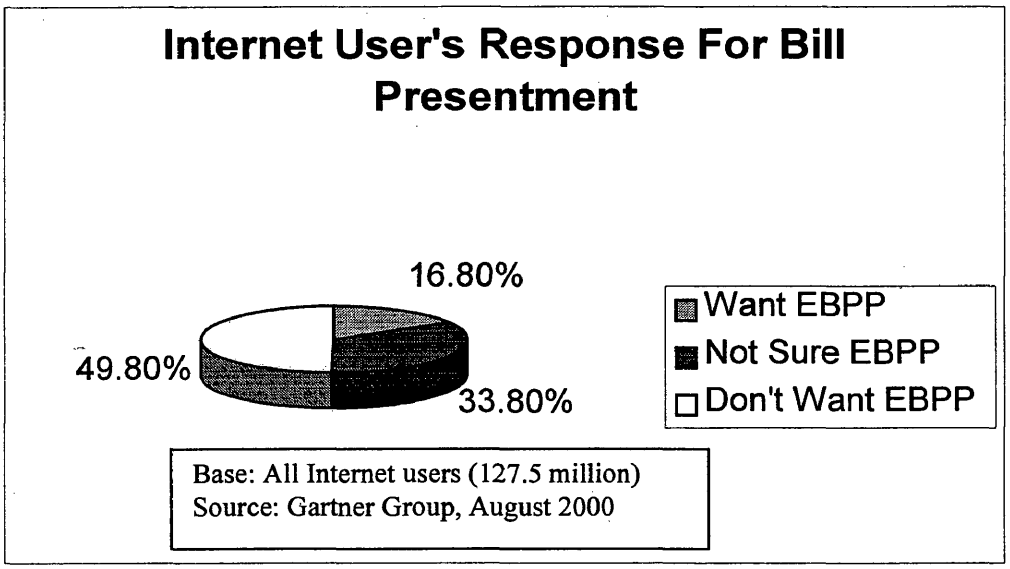
[24] Paul Doocey, "Just Thinking," Bank Systems & Technology Vol. 38 Issue 5, (2001): p6. Database: Business Source Premier.
[25] Betsy Harter, "Understanding Web-based BCC," Global Telephony Vol. 9 Issue 8, (2001): p22.
[26] Merdien Research Inc.
[27] Murpy.

"Fewer than 8 million households in the United States pay bills online, and fewer than 1 million households both view and pay their bills online.[28] In an online survey conducted by InsightExpress.com, one third of the Customers surveyed said that they had no intention of using an online bill payment service. Consumers still unsure about EBPP. A clearly majority of U.S. Internet users surveyed either doesn't want to receive bills online or is still unsure.[29] See following Chart for Internet User's Responses For Bill Presentment:[30]



[28] Merdien Research Inc.
[29] Luo.
[30] Bill Merrrick, "Financial institutions will drive EBPP," Credit Union Magazine Vol67 Issue 8, p18, (2001):1p.

From the market analysis above, it is clear that the Customer acceptance is low. The first task we need to do is to find out the elements causing low Customer acceptance of EBPP. After we understand the elements associated with the low Customer acceptance of EBPP, we will exam solutions to broaden the Customer acceptance of EBPP.

2. Literature Review of EBPP and User Acceptance Model in MIS

There are many research group such as Gartner, TowerGroup, Yongkee Research Group, and many experts, trying to find out what causes EBPP slowing growth. "Four key areas presented the most challenge to Billers' EBPP initiatives: (1) security (cited by 44 percent of business respondents); (2) technological integration (38 percent); (3) Customer acceptance (36 percent); and (4) cost (36 percent).[31] This paper focuses on the low Customer acceptance issue because my study of EBPP shows that this is the key barrier for EBPP's deployment. In this chapter, the literature review presents the experts' opinion about the causes of low Customer acceptance of EBPP. Then theoretical review of Customer acceptance provides the theoretical foundation for exploring the reason of low Customer acceptance of EBPP. The final part of this chapter will explore the elements related to Customer acceptance of EBPP according to EBPP literature review and theoretical review.

[31] "Canada's Top Billers and Consumers Ready for Online Billing, Optus/Angus Reid Research Finds" Toronto, June 23, 2000.

2.1 Literature Review of EBPP experts' opinion

Phoenix-Hecht thinks:

EBPP "is still plagued by the famous "chicken-and-egg" syndrome. Consumers are unwilling to utilize online bill payment until a large portion of their bills are available online; while Billers are unwilling to present bills electronically until a significant portion of Consumers demand it."[32]

Schooler called this is vicious circle:[33]

"Since few merchants offer their bills electronically, many Consumers don't perceive the service as valuable because they can't view most or all of their bills on line. With few Consumers clamoring for the service, few merchants have been willing to make the large-scale capital investments necessary for bill presentment. Merchants are waiting to see a critical mass of Consumers demand the service before making the investment-while Consumers are waiting for a critical mass of Billers to emerge. It's the proverbial vicious circle."

Optus/Angus Reid Research found:[34]

In fact, 72.9% of Customers surveyed felt the biggest disadvantage of paying bills online is the security of the online bill paying account. 63.4% of respondents were also concerned with the fees that would be associated with an online bill payment service. Unfortunately, the Consumers who were surveyed did not exhibit the same fervor for advantages of EBPP that the analysts present. The top advantage in the minds of these Consumers was the ability to make last minute payments at 45 % favorable. It appears that the Consumers view EBPP as a novelty and not a necessity.

Moran concluded:[35]

"Seventy-six percent of Consumers, gave 'privacy and safety' as their primary concerns in choosing a payment method for online bills, with cost second, and convenience, third. While an earlier survey found 7 percent of respondents to prefer paying bills by check, in this survey, none preferred mailing bill payments."[36] "[T]he low adoption is also reflective of the fact that functionality offered with limited EBPP solutions fails to overcome Customer fears relating to security as well as the inertia of existing Customer behavior."

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[32] http://www.phoenixhecht.com/EBPP.html

[33] Schooler, John, "GIVE THEM WHAT THEY WANT," Credit Union Management Vol. 24 Issue 8, (2001): p42.

[34] "Canada's Top Billers and Consumers Ready for Online Billing, Optus/Angus Reid Research Finds" Toronto, (2000).

[35] Moran, Jim, "Financial Services and the Benefits of Online Account Management," (2001).

[36] Mobius, "Banks Have An Opportunity."

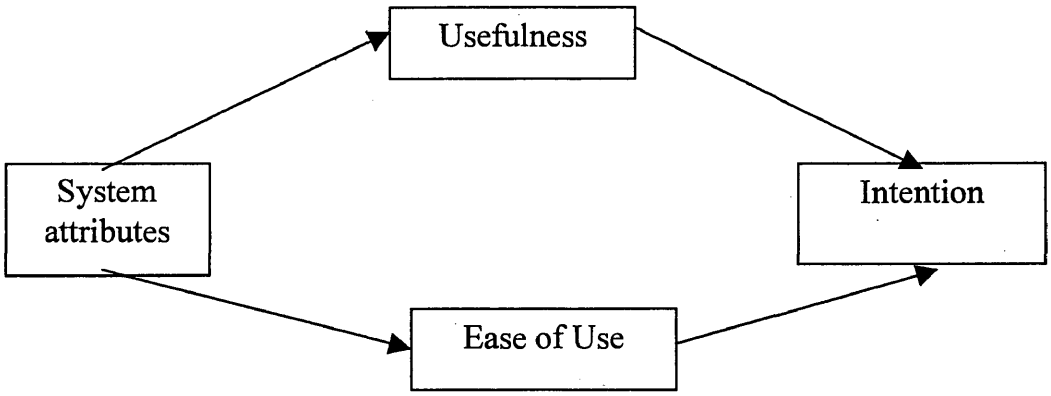
Singh analyzed the barriers:[37]

> "We have uncovered several barriers to greater use of EBPP and electronic payments. The most critical barrier is that key parties have insufficient incentives to use EBPP and/or electronic payments instead of traditional presentment and payment methods. Another inhibiting factor is the lack of standards in several areas of the industry: The enrollment process is inconsistent among service providers, and there are no universally accepted standards for the presentment of bills, thus hindering greater interoperability in the industry. As with other Internet-based applications, security and privacy concerns may be slowing the adoption of EBPP, as are uncertainties and obstacles in the legal and regulatory environment."

2.2 Theoretical Review of User Acceptance Model in MIS Literature

Usefulness and ease of use scales were developed by Davis, Bagozzi, and Warshaw in 1989. Further tests by Mathieson in 1991, and Adams, Nelson and Todd, and others have shown these scales to be valid and reliable 1992. TAM highlights two key factors that explain and determine user acceptance of a new IT: ease of use and perceived usefulness.

Technology Acceptance Model (TAM)

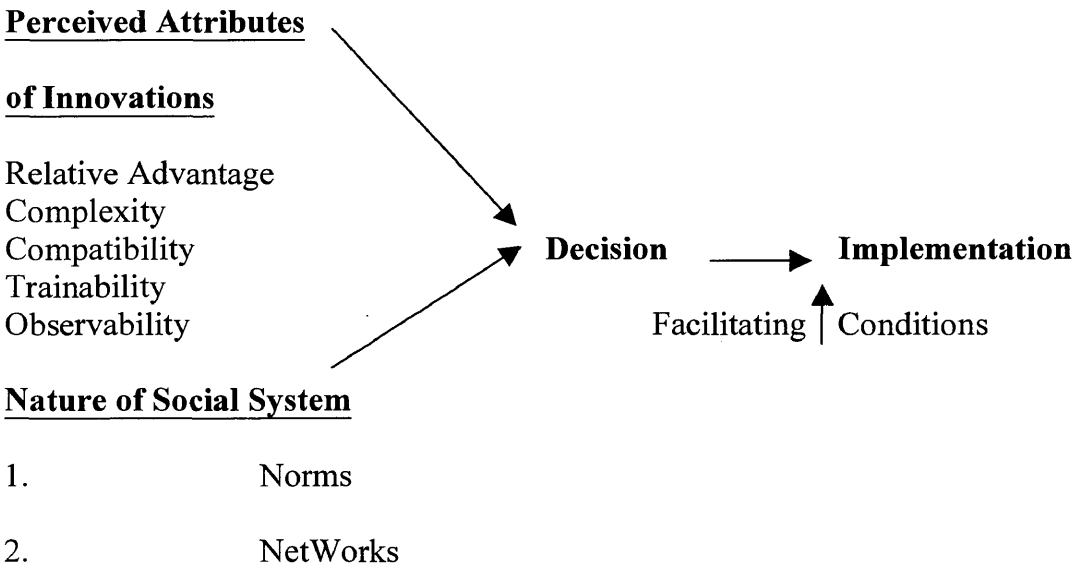


[37] Singh, Daplan Laurie, "Get Reaady for Online Billing & Payment," Financial Executive vl7 i3, (2001): p11.

Perceived easy of use is the degree to which a person believes that using a particular system would be free of effort. Perceived usefulness is the degree to which a person believes that using a particular system would enhance his or her job performance.[38]

Rogers surveyed several thousand innovation studies and found that relative advantage and compatibility (which appear to be similar to usefulness and ease of use in content) are among the 5 key factors appearing throughout the studies and that influence the rate of diffusion of an innovation. See following diagram:[39]

The Diffusion of Innovations



[38] Mellisa J Succi, and Zhiping D. Walter, "Theory of User Acceptance of Information Technology: An Examination of Health Care Professionals," Proceedings of the 32nd Hawaii International Conference on System Sciences, (1999).

[39] E Rogers, Diffusion of Innovations New York, NY: The Free Press, (1993).

Rogers defined the diffusion of innovation as the process by which an innovation is communicated through certain channels over time among the members of a social system in 1983. Rogers suggested that the attributes pertaining to the characteristics of an innovation are the determining factors towards its adoption. From many studies conducted, Rogers singled out the more essential five factors: Relative advantage, Compatibility, complexity, Observability and Trialability in 1983. Additionally, a sixth perceived attributes of Risk was postulated in some other studies. Each of the factors are defined below:[40]

- Relative Advantage is the degree to which using an innovation is perceived as being more advantageous than using its precursor. Either tangible or intangible, it is generally manifested as economic gains, increased effectiveness, enhanced status or other benefits (Davis, Bagozzi and Warshaw 1989; Rogers 1983). Tornatzky and Klein (1982) found relative advantage to be a crucial factor influencing adoption in their meta-analysis of innovation studies.

- Compatibility is the degree to which using an innovation is considered consistent with existing organizational values, experience, and needs of potential adopters. Some studies have found positive empirical association between compatibility and adoption behavior (e.g., Ettlie, Bridges and O'Keefe 1984; Holak and Lehmannn 1990; Tornatzky and Klein 1982) while on the other hand, O'Callagan, Kaufmann and Konsynski (1992) have found no corresponding relationship between them.

- Complexity is the degree to which an innovation is perceived as being relatively difficult to understand and use. A novel idea or product is often rated on a continuum form simplicity to complexity, either from a business or technical perspective. Researchers have suggested in the past that an innovation with substantial complexity requires more technical skills, greater implementation and operational efforts in order to adopt, thus decreasing the chances of adoption (e.g., Cooper and Zmud 1990; Dickerson and Gentry 1983). Complexity has been widely recognized as an inhibitor to adoption (e.g., Rogers 1983); Tornatzky and Klein 1982).

- Observability is the degree to which using an innovation generates results that are observable and can be communicated to others. In other words, the results of using the innovation can be conveyed either verbally, visually or in an audio manner. As postulated By Rogers (1983), early adopters of an innovation tend to perceived this as more essential than late adopters. Zaltmna, Duncan and Holbek also suggest that

[40] http://www.comp.nus.edu.sg/~gohky/IBank/ITUsage.htm

showing the results of using an innovation has a strong influence on adoption decisions.

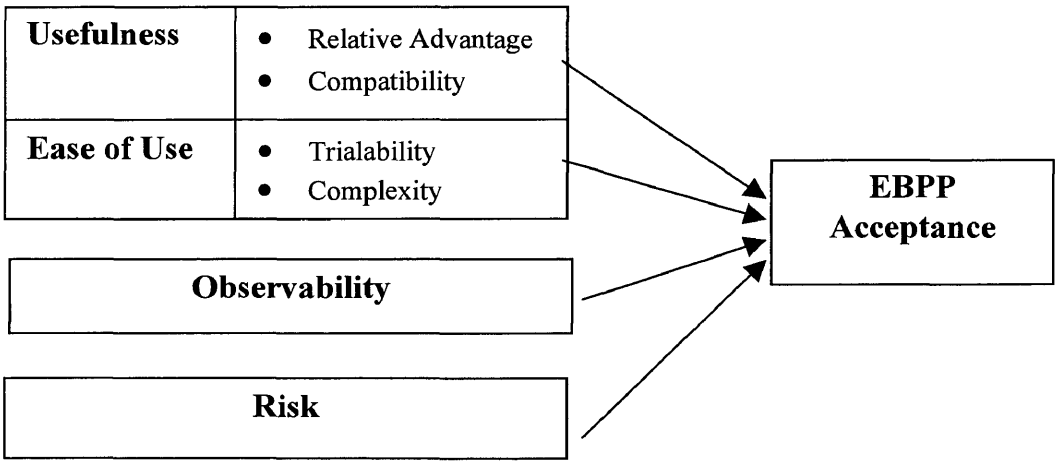
- Trialability is the degree to which using an innovation can be carried out or experimented on a limited basis prior to adoption. Rogers (1983) argues that potential adopters are more likely to feel more comfortable with innovations that can be experimented, thus increasing the likelihood of adoption. Similarly, the importance of partitioning and piece mealling to permit trial affects the adoption decisions for both individuals (roger 1983(and organizations (Zaltman, Duncan and Holbek 1973).

- Risk is the degree to which using an innovation my result in unfavorable outcomes (Webster 1969). Risk is an additional dimension added to the Innovation Diffusion Theory as postulated by Ostlund (1974) and Webster (1969). By definition, any adoption would embody risks since it involves uncertainty. Ostlund (1974) suggests that risk has two dimensions: performance risk (whether an innovation really produces positive outcomes) and psycho-social risk (concern for what others think of using the innovation). Another dimension to risk is what Webster (1969) suggests as investment risk , which is assessed by the chance of successful usage of the innovation and the worthiness of the investments.

Based on all these valuable opinions from EBPP literature study and user acceptance model in MIS literature, the following section will explore the factors that relate low Customer acceptance of EBPP.

3. Explore the Factors and Elements related Customer Acceptance to EBPP

Combine the TAM and Diffusion of Innovations theory with EBPP literature review, I propose the following Customer Acceptance Model (CAM) for EBPP.



The following table listed eleven elements that related the low Customer acceptance from EBPP literature review associate with four factors of CAM: Usefulness, Observability, Easy of Use, and Risk. Some elements will have more than one of the factors.

EBPP Customer Acceptance Factors and Elements		
TAM	**Diffusion of Innovation**	**EBPP Factors and Elements Exploring**
Usefulness	**Relative Advantage**	• **Lack of compelling reason to shift to EBPP** • **Cost and lack of incentive** • **Lower awareness of EBPP**
	Compatibility	• **Legal issue** • **Standard**
Ease of Use	**Trialability & Complexity**	• **Poor Customer care service** • **Difficult to use systems** • **Legal issue** • **Standard**
	Risk	• **Trust and risk** • **Security and privacy concern** • **Fear of inaccuracy and unreliability** • **Poor Customer care service** • **Bank slow react**
	Observability	• **Lower awareness of EBPP** • **Bank slow react**

3.1. Customers are lack of a compelling reason to shift from paper based billing and payment to EBPP.

There are number of reasons for this tepid Consumer response to EBPP, foremost is the lack of a compelling reason to sift from true postal delivery. As it is the case with many life-changing technologies we now comfortably use, something has to happen to push people out of habit, and get hem to try something new.

EBPP services need to save Consumers' money and time compared with traditional bill payment. Consumers appear reluctant to use EBPP until more of their bills are available electronically. 51 percent feel that other payment types, including checks, cash, and debit cards, are easier to use. Consumers may not change existing bill payment habits until they perceive a strong value proposition with EBPP.[41] For most people, the old paper bill and mail system works fine, and they see no reason to switch. Writing a small number of checks still takes less time than boosting a PC, dialing up an Internet connection, and clicking on Websites.

"In evaluating a solution, it's critical for prospective buyers to carefully consider its ability to integrate with existing business processes," says Russ Schmalz, Research Director at the Aberdeen Group. Another major challenge is that sellers have more to gain from the adoption of EBPP than buyers. As Litan notes, "they will have an uphill

[41] Singh.

battle convincing payers to review and pay bills electronically." Eventually, though, the ability to pare transaction costs will make EBPP the norm for most enterprises.[42]

3.2 Cost and Lack of Incentive

The cost of using EBPP will impact its Consumer appeal. If it costs more for a Consumer to pay bills online than to pay bills in the traditional method, Consumers will continue to pay their bills through the mail. While the cost of using EBPP is obvious, the cost of using the traditional method is implicit. With the traditional method, Consumers do not consider the cost of checks, envelopes, and stamps when they pay their bills – it is just a part of every day life.[43]

A recent study by Precision Computer Systems shows that Consumers are extremely price sensitive about paying fees for web-enabled banking services. For example, interest for Internet Banking among likely web-enabled Consumers jumps from 11 percent to 37 percent when the monthly three-dollar fee is waived. Lack of incentives to help Consumers switch is the biggest barrier to adoption today and Billers don't seem to be making it any easier.

Checks are perceived to be free and relatively easy to use. Industry analysts agree that Consumer adoption would grow more rapidly if EBPP services were offered for free or at a fee lower than current costs associated with check payments. Gartner Group

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[42] Singh.
[43] "EBPP Strategies for Telcos," (2001).

reported that a majority of Consumers, 59 percent, say they do not want to pay anything for account and bill payment aggregation services.[44]

"The reason Consumer bill presentment failed is pretty simple," Ms. Litan said. "It's too expensive. Jeetu Patel, vice president of research at Doculabs, an electronic commerce consulting firm in Chicago, cited other reasons. "The spread of broadband [Internet access] is not as pervasive as one would like to see," he said. Also, broadband access is now "fairly expensive for middle-income people," Mr. Patel observed.

"Consumers are attracted to discounts and free service, which Consolidators don't offer," she said. "The last thing they want is to pay $6 a month; what they want is free service or a $10 coupon, and they are not getting that."[45]

Ms. Litan says that the Consolidator model eventually will win out, but the difficult Customer enrollment procedures, high costs (averaging $6 a month), and a lack of financial incentives are hindering adoption. Fewer than 200,000 Americans use the e-bill Consolidator networks that have been formed during the past two years, according to Gartner's estimates.[46]

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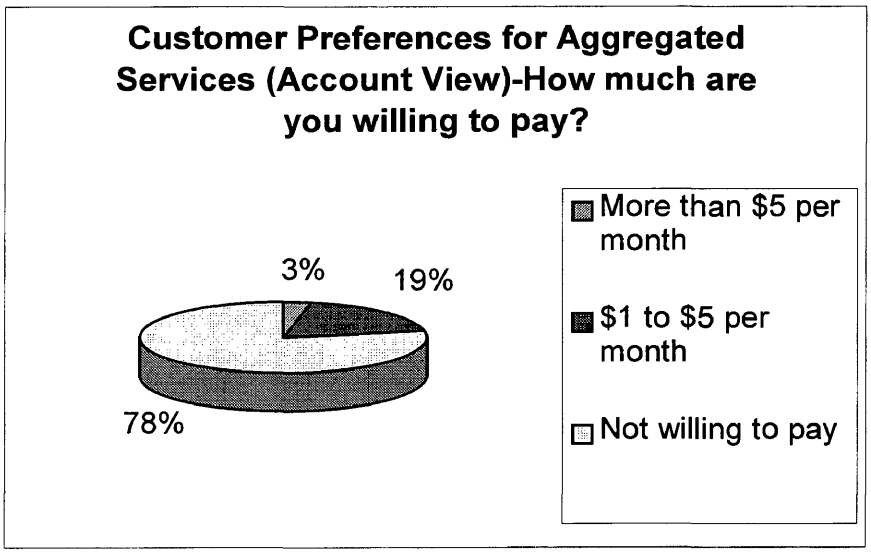
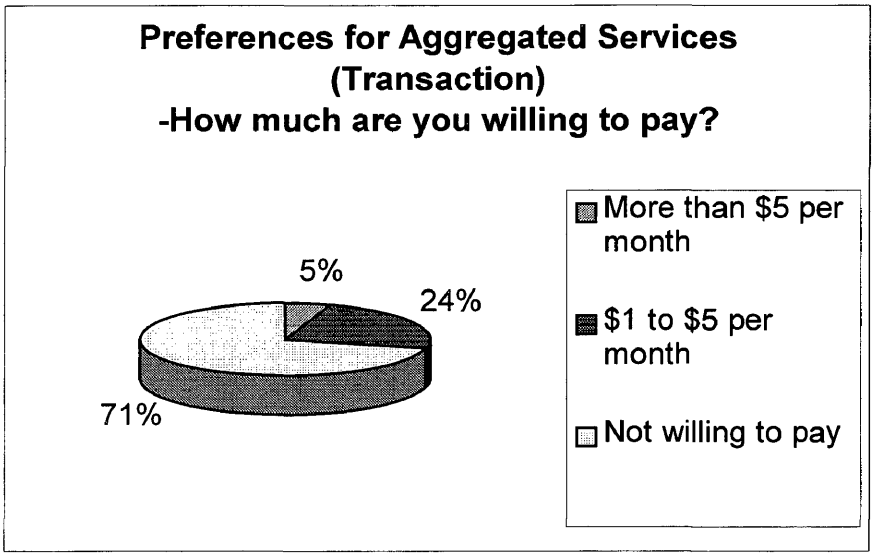
[44] Singh.
[45] Roth.
[46] Andrew Roth. "Upswing Predicted for Online Bill Presentment." American Banker, 03/12/2001, Vol. 166 Issue 48, p10A, 2p, 1c, 1bw. Database: Business Source Premier.

See following two charts from the question: How much are you willing to pay?

- View all accounts and bills with a single mouse click



- Perform all financial services from single site with single log-on



Base: All Internet users (127.5 million)
Source Gartner Group, August 2000 [47]

[47] Merrick.

3.3 Legal Issue

Legal issues surrounding industry regulations, liability, dispute resolution, and Consumer protections[48]are still set for paper format rather than electronic format. It raised the issues that current financial regulations, liability, dispute resolution, and Consumer protections are not compatible with the new environment of electronic billing.

When the EBPP provider is a financial organization, this raises a number of legal and regulatory considerations that might not be relevant to a typical commercial provider. The question of which state's or country's laws control an Internet relationship is still developing.[49] States have adopted different Consumer protection laws, which may be applicable to EBPP services.

Consumers may be exposed to differing protection rights and liabilities. The dispute resolution process may vary depending on the players, models, and payment options. The current legal and regulatory environment is still primarily designed for a paper environment.[50]

3.4. Standard[51]

Standardization is a big obstacle for ease of use and compatibility of EBPP. YourAccounts.Com indicated: "While the Consolidator model is good for Consumers, it is terribly inconvenient to Billers. There is no standard protocol for data formats, so a Biller may have to convert to a number of formats and distribute the proper bills to the

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[48] Singh.
[49] Ann Diotto, and Brian Mantel, "Electronic bill presentment and payment," Federal Reserve Bank Chicago, Report (2000).
[50] Singh.

designated Consolidators. Negotiating the rights for multiple connections may require a small army."[52] "The biggest challenge is that there is no standard format for bill data," said John Shields, senior vice president of e-business at Patelco Credit Union. "It might take the government, like the Federal Reserve System did with ACH, to set a standard that everyone trusts and can agree on for both bill data and payment transmission." That integration needs to encompass the bills themselves, noted Cyberbills' Chirala. "We need to see technology rise to the occasion of handling Customer service problems. Today's electronic bills are fairly simplistic HTML documents. There needs to be a lot more interactivity built into these bills, so that Customer service becomes easily accessible between the Consumer and the Biller's electronic bill.

3.5.1 Customer Lower Awareness of EBPP Technology:

EBPP is hampered by low awareness. According to a survey conducted by Mobius Management Systems, Inc., most Consumers believe receiving and paying bills electronically is a great idea. But many remain unaware that electronic bill presentment and payment (EBPP) services are available from their Billers. In an online survey of 301 Consumers, the majority (61 percent), ranging in age from 25 to 54, agreed that EBPP is a beneficial option. 34 percent were unaware whether their Biller supported e-payments, while 31 percent were unsure whether their Billers presented online.[53] Consumer awareness decreased even more for specific industries: 82 percent of Customers were

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[51] Coofey.
[52] www.YourAccounts.Com
[53] "Banks Actively Entering The EBPP Market," The Banking Channel.

unaware that their mortgage lenders offered electronic bill presentment, followed by Customers of cable providers (77 percent), utilities (74 percent), Telco (62 percent), credit card issuers (58 percent) and Internet service providers (47 percent). An even larger number of Customers (34 percent) did not know if any of their Billers offered an electronic payment option. Eighty-five percent were unaware that their mortgage lenders offered it, followed by Customers of cable providers (77 percent), utilities (72 percent), Telco (66 percent), credit card issuers (59 percent) and Internet service providers (59 percent).[54]

3.6 Bank Slow React for EBPP

Adoption has not taken place because not one of the banks, brokerages and portals that present bills to Consumers "has spent the first dime to market the service," Mr. Zielke said. Tso-called "chicken and egg" theory of low EBPP adoption - that Consumers are not using it because not enough Billers offer their bills electronically.

"A big issue right now for banks is just the whole evaluation of entry into the business," Robertson said. "There are a number of banks that are beginning to become active, but nobody is a major player because nobody has major market share. It's a lot softer than you would expect at this stage-you've been hearing about EBPP for a number of years, but banks are still figuring out what they want to do."[55]

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[54] "EBPP-Customers Like Concept, but Remain Fuzzy on Details," AFP Exchange Vol.21 Issue 3, (2001): p72. Database: Academic Search Elite.

[55] Jeanne O'Brien Coffey. "Presenting a Solution," Bank Systems & Technology Vol. 38 Issue 4, (2001): p40. Database: Business Source Premier.

Whether or not a Bank outsource, Mehl said, Consumer adoption may ultimately lie in a bank's treatment of EBPP. Banks, he said, need to recognize that EBPP should be a part of core Customer service. "Very few financial institutions are looking at the Internet as just one more way to deliver the superior Customer service they want to deliver. They look at the Internet as a special channel and set up a special Internet department off in the corner."[56]

3.7 Trust and risk

Most individuals are risk averse, so Customers will not subscribe to any payment system they cannot trust. Trust is an interesting concept. It is the willingness to rely on another party to take action in circumstances where such action makes one vulnerable to another party.[57] This implies risk is necessary for trust to become a factor in an individual's decision-making process.

Three major elements of risk that exist in EBPP include uncertain privacy in transactions, the potential for electronic transaction errors, and the possibility of fraud. Each of these risks makes EBPP less attractive to Customers. Billers must convince Customers that these risks are minimal and that systems are in place to deal with them. For example, Customers expect their transactions to be secured by some means of encryption or electronic signature. The precise method by which the Internet-related

[56] Coffey.
[57] Bob Kantin, "Is the E-Mail Box the Ultimate EBPP Consolidation Site? – Looking Through the yes of a Customer," (1999).

risks are reduced has not been raised by Customers as an immediate concern; the fact that risk is reduced seems to be the important determinant .[58]

The issue of risk is one, which has received significant play in the media, and was clearly demonstrated to Consumers in early February 2000. On February 6, access to Yahoo was choked off by unusually high traffic generated by a hacker(s). A similar event occurred on February 7 to Buy.com, eBay, Amazon.com, CNN.com, and then to E*Trade. The crippling of access to E*Trade was clearly expensive to company and Customers alike who were unable to conduct stock transactions. Though highly publicized, these events, unfortunately, do not appear to be isolated. Security breaches of corporate computer systems are a relatively common occurrence. A recent survey conducted by the FBI and the Computer Security Institute stated that more than 60% of respondents indicated unauthorized use of computer systems in the past year, with 57% of all break-ins involving the Internet.[59]

Customers want to trust the parties with whom they deal. Trust may be engendered in a number of ways. Large or recognized companies are often equated with organizations a Customer can trust. An organization's reputation can also help a Customer decide whether to trust the company. An organization's reputation can be enhanced via the media, word-of-mouth, past experience, etc.

A Customer's relationship with the organization is also a factor in trust. If the organization is one with whom the Customer has had positive past experiences, the

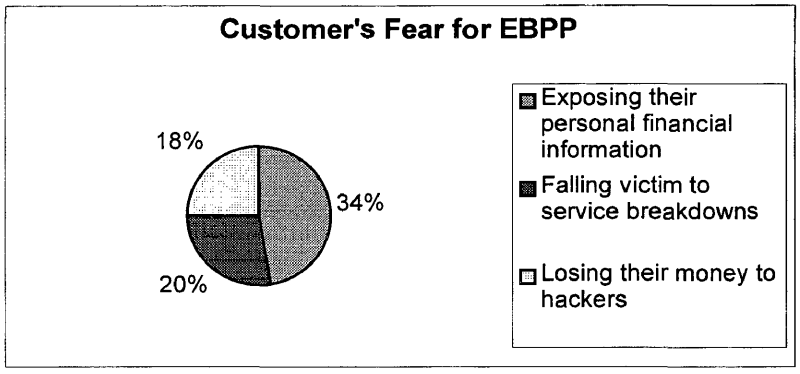
[58] "EBPP Strategies for Telcos," (2001).
[59] "EBPP Strategies for Telcos," (2001).

Customer is more likely to trust the organization in an EBPP situation. If the Customer has no experience with the organization, trust will have to be earned.

Customers also want to be certain that the transaction will be considered valid by all parties. Thus, with a signed cancelled check, the party cashing the check is acknowledging payment of the face amount of the check. Before transferring funds, Customers will want to be assured that the payment will be considered.

3.8 Uncertainty about the security and privacy of the information transmitted online

Security can limit the risk of using a given EBPP solution and assist to attain greater. "Customers are comfortable with online payment but still need the security of the paper bill."[60] GartnerGroup, Stanford, Conn., research shows that half of all U.S. Internet users aren't interested in receiving bills on line-with many of those noting security risks as a major concern.[61] See following chart:[62]



Source: Survey of 50 Bank Customers by Click-n-Done

[60] Amalia D. Parthenios., "Post no bills." Telephony Vol. 241 Issue 1, (2001): p28.
[61] Schooler.
[62] Coffey.

The primary issue appears to be uncertainty by individuals about the security of the information transmitted online. Among the factors that could delay Consumer acceptance of EBPP are concerns over privacy and convenience. Almost three-quarters (63%) of house holds believe that receiving and paying bills using the US Postal service is more reliable and secure than electronic delivery options; 74 percent of house holds like to privacy of paying bills by check; the 72% like the convenience of paying bills by check. PSI' research also found that Consumer's concerns about control and security are the most important factors affecting the use of electronic bill payment options. One-quarter of households believe that the Internet is not secure, and 65% percent are not certain about Internet security. For nearly half of all households, retaining control of payment timing is important.[63]

Effective security and privacy components are key elements to broaden acceptance of EBPP. Security and privacy influence the comfort level Customers have in using e-commerce services. As the success of EBPP services is generally dependent on the number of subscribers, both security and privacy issues can greatly affect the success of any given EBPP solution.

Customer information privacy is also an important issue. Consumers today are very worried of what companies do with the information that they are able to collect from the Customer. According to IBM, "Managing privacy can increase a Customer's comfort level in using EBPP solution to help attain greater acceptance.

[63] Parthenios.

3.9 Fear of Inaccuracy and Unreliabibilty

Pavlov says eTime Capital chose reconciliation as its initial foray into the online market because, by his reckoning, one in five transaction documents (even those that are sent electronically) contain errors that keep buyers from paying.[64]

I had my own experience with MBNA Bank online payment systems. I started with Discover Card Online Payment two year ago. I had a very pleasant experience with it at that time and I am still using it every month. It saved my time and the cost of stamps. But my experience with MBNA online payment system is totally opposite. I started online payment with MBNA almost at about the same time as I did with Discover, but I only used it less than half a year because of their inaccurate and unreliable EBPP system.

The first problem was that MBNA has five days advance payment policy that was hard for me to remember. So I received late paymenties penalty when I started with MBNA, though the Bank kindly credited my account.

The second big problem was that the online balance posting was difference than their batch bookkeeping. For example, I paid my total bill on time and I printed my confirmation page online. After several days, I even went back to the site to look at the balance posting. It had been cleared so I was quite sure that the bill had been reconciled. But when I got my monthly paper statement, I was surprised to find that my interests jumped to 23% because my account was not credited. I called Customer service and they corrected everything and told me that the balance posting would be corrected within

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[64] Murpy.

several days. The following month, however, I got the same error posting from mailed statement. This had to be repeated more than three times. Finally, I closed my account and decided not to use MBNA online payment system anymore. Now I am still paying MBNA credit card bill by mailing a check.

My experience is one of many. A lady learned of her bills not having been automatically paid for three months when creditors caught up with her at her new address--one of them looking to repossess her car. Another Consumer wound up having to pay $180 out of pocket--an amount that would have been far greater had he not noticed his Bank was penalizing him $60 a day because of a misunderstanding over funds availability. Another missed a mortgage payment and incurred a $60 penalty because his Bank did not pass on his e-payment to his mortgage company in a timely fashion. Another had a breach in the family's medical insurance coverage and almost had to go through the arduous process of re-qualifying for health insurance. In some of these cases, penalties were waived after the problems were resolved, but not without a fair amount of fretting and much follow-through by the Consumers.[65]

Above examples showed that there is zero tolerance in the financial world. One mistake could cause to lose a Customer in the EBPP business. An inaccurate and unreliable EBPP system definitely will contribute to low Customer acceptance.

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[65] O'Sullivan, Orla, "E-Biling, E-Hassle," Bank Technology News Vol. 13 Issue 8, (2002): p1. Database: Business Source Premier.

3.10 Difficult to Use

Ms. Litan said. "It's too expensive. It's difficult to enroll - you can't enroll on the spot, you can't get instant gratification. Consumers don't even know what bills they have available to them through their providers, and Consumers won't bother fishing around for what bills are online."

When a Customer inquires about a bill, the company Customer service representative does not view the same version of the billing information as a the customer sees on their statement. Lack of standards for enrollment and data exchange, a cumbersome set-up process and long lead-time for electronic payments may also need to be addressed to entice further usage. Consumers often have to wait one billing cycle to set up credit card, debit card, or ACH payments for their bills. Some Consumers may also experience a three-to-five-day delay between the time their account is debited and the merchant is paid.

The New York based research and Internet marketing firm recently asked Consumers if they had ever paid bills online and abandoned the exercise. The responses of the 2,000 Consumers surveyed suggest that 2.4 million Consumers have given up paying bills electronically. Most of those probably quit within the past 12 months, since electronic bill payment has only been prevalent since mid-1999, explains Sam Callard, senior analyst in Cyber Dialogue's finance practice.[66]

"The information is not correct. The process is complicated. They have to enroll multiple times. Companies have to make sure that they have integrated other functions

[66] O'Sullivan.

with this service." Unger says that of 11 million people who have enrolled in EBPP programs, 2 million have de-enrolled due to bad experiences.[67]

The 2.4 million quitters are out of a probable electronic bill paying population of 6 million to 8 million (Cyber Dialogue was still analyzing the results of its annual online banking survey to come up with a more precise figure as BTN went to press.) The total number of bill payers figure is an extrapolation of the statistic that, historically, 30% to 40% of the online banking population pays bills online; as of the second-quarter, 19.4 million domestic Consumers banked online, Callard says. Without a full analysis, it's hard to say how significant a level of defection that is, he adds, noting that the number will come down as service improves, "Just as with online banking in general."[68]

3.11 Poor Customer service

The poor Customer service added difficulty level of using EBPP for Customer and decreased the trust for the EBPP Company. When electric services Customers sign up for an EBPP program, they release their private financial and account information to a billing entity. Would anyone trust a company with that information if one of its representatives had treated him or her rudely in the past? Consumers also authorize this entity to execute financial transactions for you over the Internet. How comfortable would people feel doing this if a company regularly failed to respond to their complaints or

[67] Parthenios.
[68] O'Sullivan.

inquiries, or habitually kept them on hold for 15 minutes at a time when calling its Customer service hot line?[69]

One example about poor Customer service in EBPP below:[70]

Garth Gregson, a financial controller in Santa Cruz, California, opened a PayPal account when he won an auction for a notebook PC and wanted to pay the seller quickly. PayPal verified his Bank account without a hitch, but it could not verify his credit card. He tried another credit card and got the same error, but this time PayPal restricted his account, which meant he couldn't access it at all. "My credit cards were perfectly valid and my credit is good, so the whole situation made no sense," Gregson says. Unable to find a phone number for Customer service on PayPal's Website , he wrote an e-mail asking how to lift the restrictions from his account.

After a frustrating round of unhelpful e-mail responses, Gregson got a Customer service phone number. He called and the PayPal representative essentially told him that he was out of luck. "Once PayPal declines a credit card, it's declined forever--no questions asked or answered. I couldn't even close the account, since it had been restricted," Gregson says. Gregson ended up sending the notebook seller a paper check, and PayPal eventually closed Gregson's account for him. PayPal officials won't comment directly on Gregson's case, but they say a credit card may be declined for many reasons--from the card issuer's address verification system being down to a Customer's card having been frozen. Gregson still bristles at the experience. "I was incredulous at [PayPal's]

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[69] Marquardt, Jill, "Customer service remains key component in successful EBPP," Electric Light & Power Vol. 79 Issue 1, (2001): p40..

[70] Anne Kandra, "Trusting Your Money to Strangers," PC World Vol. 19 Issue 10, (2001): p45. Database: Academic Search Elite.

lack of Customer service," he says. "I'm particularly bothered that I gave my financial information to a company that shows such indifference to its Customers."

Customer will demand cost saving, trust security, privacy, accuracy, and flexibility system and a good Customer service. If the marketplace is unwilling to provide these demands, it will never achieve mass adoption.

Now we explored the elements and factors that caused low Customer acceptance of EBPP. The final issue is how to broaden Customer acceptance of EBPP by finding the resolutions to turn these elements and factors into positive ones to stimulate the development of EBPP.

CHAPTER IV SOLUTION AND STRATEGY TO BROADEN CUSTOMER ACCEPTANCE OF EBPP

1. Six Solutions To Broaden Customer Acceptance of EBPP

From EBPP literature review, many experts suggest different possible solutions to promote EBPP adoption rate. Focusing on the four factors: Usefulness, Ease of Use, Risk, and Observability, I provide six solutions to broaden Customer acceptance of EBPP. Some of those solutions have more than one relationship with four factors of CAM framework.

Solutions to Broaden Customer Acceptance of EBPP

TAM	Diffusion Of Innovation	EBPP Solutions To Broaden Customer Acceptance
Usefulness	Relative Advantage	Chose Right EBPP Model Build Solid EBPP System
	Compatibility	Chose Right EBPP Model Build Solid EBPP System Select Right Vendor
Ease of Use	Trialability & Complexity	Chose Right EBPP Model Build Solid EBPP System Select Right Vendor Provide Strong Customer service
	Risk	Build Solid EBPP System Select Right Vendor Provide Strong Customer service Bank and Biller Are Proactive on EBPP
	Observability	Provide Strong Customer service Aggressive Marketing Approach Bank and Biller Are Proactive on EBPP

1.1 Chose a Right EBPP Model

In order for Consumers to accept any EBPP solution, they must be convinced of its benefits to them, or be given no option in the market for other bill payment alternatives. It is unlikely that EBPP will be mandated as the sole payment option for all bills in the near future. Therefore, Billers must develop systems that not only meet their needs, but that satisfy Consumer needs, fit Consumer habits, and provide tangible benefits to Consumers, and thereby encourage Consumer to use it. Thus, it is imperative for Billers and financial institutions considering various EBPP alternatives to understand the types of Customers they serve, the kinds of bills they produce, and their Customers' concerns with respect to EBPP. For many Billers, it may be necessary to employ different EBPP models and solutions in order to satisfy the needs of different Customer types.[71] The value added, bill characteristics, Customer type, and data control should be important considerations in selecting an EBPP implementation model.

1.1.1 Value Added

With any model implementation, Customers will require that EBPP offer added value. This value may take the form of cost savings, convenience, or both.

[71] Luo.

1.1.1.1 Cost Saving

Cost savings may provide an important incentive for Customers to subscribe to EBPP. This is vitally important for business Customers paying large numbers of recurring bills. EBPP can cut the cost of check production and processing, postage, from reduced float, and, perhaps most importantly, time spent on bill payment. If we chose the model that will cost the Customer the least and save him or her the most, it will promote EBPP's adoption rate. For example, some consolidated model required Customers to get special software to install on their computer to run, and it is likely not going to work. Some models will cost Customer nothing and it just sends email to the Customer's email box, and the Customer can click the link to view the bill and pay it.

1.1.1.2 Convenience

The Click-n-Done survey showed that of the 23% of Consumers who pay bills online, 92% said convenience was the primary reason.[72]

To change to an online billing system, Customers demand a significant increase in convenience over a paper-based system. Convenience means ease of use, real-time savings, and personal choices.

- Ease of Use

With EBPP, Customers have access to their bills anywhere, anytime with detailed and historical billing information available at the click of a mouse, enabling them to

[72] Murpy.

quickly conduct their own research without having to call a Customer service center. This requires that EBPP service should be easy to set up, easy to access and use, and preferably be compatible with technologies with which Customers are already familiar. A user-friendly interface should permit users with minimal computer skills to pay bills online. Furthermore, the time needed to set up and learn about the EBPP service should not be an imposition on Customers. Some degree of continuity should exist between traditional paper-based bill presentment and its electronic counterpart to assist users in adapting to EBPP service.

A variety of methods can be used to provide Customers with easy access to their billing information. First, bills must be easily accessible using any standard web browser. Other functions can be added to tightly integrate bill presentment and payment. For example, Billers can send an email to notify Customers that their bill is ready to be viewed and paid. This email notification can contain an embedded link that Customers can click to be transported to the EBPP site.

- Time Savings

Customer requires viewing and paying the bill through one-stop shopping at any time. The more Websites Customers have to visit in order to pay their bills, the less convenient the system may appear. To this aspect, direct model may not be good choice for Customer. Consolidation technology makes it possible to present Customers with billing information from multiple merchants in a standard format at a single, convenient

Website. Consolidation sites are accessible through a variety of Internet devices and will lure even more Customers to EBPP.

Customers will also expect to have continuous access to their bills and billing information. Technical advances in the integration of Internet-based systems with databases and legacy hardware and software systems now enable the retrieval of billing data and its presentment over the Internet. With the advent of electronic bill presentment, the level of convenience of reviewing questioning and paying bills online will reach the threshold necessary to convert Customers' paper-based habits to online bill payment.

Another source of Customer convenience would be the immediate feedback that a bill was paid. Currently, Customers must wait until the next billing cycle to see if there were any problems in the posting of their payment. These discrepancies between what they think has been paid versus what has been credited by the billing firm, must then be addressed in writing, by email, in person or over the phone. This may require additional calls to the Bank to verify the cashing of checks and current checking account balances. Regardless of the form of resolution chosen, the Customer must spend time after paying the bill to determine if it was paid, and if not, what happened to the funds. EBPP has the potential to save the Consumer time and anguish by confirming instantly (or a delayed confirmation via email) that a payment has been successfully credited.

- Personal Choices

Since Customers have different views of what is convenient, an EBPP solution must offer a choice of presentment and payment options. Customers are already familiar

with a variety of payment options ranging from credit card transactions to direct fund transfers. Solutions also will be able to offer electronic checks. On the presentment side, Customers will demand the ability to select the Biller's site, a Bank site or Internet portal most convenient for them to receive and pay bills. They will also require the flexibility to choose when to see and pay bill summaries, and when to view account details.

1.1.2 Bill characteristics

As we see from the discussion above, EBPP models have advantages and disadvantages, from the Customer's perspective. For Billers and financial institutions interested in selecting EBPP solutions, the type of Customers served and the nature of the recurring bills rendered to Customers must be considered.

In EBPP, bill characteristics determine how often Customers will visit the EBPP site, what kind of activities Customers will perform, and what kind of information Customers will most likely wish to see presented. The following bill characteristics would seem to play an especially important role in this regard: bill frequency, regularity, and complexity.

- Bill frequency

Bill frequency refers to how often a bill is presented to the Customers. For some bills the frequency may be once a month or once a year. While for other bills, Customers may need to check their billing status on a daily basis. Low frequency bills include most

bills received by Customers, e.g., telephone and electricity bills. An example of high frequency bills is the office supply bills for a large business Customer.

For bills with low frequency, the Biller does not have to update the bill very often, resulting in fewer interactions between the Biller and its Customers. Therefore, the thick Consolidator model can provide adequate service. On the other hand, if the bill frequency is high, then the direct model or the thin Consolidator model may be more appropriate.

These models allow Customers to contact the Biller directly and the Biller can easily update the bill contents. Currently, an error in a bill requires the Customer to contact the Biller, usually by phone, and correct the error. Unfortunately, the Biller does not have time to send a correct bill out in the current billing cycle, although the information may have been corrected in the Customer's record in the Biller's database. Thus, the Biller will receive a payment amount, which is not in sync with the amount due on the face of the bill. With EBPP, corrections to the bill can be made in the Customer's record in the Biller's database, and be immediately reflected in the amount due on the EBPP system. Thus, the amount due and the amount paid will be in sync, reducing future errors that may arise because of differing values on the bill and the check.

- Bill regularity

Bill regularity refers to whether bills are presented to Customers in a regular cycle. Customers are accustomed to receiving such bills as telephone, insurance, and mortgage at defined time intervals. However, not all Billers provide regular services to

their Customers. Hospitals, for example, only send bills to patients after they visit the hospital. A bill from an automobile repair shop may also be unforeseeable. Such irregular or unforeseeable bills may require the Biller to subscribe to an unsustainable number of intermediaries for the thin or thick Consolidator model.

Since Customers could belong to any one of a number of EBPP providers, Billers such as hospitals, mechanics, and plumbers would have to belong to the universe of provider services. Thus, the direct model would be more efficient for such Billers. The Customer would only need to provide the Biller with a valid email address. The Biller could then e-mail the Customer when the bill was ready with a URL for payment remittance information.

The direct model seems to be more appropriate for irregular bills because Customers cannot predict when the bill will arrive. For regular bills, where the Customers expects the bill, the thin and thick Consolidator models seem to be well positioned to provide electronic billing services. Customers and Billers can subscribe to a Consolidator's service in advance. With cyclic bills, Customers can expect bill presentment in a known time interval. Customers can visit the Consolidator's site on a regular basis to view and pay multiple bills at once. Billers, knowing to which Consolidators Customers are subscribed, will have sufficient lead time to format their data so that it is acceptable to the appropriate Consolidator, if they have not previously subscribed to that Consolidator.

It is most likely that the Customer needs to be notified that their bills are ready. However, in the thick or thin Consolidator model, the Consolidator can handle the

responsibility of alerting the Customer that a bill has been presented. Thus, the Consumer and Consolidator can work out agreeable schedules on which the Consumer will be alerted of bills. This would reduce the probability of e-mail notification being mistaken for being overlooked in a flood of e-mails.

- Bill complexity

The third bill characteristic is complexity. It is difficult to define bill complexity; however, the amount of information included in a bill may serve as a surrogate measure of complexity. A simple bill may contain only a few pieces of important information. For example, a fixed-rate mortgage bill is rather simple in the sense that the only important pieces of information are the principle outstanding, bill amount, and date due.

An office supply bill for a large business would have more complexity. This bill may contain a long list of items purchased by different employees working for the company, and each item may carry different payment terms. Unlike the other two bill characteristics that are often determined by the nature of business practices, to a large extent bill complexity is controlled by the Biller. It is the Biller who decides what information to include in a bill and how to organize that information.

Generally speaking, the thick Consolidator model is well suited for simple bills while the direct model and the thin Consolidator model can be used with more complex bills. The thick Consolidator model, with its reliance on individual Consolidator standards (as opposed to industry-wide standards) would require the formatting of very complex billing data for a possibly infinite number of Consolidator sites. This would not

only make for extremely involved programming, but would needlessly complicate helping users review their bills.

The direct model places the billing information directly on the Biller's site; thus requiring only one format for the highly complex data. The thin Consolidator model requires minimal information on the Consolidator's site; however, it has a link to the Biller's site, which can provide explanations for more complex bills.

1.1.3 Customer type

We can identify two distinct types of Customers in EBPP: Consumer and business Customers. The EBPP needs of Consumers are quite different from those of business Customers. The convenience of being able to pay multiple bills at once is often one of the reasons for Consumers to sign up for EBPP services. With electronic banking, this reduces the need to balance checkbooks against cancelled checks to determine which bills have been paid. EBPP can also reduce per check charges some banks charge.[73]

Business Customers often already have their accounts in electronic form, so the advantage being able to pay multiple bills electronically provides only marginal value to them. It is more important to business Customers that their bills are accurate because business bills tend to be higher and more complex than Consumer bills. Therefore, the Consumer-centric notion of convenience may not apply to business Customers as a decision criterion for adopting an EBPP solution. On the other hand, Business Customers have a greater need for bill analysis and a close working relationship with large suppliers.

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[73] Schmidt.

While both Consumers and business Customers may have questions about their electronic bills, the frequency of help each needs in a particular area may differ. Consumers may need more frequent assistance dealing with such issues as how to use the browser, how to open electronic bills, how to select a payment method, and so on. The questions with which business Customers are frequently concerned may be more bill-specific. Business Customers may also have to deal with the Biller more often than Consumers. Thus, Consumers may prefer consolidated models of EBPP while business Customers want the direct model, as exemplified in the proliferation of business-to-business Internet services.

1.1.4 Data Control

When Billers decide to present invoices via Consolidators, data control issues will determine which type of consolidation is most advantageous. Billing companies that have traditionally outsource Customer service and data management are likely to seek the services of thick Consolidators. Companies that are more concerned about the accuracy, privacy and security of their billing data are likely to prefer thin Consolidators.

The choice of model not only affects the design and architecture of the service, but also affects the way the relationship between the Biller and Consumer, or business partner. Customer acceptance of EBPP will eventually decide which model will dominate, bill direct or consolidation (A bill can be presented directly from a Biller's Website or consolidated with other companies' bills and presented via an Internet

Customer service Provider or portal). The challenge is that the model must be sufficiently compelling to attract Customers away from traditional billing models.

Ultimately, EBPP will transform the bill presentment and payment process even further. Features such as bill reporting, bill history, and search and analysis capabilities all promise to simplify the billing process. As EBPP evolves, today's batch-mode process will be replaced with real-time billing that is truly Customer-driven. Customers will see their account status at any time, and control how and when they receive and pay their bills.

1.2 Build a Solid EBPP System

Billing is a mission-critical process for Billers. Interruption or delay in bill delivery can have a severe impact on cash flow. Providing reliable, efficient and economical solutions that satisfy the needs of millions of Customers, EBPP system must be built on a solid, proven infrastructure. It must provide high levels of scaling, interoperation, integration, collaboration, and standard. It must be convenience for the Customer and trusted by the Customer. It must be available whenever users need it, and it must be able to scale easily to accommodate new users, higher traffic, and added services. In addition, to enable billing companies to effectively manage user information and access control for numerous Customers. Therefore, the accommodation will make electronic bill payment and presentment more accepted.

All companies considering EBPP should understand their Customers and how they want to approach the market. Having the right strategy, architecture and design to

meet the requirements of the intended audience is instrumental to the success of the EBPP solution. The following key issues have to be addressed for any business Customer, especially one with a legacy system.

1.2.1 Scaling and Interoperation

To prepare EBPP systems to deal with very large numbers of recipients. The EBPP solution needs to scale the system requirements in a cost effective manner. "Until we lay the groundwork for interoperability and logical scalability, we will continue to fumble for answers to questions posed by the perceptive Customer." "One of the biggest challenges is the need to link existing EBPP systems into users' logistical systems, such as account payable, accounts receivable and shipping."[74]

Standards-based interoperability among all EBPP participants is to establish relationships beyond simply connecting a Biller to its own Customers. Otherwise each system creates an EBPP island that does not connect with any other Biller or consolidated systems. The consequences from this island approach will force Customer to log on many sites to view and pay the bill. Very likely, it will not be accepted by the Customer in the long run, because Customer would like to have one-stop shopping of EBPP. Instead, the solution must build the system that will scale easily and inter-operate with others, and also collaborate among players that are used to competing. In order for EBPP to be effective and achieve mass Biller and Consumer adoption, these relationships must cross traditional competitive boundaries, connecting one to another. Consider the post

[74] Singh.

office, where is a standard connection all over the world regardless of different language, culture, and different type of mail to make the mail system work in any situations. The EBPP system has to be in the same connection with whole EBPP world as it needed.

1.2.2 Integration

One of the biggest obstacles to electronic billing and payment involves integration with the legacy computing applications of both Billers and payers. The solid billing system needs to integrate Internet-based systems with databases, legacy hardware, and software systems to retrieve billing data and its presentment over the Internet. Additionally, it uses consolidation technology to present Customers with billing information from multiple merchants in a standard format at a single, convenient Website

1.2.3 Standard

Rockefeller Brothers Fund points out that we need to "Discuss the need for setting industry wide standards for electronic bill and presentment platforms (EBPP) in the United States. For examples, types of financial transaction standards in use; efforts of the Interactive Financial Exchange to straighten out differences in EBPP platforms; need to address workflow and dispute resolution.[75]OFX and IFX are two common EBPP platforms in the current market. OFX (Open Financial Exchange) is a standard for the exchange of financial data and instructions independent of a particular network technology or computing platform. It originated by Check Free Corp., Microsoft Corp., and Intriut Inc., and used currently by the financial industry to conduct electronic transactions. IFX (Interactive Financial Exchange) is emerging as the newest Extensible Markup Language-based (XML) incarnation for EBPP and is being championed by the IFX Forum, which is led by major EBPP software makers.

There are major players on both sides of the standards. MasterCard International Inc. has based its widely used Remote Payment and Presentment hub on the OFX standard. On the flip side, Spectrum EBP LLC, a joint venture of Chase Manhattan Corp., First Union Corp., and Wireless Fargo & Co., is actively pushing the IFX standard.[76]

James Van Dyke, , an analyst at Jupiter Communications Inc. in San Francisco, points out: "What this means for business is that they have to prepare for both. If a

[75] R.B.F., "Standards Are Necessity, Not Option," eWeek Vol 18 Issue 1, (2001): p22. Database: Academic Search Elite.
[76] R.B.F.

vendor is late with IFX, it will not help the Customer."[77]

A joint venture of Chase Manhattan, First Union, and Wells Fargo, and Spectrum has begun processing payments and is seeking to get top banks and Billers to use the service. "We believe we'll have seven of the top 10 banks using the switch by the end of the year," said John Perry, chairman and CEO of the Atlanta-based company.

The three owner banks alone represent some 400 million bills a year, which should drive adoption up substantially. Spectrum converts bills using an enhanced OFX platform along with an IFX switch. Each bank, however, is developing its own method for presenting bills to the Consumer.[78]

1.2.4 Customer-care Function

A solid billing system needs to have an architecture that supports e-care functions, the Web-based approach to Customer care that will boost Customer satisfaction and reduce churn. To deliver effective e-care, Biller will need a convergent Customer care and billing system with an architecture that can support e-care functions. The architecture must have:[79]

- Extensible application programming interfaces (APIs) or EAI connectors that enable tight integration between the Customer care and billing engine and a service provider's legacy or new Customer relationship management (CRM) system;

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[77] R.B.F.
[78] Coffey.
[79] www.adc.com

- Customer-centric workflow capabilities integrated with billing applications to facilitate a single view of a service provider's Customers, products, and network;
- Real-time capabilities that will better handle Web-based applications in an e-care environment;
- A rules-based engine that allows service providers to implement new marketing strategies based on information gleaned from Customer interactions on the site faster than with a table-driven system.

Integrating the billing function with other Customer care functions can add value for Consumers and Billers alike. Kansas City Power & Light has offered Customers EBPP and energy-usage information through its Website since 1996. An automatic meter reading system provides daily meter readings. More information is available for commercial and industrial Customers, but the company is adding features for residential Consumers as well. It also is conducting a pilot program with CheckFree that will link with AccountLink, to provide Consumers who use CheckFree with access to additional energy information. Interestingly, Vance found that more residential Customers were paying bills online through CheckFree, at their own expense, than through the company Website .[80]

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[80] Patricia Lloyd Williams, "e-Billing, Right Strategy, Wrong Time?," http://www.pur.com/ECM%20e-billing%20right%20strategy.html (2001).

1.2.5 Simplicity

Successful EBPP rests on "making the bill payment experience easier for members to use through one-click access and a highly-intuitive user interface," argued Edward Woods, of Corillian. Likewise, John San Filippo, of Symitar Systems, said, "online bill payment is a strong product with a good future," in providing "an unprecedented level of convenience," especially for recurring payments. The message access provides quite simple access view and pays the bill.

1.2.6 User Friendly

According to Doculabs, it will be another five to seven years before e-billing sees the kind of popularity that online shopping now enjoys. And it will take a collaborative effort on the part of Billers and service providers to present Consumers with an easy-to-use alternative to mail.[81] Currently, Consumers do not view the traditional payment methods as overly burdensome and would expect any new bill payment procedure to meet or improve on this convenience before switching. [82]

1.2.7 Reliability and Accuracy

Reliability is key to EBPP. Many early systems have been unreliable, or have given the impression of being unreliable. Consumers must trust the accuracy of their electronic bills and feel confident that their payments will be delivered accurately and on time before they will accept EBPP.

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[81] http://guide.darwinmag.com/technology/ebusiness/b2c/

1.2.8 Flexibility

EBPP systems are part of a larger business process. A high degree of flexibility is essential for the EBPP system to evolve within the context of the broader system. There are two types flexibility to the Customer:

- Payment type flexible: Allows Customers to select the type of payment method they prefer. Some Customers pre-authorize Billers to execute Automated clearing House (ACH) debits of their account. Meanwhile other Consumers imitate electronic payments themselves, thereby being able to control when and for what amount their account are debited. A third group of Consumer may use their credit or debit cards to pay bills.
- Access location and time flexible: Customers have access to their bills anywhere, anytime with detailed and historical billing information available at the click of a mouse, enabling them to quickly conduct their own research without having to call a Customer service center.

1.2.9 Privacy and Security

Consumers must be confident that any bill payment process will protect their privacy and funds by securely transferring billing information and payments.

To provided significant Consumer protections against the misuse and invasion of privacy via today's computer systems, there continues to be significant technological challenge. But in order for e-billing to reach healthy adoption levels in the U.S., it is

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[82] www.chicagofed.org/publications/economicperspectives/ 2001/4qepart1.pdf

imperative that we first cure the high-tech bills that weaken our EBPP systems.[83] Managing privacy can increase a Customer's comfort level in using EBPP solutions to help attain greater acceptance. EBPP system procedures must assure the Customer that billing, payment and remittance information generated, transmitted, or stored in the EBPP environment is used exclusively for EBPP processing and associated error resolution. The Customer expects that any other planned uses of Customer-provided payment information will be disclosed and that consent must be granted before such additional use.

Security can limit the risk of using a given EBPP solution and assist to attain greater Customer acceptance. An EBPP solution needs to employ security-rich measures and communicate them effectively. Security requirements vary from solution to solution, depending on the audience and data being used, however, generally take the form of a policy, procedure and a security-rich environment using the most appropriate security technologies. For an EBPP solution to be effective, it must protect the integrity of billing data presented and payment instructions received through the entire process. Consumers and business partners should feel that their transactions are as safe or safer-than those performed using traditional paper processes.

The key technologies that opened this market to the Web successfully eliminated many of the security concerns that surrounded online transactions. There are many additional technological safeguards already in use and soon to be in use in the Consumer

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[83] Roxane Richter, "Security, privacy & e-billing: An unlikely trio," Electric Light & Power Vol. 78 Issue 11, (2000): p40. Database: Business Source Premier.

market today, such as authentication (passwords, electronic cards and fingerprint, retinal and pronunciation ID), cryptography (public key and secret key methods), firewalls and authorization (controls the entrance of users allowed access) and cookie cutters.

- Encryption: billing service uses 40-bit or 128-bit encryption (whichever your browser supports) to make your information unreadable as it passes over the Internet.
- Automatic Sign Out: In addition, USPSeBillPay automatically signs you out of a session if you are inactive longer than 10 minutes. They recommend that you sign out of the site immediately after you are finished scheduling and making payments.
- Payment Activation Code: The code (not an ID or password) is mailed through the U.S. Mail and lets you "unlock" your service. After your service is activated and until you enter your Payment Activation Code, you can only add payees to your payee list. You cannot make a payment until you enter your Payment Activation Code.[84]
- Authentication: Due to the electronic nature of EBPP transactions, authentication of the parties involved is essential.

In a traditional environment, Consumers receiving bills via the mail generally assume that these bills are legitimate if they follow the Biller's conventional format. On the payment side, the legal framework is well established to provide parties to a transaction with protection from fraud largely based on paper-based signatures. When bills are presented online, the Consumer has little way of knowing whether the Biller really issued those bills, unless the Consumer uses the Biller-direct model or has some kind of guarantee of authenticity from the service provider Conversely, the identity of the

[84] Richter.

Consumer must be authenticated to ensure that payment instructions being provided are not being initiated fraudulently.

In an online environment, it is unclear what constitutes "authentication" particularly from a regulatory standpoint. Progress is being made in this area, with the approval of the Uniform Electronic Transactions Act (UETA) and its adoption in more than 20 states. The federal Electronic Signatures in Global and National Commerce Act (the "E-Sign Act"), part of which became effective in October 2000, considers and promotes electronic signatures as an appropriate means of authenticating identity. Over a year ago, press release, the Federal Reserve Board of Governors started to modify Federal Reserve Regulation E, which applies to electronic payments.

1.3. Select a Right Vendor

The last issue for building a solid system is to choose a provider cautiously. We have to make sure to exam the following criteria before deciding to go with the provider:

- Make sure the provider offers a single EBPP switch, so individual links to multiple Consolidators do not need to be built and maintained. Networks like Spectrum, an independent company, facilitates the exchange of electronic bills and payments among many participating EBPP providers-extend the reach and function of EBPP for Billers, providing the potential of a "one-stop" service.
- Make sure the provider offers Customer convenience features. Customers should be able to easily enroll and have the ability to control payment . Also, the Biller's Customer care representatives should be able to view an exact representation of the

Customer's electronic bills to improve the quality of Customer service and shorten response time.

- Make sure the provider offers multiple payment options. Customer should be able to chose between a pre-authorized ACH debt, a Consumer-initiated ACH payment (allowing the bill payer to determine how much to pay and when to pay it), and credit card/debit card payment with real-time authorization.
- Make sure the provider has dedicated implementation and Customer support and there is a person or team dedicated to the Biller's account.
- Make sure the provider offers comprehensive service delivery. EBPP providers should be able to present summary and detailed bills, accept multiple payment options, and provide electronic remittance information in a form that is compatible with the Biller's accounts receivable system.

1.4 Provide Strong Customer Care Service

In order to increase Consumer acceptance, Billers and banks need to work closely together to concentrate on Customer service of billing and payment. The reason is quite simple that the Customers need to trust the process, and trust the company that provides it. A good Customer service is essential to developing this trust; particularly today when both trust and Customer service are perceived as being universally lacking.

The Customers who receive and pay their bills electronically actually increase call center traffic. For example, a leading financial services company found that when they enabled Customers to view their printed statements online without providing deeper

functionality, their support costs actually increased. Customers not only called with questions relating to access and usability issues, but also were much more likely to ask about different types of charges and to dispute charges as a result of the easy and increased visibility of the online statement.[85] So providing a good Customer service through entire EBPP process is very crucial to the successful EBPP adoption. Just image the following scenarios:

- A Customer never receives the reply after he or she send email to Customer service regarding some billing issues.
- A Customer can not find any phone number to call Customer service.
- A Customer calls the Customer service center to have very unpleasant conversation with inpatient or even rude Customer representative.
- A Customer has been put on the hold for more than five minutes.

If a Customer had experience with EBPP Company's Customer service as above described situation, a Customer will not trust this type of EBPP Company and do business with them.

Account Management refers to the set of capabilities and functionality a business must put in place to serve its Customer accounts. A financial institution must capture basic account information, capture a Customer order, allow the Customer to modify and change the order, bill the Customer, and collect payment from the Customer. Variants, such as whether the Customer is a Consumer or another business, or whether the account

[85] Kantin.

relationship is one-time or recurring, change the depth and complexity of the required functionalities, but at a basic level the needs remain the same.[86]

The next issue is to deliver the account management to the Customers. "The Internet is all about empowering Customers to manage their own account. The age of the Web offers significant opportunities for self-servicing and companies will need a new Customer care model.[87] Moran also believes that allowing Customer managing their own account is the strong incentive to attract Customer to EBPP:[88]

> How will financial institution create compelling reasons for their Customers to visit and interact with their Websites? Online account management is the answer and solution. A Customer's account and related billing information is extremely personal, financially significant and time-sensitive. By allowing Customers to conveniently manage all facets related to this information, a financial institution creates powerful incentives for Customers to use its Website .

With EBPP, Customers have access to their bills anywhere, anytime with detailed and historical billing information available at the click of a mouse, enabling them to quickly conduct their own research without having to call a Customer service center.

Easy access to customer service may also be important to keep Customers in the EBPP business. EBPP should not reduce Customer access to human service representatives; Customers often prefer to have human contact when dealing with billing problems. If EBPP requires all inquiries to be answered via electronic media, EBPP may appear less attractive to potential adopters. Additionally, Customers will expect to be able to easily subscribe to, or unsubscribe from, EBPP services. EBPP also has the

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[86] Moran.
[87] Solan.
[88] Moran.

capability to provide higher-order functionality than is available with traditional paper-based bill presentment systems. For example, an EBPP service may allow Customers to track resource usage at any point between billing cycles, to perform what-if analyses based on billing history, and to review a bill with a Customer service representative in real time.

Ideally the site will offer 24-hour, seven-day toll-free telephone support. If it doesn't, Customer can e-mail to Customer service staff at any time and receive or responses by e-mail. On those occasions when Customers call into a service center, the Biller's Customer service staff can look at the same document as a Customer's statement, and a support person can resolve problems more quickly, with fewer iterations. This can significantly speed the searching process and increase Customer satisfaction and retention.

Winning Consumers over through technology-enabled personalization will be another key strategy for successful 21st century banks. "Imagine being able to go to your bank's Website and be greeted by a personal interface that remembers your previous transactions," he says. Along with establishing a strong brand, greater personalization could be one way in which banks defeat the Internet portals that are starting to disinter mediate them from their Customer base.[89]

[89] Maria Bruno, "CheckFree Employs Email Technology," Bank Technology News Vol. 14 Issue 5, (2001): p41. Database: Business Source Premier.

1.5 Aggressive Marketing Approach

Bruno point outs: "It's more of a marketing problem than anything,"[90] "Just because Billers and banks offer EBPP doesn't mean that their Customers are going to use it," says Mitchell Gross, president and CEO of Mobius Management Systems, Inc., a developer of EBPP software. "Billers and banks have to commit to a more aggressive marketing approach to raise Customer awareness of these services. We've heard over and over that the big stumbling blocks to widespread EBPP adoption are Consumer concerns about privacy and safety, but our evidence says the problem is even more basic than that -- simple awareness."[91] Bank need to do a better job at marketing and selling, traditionally two weak areas. Technology can do a lot of wonderful things. The one thing it can't do, however, is sell itself.[92]

I suggested three ways to broaden Customers acceptance through EBPP marketing. Approach. First, to raise Customer awareness of EBPP through effective education and communication about EBPP benefit. Second, to address Customer's concerns about EBPP, such as security and privacy issues. Third, to use incentive to attract Customer to deploy EBPP.

1.5.1 Raise Awareness of EBPP through Education

Educate Customer about EBPP's benefits. "Individuals will change their billing and payment behaviors only if they understand the benefits of EBPP and have confidence

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[90] Maria Bruno, "TowerGroup Charts A Course For Financial Services," Bank Technology News Vol. 14 Issue 3, (2001): p8. Database: Business Source Premier.

[91] "EBPP-Customers Like Concept, but Remain Fuzzy on Details," AFP Exchange Vol.21 Issue 3, (2001): p72. Database: Academic Search Elite.

in the security and reliability of the service," Ms. Conforti said.[93] The most effective way to increase the adoption rate is to run focused marketing campaigns and provide education to teach the benefits of EBPP. This can raise the comfort level and therefore the adoption rate for both Consumers and business partners.[94]

Many of the benefits to an organization will not materialize if Consumers or business partners fail to see the value and not use the service. It is key to communicate the availability and value of EBPP Services effectively to Customer and business partners in addition to providing premium services.

For Consumers to embrace EBPP and other second-generation banking technologies, banks must take the time and expense to educate them about its benefits, and create a compelling enough message to spur people into participating.[95]

Substantial Consumer education efforts will be required for the successful implementation of EBPP. Building trust in the transport mechanism will be key to success, and the inroads being make in e-commerce could have a considerable positive impact on the acceptance of EBPP. For example, you can set up lobby PCs with your Internet banking program running in a demo mode, or run internal sales contests to boost sign-ups.

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[92] Doocey.
[93] Steve Bills, "MasterCard to Offer a Hub for EBPP," American Banker Vol. 167 Issue 1, (2002): p10. Database: Business Source Premier.
[94] Schooler.
[95] Doocey.

1.5.2 Address Customer's Concerns about EBPP

Address Customer's concern and build Customer's faith in EBPP. Customers must have faith in EBPP. One of the major challenges to EBPP adoption is a lack of Consumer support behind it. EBPP will be adopted by Consumers only if they believe it is more secure, convenient, affordable, and easy-to-use than writing a check and putting it in the mail.[96]

The key to the successful implementation of electronic billing is frequent communication with Customers, both during development of an EBPP system and after a billing and payment process is in place. Strong communication builds awareness of Consumer adoption. Follow-up Communication provides an opportunity to measure the success of an EBPP program.

Privacy of information is one of the most critical issues in an online environment. This is made more difficult by the fact that EBPP providers may be subject to different rules and requirements protecting Consumers' information, depending on whether the provider is a financial or no financial institution. To make matters more complex, state privacy laws vary greatly in terms of the protection provided to Consumers.[97]

A solid privacy policy needs to be in place with any EBPP solution and must be communicated effectively. The greater the comfort level, the more likely Customers are to use the service and have a satisfactory experience.[98]

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[96] Marquardt.
[97] Singh.
[98] Lynn Koller, "New Tools Power Personalization Push., Bank Technology News Vol. 13 Issue 8, (2000): p22. Database: Business Source Premier.

Prominently display security information to educate Customer is another way to communicate with the Customer. Most Internet software today can be equipped with a certain level of encryption. It would increase Customer's comfort level with security if information about the encryption level available to its Customers. Also, there are certain companies whose sole purpose to provide security and encryption in Internet software. By prominently displaying some kind logo or image that Customers can relate identify with the company who provided the encryption software, it may be possible to make the Customer feel safer. One example might be to show the logo of RSA Data Security, Inc., a company provides the encryption software used by Netscape. Now people may not know what is RSA Data Security, or some other names, because we did not educate Customer enough about these information. We need to explain the security level and to make it accepted by the Customer.

Most e-Billers, like USPSeBillPay, prominently post their privacy and security policies for public use and consumption on their Website . For instance, on the TransPoint Website , it states: "We respect your privacy. TransPoint never sells or provides a user's personal information to third parties for any purpose, other than for the express purpose of delivering the TransPoint service. TransPoint may aggregate information on our entire Customer base for analysis purposes, but a user's individual personal information will never be sold or provided to any third party."[99]

[99] Richter.

1.5.3 Using Incentives to Attract Customer

Even with the best EBPP solutions, it may often be necessary to provide incentives to increase the adoption rate.[100] Recent GartnerGroup research shows that clear financial incentives are a primary reason for Consumers to sign up for e-billing, Ms. Litan said.

"The mail-based billing system works pretty well for most people," Capachin says. "There's just not enough incentive for them to change. And then, when you start charging, people say, 'Why bother?"[101]

"Billers have a lot of motivation to do this, but it's not clear if Customers will accept it without some incentive," Litan says. A Gartner Group survey of 40,000 households showed that today, nearly 50% of adult bill payers simply don't want to use EBPP. Unless Billers provide monetary incentives. The adoption rate will continue to be slow, Litan says. "And they had better do it soon because they won't get anywhere until they do," Schwartz says.[102]

One approach may be to price paper presentment and payment more directly so as to encourage Consumers to utilize electronic alternatives. An alternative potential solution may be to attract Consumers to adopt electronic payments through financial incentives.[103]

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[100] Schooler.
[101] Murpy.
[102] Karen D. Schwartz, "Online Billing Slowly Gains Momentum," Earthweb IT Management (2000).
[103] Singh.

EBPP providers could increase Consumer acceptance by reducing or eliminating the charges associated with EBPP.[104] In addition, almost half of them said that saving postage was a motivating factor, and about a third said they paid bills online because it cost little or nothing. Consumers who have switched to EBPP have seen that they can save the time they spend paying paper bills and save the money they spend writing checks and stamping envelopes."[105] But time and incentives by Billers will help convince some Consumers to pay bills online.[106]

1.6 Bank and Biller Need To Be Proactive on EBPP

In order to increase Consumer acceptance, banks and Billers need to work closely together to be proactive on EBPP. From most of the experts and research, we know that the Customers preferred Bank as the Consolidator to be one-stop shopping on EBPP. Bank need to speed up their development of online billing systems and become bill Consolidators. Also the study shows that the Biller needs to present more EBPP systems to convince Customer, so the Customers would be able to realize the benefit from many Biller's EBPP system.

The Bank has very important roles in broadening EBPP acceptance. "One message seems loud and clear across industry lines in adopting EBPP, Consumers prefer to pay their bills from their bank's Website ," says Gross. "When we asked which payment method people used or would prefer to use, half of the respondents chose going

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[104] "EBPP Strategies for Telcos," (2001).
[105] Coffey.
[106] Schwartz.

to their bank's Website . This format makes a lot of sense to people because their Bank offers payment consolidation and is a trusted source."[107] Citing Yankee Group research, Perry says that 72% of Consumers say they want to get their bills from banks rather than other sources. Oct 22, 2001 Mobius's revealed over half of respondents from a survey choosing to pay bills online at their bank.

"For EBPP to fly, financial institutions need to improve the technology and convince Customers of its value. Banks have the trust with Consumers," said Jeanne Capachin, an analyst with Meridien Research. "So they're in a really great position to capitalize on EBPP and extend the franchise. Banks should be in the drivers seat."[108]

In the annual Technology Advanced Family Survey, which measures Consumers' experiences with more than 100 products and services, 55% of the respondents of Consumers said that their Bank was their preferred central aggregation site.[109] "Clearly, banks hold a trusted position with their Customers."[110] "Banks and credit unions are well positioned to encourage both Biller and payer adoption, while creating a significant transition in billing practices as they convert their own bills and statement to electronic formats," according to Beth Robertson, senior analyst in Tower Group's e-Banking research service.[111] Consumers will want to do electronic billing through a bank's

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[107] "EBPP-Customers Like Concept, but Remain Fuzzy on Details., AFP Exchange Vol.21 Issue 3, (2001): p72. Database: Academic Search Elite.
[108] Coffey.
[109] Bills.
[110] Lynn Koller, "New Tools Power Personalization Push," Bank Technology News Vol. 13 Issue 8, (2001): p22. Database: Business Source Premier.
[111] Towergroup, "EBPP Posed for Growth, Tower Group Reports," Bank Systems & Technology Vol. 38 Issue 7, (2001): p12. Database: Business Source Premier.

Website , because "the Bank is the institution they can trust when moving their money or handling their money."[112]

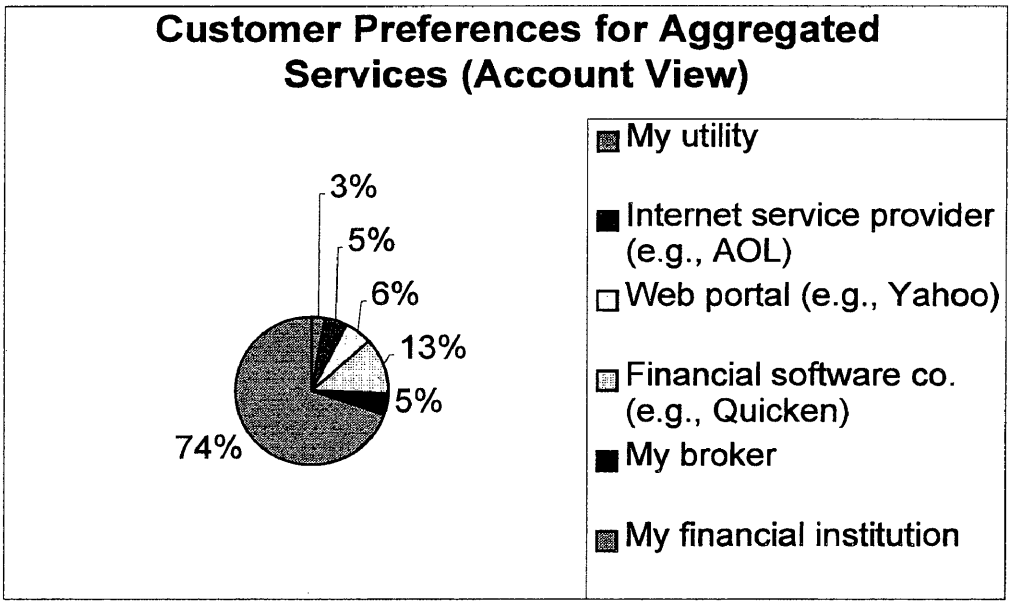
Other observers concur. "Consumers want to be able to manage their bills all in one location and they want to be able to get that service through a financial service institution," said Murali Chirala, president and cofounder of San Jose, California based Cyberbills, an ASP that allows Customers to view and pay all bills online, regardless of origin.[113]

Gartner's research, based on all Internet users (127.5 million), found out: 75% of Internet users would like to use an aggregated "account view" service, while 70% would like an aggregated "transaction" service. Their preferred providers: 74% of account viewers and 77% of transaction service performers prefer their financial institutions. Most aren't willing to pay for the service.

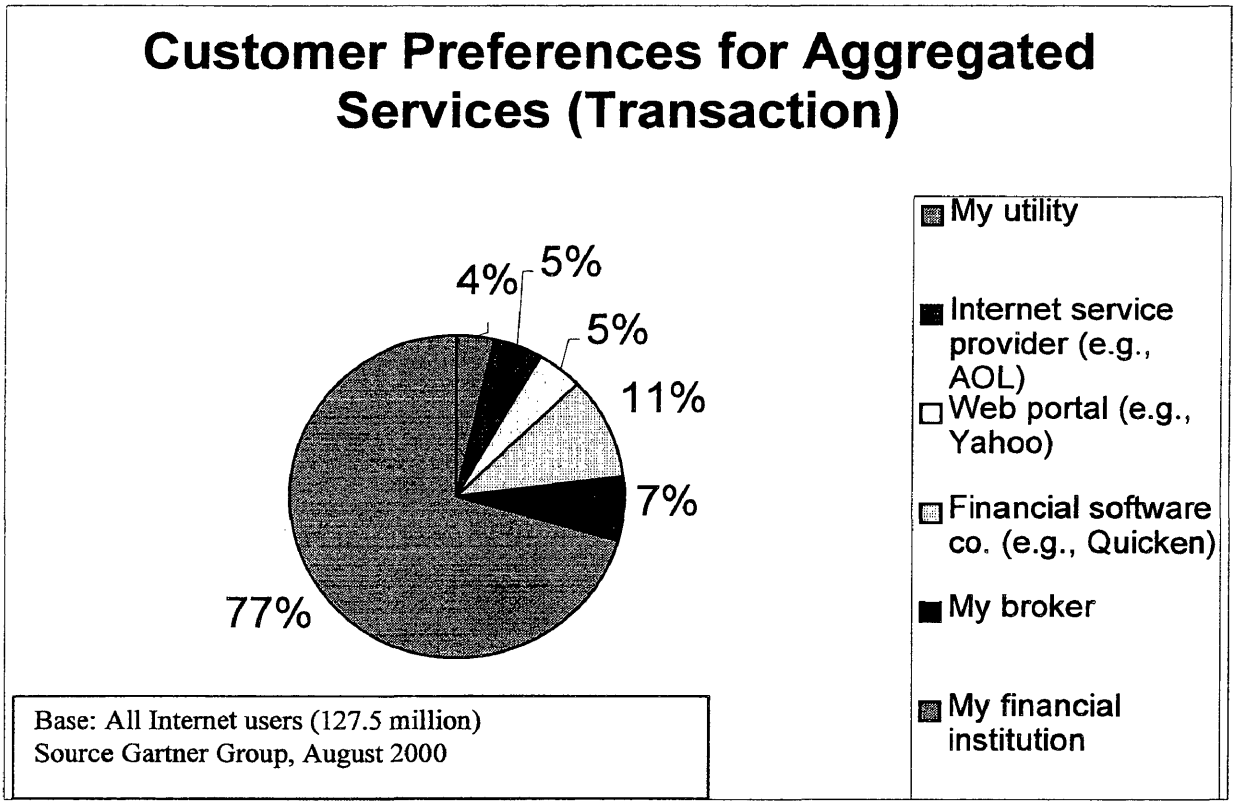
In next page, there are two diagrams from the survey question: "Which provider do you prefer?"

[112] Roth.
[113] Coffey.

1. View all accounts and bills with a single mouse click



2. Perform all financial services from single site with single log-on[114]



Integration of bill payment within EBPP is a natural fit for financial institutions such as credit unions and banks, which have strong relationships with both high-volume Billers (such as utilities or telecommunications companies) and payers.[115]

"The acceleration in EBPP activity among financial institutions will provide stimulus to the electronic presentment market," notes Beth Robertson, a senior analyst in TowerGroup's e-banking research and advisory service. "Credit unions and banks are well positioned to encourage both Biller and payer adoption."[116] Most Consumers who

[114] Merrick, Bill, "Financial Institutions Will Drive EBPP," Credit Union Magazine Vol. 67 Issue 8, (2001): p18.
[115] Merrick.
[116] Merrick.

pay bills online prefer to get their account aggregation from their bank, rather than from their Internet service provider or another site, according to a survey by Yankee Group.[117]

In the annual Technology Advanced Family Survey, which measures Consumers' experiences with more than 100 products and services, 55% of the respondents of Consumers said their Bank was their preferred central aggregation site.[118]

If the Bank does not have enough resource to involve it in EBPP by itself, the Bank could form kind of partnership, or outsource EBPP but put the Bank as the front end to comfort the Customers. In the InsightExpress.com survey, 40% of the Customers surveyed said that they would consider using a bill payment system offered by their Bank They may allow for some form of partnership. If one of the larger banks were able to license their software or provide a systems certification to the other non-Bank CSPs, the level of Customer comfort with the process might rise.

For credit unions that want to enter the Web banking arena but perceive it as costly and difficult, another key trend should be top of mind: application service providers. Instead of operating and managing the online banking solution in house, the ASP model enables you to outsource the function entirely to a third-party system supplier. More and more credit unions are choosing the ASP option for Web services for several reasons, including faster time to market, lower start-up costs, and the ability to minimize some technical personnel needs. Outsourcing your online banking solution also

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[117] "Canada's Top Billers and Consumers Ready for Online Billing, Optus/Angus Reid Research Finds," Toronto, (2000).
[118] Bills.

enables you to transfer the high costs and headaches associated with Web security to your system provider.

Billers also need to be proactive on EBPP in order to provide EBPP service rather than waiting for the Customer adoption rate going up, and then acting on EBPP. Otherwise, it could be end up vicious circle that blocks EBPP's development. David Fiacco says that "Consumers will pay more bills online if there are more bills to pay online."[119] Bach also indicated: "The classic problem with EBPP is that Billers are not willing to spend money to present bills online until more people are using the service, and people are not inclined to adopt it until more bills are available, according to Richard K. Crone, a vice president at Dove Consulting.[120]

2. Case Study of YourAccounts.Com

I discovered my company, DST, has one affiliated company DST Output Technology Solution, who has an EBPP division called YourAccounts.Com. It has provided an EBPP service successfully since 1997. This could be one of the examples that demonstrate above finding about broaden Customer acceptance.

YourAccounts.Com is the only Biller Payment Provider (BSP) delivering proven electronic billing, invoicing, and statement solutions for B2B, B2C, and online investor communications. Customers include brand-name companies such as Federal Express, Ford Motor Credit, AT & T Wireless Services, and E*TRADE. YourAccounts.Com is

[119] Murpy.

currently presenting more than 14 million electronic bills and statements monthly, with contracts in place representing more than 2.5 billion electronic bills, invoices, and statements annually.

As the e.Commerce division of DST Output Technology Solutions, the largest statement processing company in the country, YourAccounts.Com combines specific Internet development expertise with more than 30 years of billing and statement experience. YourAccounts.Com has 27 live implementations in place powering electronic billing, invoicing, and online investor communications solutions across multiple industries today including telecommunications, wireless services, video services, mutual fund, brokerage, shipping, Consumer lending, and more.

YourAccounts.Com major EBPP Customers included in the following companies:

- AOL Time Warner
- Avaya
- Cingular Wireless
- E*TRADE
- FedEx
- Ford Motor Credit
- KeySpan
- One Group
- PBHG
- Potomac Electric Power Company (PEPCO)
- Save Daily
- State Street Global Advisors
- Verizon Wireless Messaging Services
- Working Assets Long Distance

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[120] Bach.

YourAccounts.Com provide EBPP complete service through its product e.bill.anywhere 3.0[121] and Informa. YourAccounts.Com also focuses on Consumer Adoption, and believes that it is the key to successful E-Bill Solutions.[122] They understood what Consumers want from electronic billing and they understood why the Customer does not embrace EBPP. The company provides the adoption of EBPP with marketing strategy to help Consumer set the state to make it happen. This is why the company can be successful in EBPP business.

2.1 YourAccounts.Com Delivers What Consumers Need

e.bill.anywhere 3.0 is an outsource solution built on a scalable, secure platform enabling companies to present recurring bills and invoices, and accept payments through a friendly, Web-based environment. The product has specific capabilities to support the needs of both Business-to-Consumer (B2C) and Business-to-Business (B2B) markets. The objectives of e.bill.anywhere 3.0 is to provide robust, comprehensive electronic bill presentment and payment (EBPP) and electronic invoice presentment and payment (EIPP) solutions to Billers with a single point-of-contact. The product guarantees reliability when handling large-scale electronic billing processes.

[121] www.YourAccounts.Com
[122] www.YourAccounts.Com

e.bill.anywhere 3.0 is the underlying technology platform that supports the complex data processing requirements associated with B2C and B2B solutions, including:

- Data extraction, parsing, and translation
- Enrollment and authentication
- Presentment and payment
- Customer care
- Scalability and Security
- Fully redundant data centers

The B2C and B2B solutions leverage the e.bill.anywhere 3.0 platform to provide functionality each vertical market needs. For example, Statement Segmenting allows large wireless/telecom bills to be parsed into multiple web pages making the e-bill more valuable to your Customers by categorizing the data, improving performance, etc.

The product architecture provides a N-tiered, multi-layered approach encompassing physical, procedural, networking, operating, database, and application logic strategies all working in unison to provide the best security available.

Security features include: retrieval of forgotten passwords, lockout based on failed logins, access levels by feature. And security controls include: dedicated lines between Customers and YourAccounts.Com for transmission of high-volume statement data, 128-bit SSL encryption (Secure Sockets Layer) for all other data transmissions, database encryption of private information.

Following are e.bill.anywhere 3.0[123] provide benefits to the Consumer's seek while eliminating their concerns: (I added the last column with factors of CAM)

Consumers Need	Product Provides	Biller Provides	Related Factors of CAM
To Know the e-bill service is available		✔	Observability
Guaranteed secure transactions	✔	✔	Risk Usefulness
Easy sign up/cancel of the e-bill service	✔		Ease of Use
e-billing service offered for free		✔	Observability
Toll-free number on e-bill Website	✔	✔	Easy of Use
Online Customer service features	✔	✔	Easy of Use
Clearly marked contact info & FAQs	✔	✔	Easy of Use
Access to multiple Consolidator sites	✔	✔	Easy of Use
Simple, easy-to-use interface	✔		Easy of Use
E-mail notifications	✔		Easy of Use
Flexible payment options	✔		Easy of Use Usefulness
To know their privacy is protected		✔	Risk

2.2 YourAccounts.Com Accelerates Consumer Adoption

YourAccounts.Com delivers jump-start marketing plans that can be customized for the industry-specific needs to rapidly move the Consumers to the online billing solution. The Consumer adoption program include:

- A Website audit designed to ensure the site utilizes the "Best Practices" indicated by the Customer.
- Sample marketing plans that incorporate learning from others' successes and Consumer input to create the strategic marketing vision.

[123] www.YourAccounts.Com

- Knowledgeable and experienced EBPP marketing experts that help the Consumer to create customized marketing plans to drive Consumer adoption.

2.3 YourAccounts.Com Provide Tools To Help Consumer's EBPP Adoption

e.bill.anywhere Consumer Adoption Program provides the Customers with the tools necessary to effectively market their solution and achieve the best results in the market.

- Determine enticing incentives that motivate adoption
- Deliver the features that Consumers think important
- Outline the benefits and key messages for the Customer segments
- Overcome Consumer concerns about doing business over the Internet
- Develop a sharp, hard-hitting marketing campaign that drive Consumers to use e-bill
- Manage Consolidator connections ensuring the Consumer relationship is protected while maintaining control over corporate data and brand
- Position the services to take full advantage of one-to-one, interactive marketing tools available

Let me use YourAccounts.com's own words to conclude their success of EBPP: "Consumer adoption is the key to successful E-Bill solution." YourAccounts.Com's success illustrates that if we understood what Consumer' needs and why they haven't accept EBPP, we could broaden Customer acceptance by provide useful, ease of use, secure, and comprehensive EBPP model and EBPP system.

CHAPTER V. CONCLUTION

This paper explored the factors relating to low Customer acceptance, according to a review of the EBPP literature and TAM theory. Four factors have been suggested as the Customer Acceptance Model (CAM). These are usefulness, easy of use, observability, and risk. Furthermore the paper studied the related elements, and suggested the solution based upon the following elements: Customer low awareness, lack of motivation, lack of incentive, lack of trust and received and real risk, uncertainty about security and privacy, inaccuracy and unreliability of transactions, difficulty of use, Bank's slow reaction, legal issues, standards, and poor Customer service

Six solutions to broaden the Customer acceptance were then discussed. These are: chose a right model, build a solid EBPP system, chose a right vendor, provide good Customer service, market aggressively, and Bank and Biller should be proactive on implementing EBPP. YourAccounts.Com provides a successful case study of broadening Customer acceptance of EBPP.

This thesis, however, provided a preliminary exploration of literature and practice of EBPP. Future research should empirically evaluate and study the strengths of the relationships among the factors or elements identified in this paper. For example, how to rank the factors according their importance? What is the level of importance among these elements associated with the four factors? How does technology affects Customer acceptance in EBPP? Through comparing Davis' Technology Acceptance Model (TAM) and Rogers' Diffusion of Innovation Model, one can arrive at the strength or weakness of

each model. Why is Customer Acceptance Model (ACM) more suitable for EBPP environment? What is the relationship between bill characteristics and Customer acceptance, and how does that impact Consumer EBPP model preferences? What are the most important EBPP requirements for Business Customers? What are the most important EBPP requirements for Consumers? How do the business EBPP requirements and Consumer EBPP requirements influence one another?

This study concludes with a brief consideration of the future of EBPP.

The concept of paying bills online should continue to grow and gain acceptance among the population as technical solutions to problems become more prevalent in society. Just as ATMs replaced tellers for most banking functions in the 1980s and 1990s, EBPP would replace paper system in the future. As more technically accepting generations grow and technology in general become more accepted in society, technical solutions supplanting non-technical solutions will occur more often. However, firms involved in an EBPP process must accelerate this process by working together to educate their target markets and provide Customers with the services they are asking for.

As Consumers gain additional confidence in EBPP, and as the number of Billers and the mechanisms for accessing EBPP increase, its market is expected to expand exponentially. The bill presentment industry is in a growth stage, and is expected to reach its critical mass within the next 5 years:

- According to NACHA, volumes of EBPP are expected to grow rapidly up to $4 trillion in 2005.
- More than a quarter of all bills be generated and viewed on the Internet by the year 2004, according Gartner Group.
- Killen & Associates has estimated that 60 billion repetitive bills are generated annually worldwide, and that by 2005, one-third of all repetitive bills will be presented through the Internet.
- Business-to-business e-commerce is expected to grow to $1.3 trillion by 2003.[124]
- Bill consolidation services to "be launched on a large scale in the near future."[125]

[124] Northern Trust.
[125] Lafferty.

Appendix

1. **EBPP Organization**
2. **EBPP / ESP News and Information**
3. **Research Organizations**
4. **Industry Associations**
5. **EBPP Players**
6. **Glossary**

1. BPP Organization

In the United States, NACHA *(National Automated Clearing House Association)* and BITS *(Banking Industry Technology Secretariat* have undertaken to establish a set of electronic bill presentment business practices. This initiative is documented in *Electronic Bill Payment/Presentment Practices*, available at the Council for Electronic Billing & Payment (CEBP) site.

About the Council

The Council for Electronic Billing & Payment (CEBP) promotes electronic billing and payment services for Consumer and business applications. CEBP members cooperate on education and standards development to further adoption of electronic billing and payment.

- NACHA (*National Automated Clearing House Association*)
- BITS (*Banking Industry Technology Secretariat*)
- IFX (*Interactive Financial Exchange*) Forum
- W3C (*World Wide Web Consortium, which "owns" XML standards*).

2. EBPP / ESP News and Information

BPPCenter
An Internet Bill Payment & Presentment education and news site run by the Internet Research Group (IRG).

Billing World
Billing World Magazine is written and edited for audiences ranging from technical to marketing to professional services. The Billing World site provides an overview of next-generation technologies and new convergent billing service offerings, and includes a vendor product and service locator, calendar, and current news.

Ebilling.org
An educational site developed by the Council for Electronic Billing and Payment as a resource for billing corporations.

Epaynews
Provides an informative overview of developments in ePayments mechanisms within the eCommerce field. Strategic areas in the Resource Center focus specifically on banking, merchants, business payment and payment technologies, with a general section on eCommerce.

3. Research Organizations

Doculabs
An independent industry analyst firm specializing in e-business technologies, including EBPP. Doculabs is guided by the principle that both end-users and vendors benefit from impartial feedback about product strengths and limitations to make both strategic and tactical business decisions.

Gartner Group
A leading provider of business technology research, Consumer and market intelligence, consulting, conference, and decision-making tools.

Killen & Associates
A leading market research company that focuses on the impact of the Internet, specializing in electronic bill presentment and payment (EBPP), electronic statement presentment (ESP), and multi-channel e-business (MCEB).

Yankee Group
An internationally recognized research and consulting services group focusing on the Internet, electronic commerce, communications, wireless mobile, computing, and enterprise applications.

4. Industry Associations

BAI (Bank Administration Institute)
The leading professional organization devoted to improving the competitive position of banking companies through strategic research and a range of educational offerings.

BITS (Banking Industry Technology Secretariat)
The technology group for The Financial Services Roundtable-created to foster the growth and development of electronic banking and commerce in an open environment.

NACHA - The Electronic Payments Association
U.S. national regulatory body that establishes the standards, rules and procedures that enable depository financial institutions to exchange ACH (Automated Clearing House) payments on a national basis.

5. EBPP Players

Meridien Research divides EBP solution providers into three categories: application vendors, transaction vendors and comprehensive solution providers. Application vendors including Avolent, Edocs, Group 1, Intelidata and Iplanet help Billers to go online. Transaction vendors such as Alltel, EDS, MastCard, Spectrum, Billserv, YourAccounts and Paytrust facilitate the movement of funds. Finally, checkFree, Metavante, and Princeton eCom are classified by Meridien as comprehensive solutions providers.

BillingZone provides outsourcing services supporting EBPP processes from invoice generation to payment authorization.

Bottomline Technologies provides both outsourcing services and software for bank- and corporate-hosted EBPP systems.

Billserv.com serves as an intermediary between Billers and bill-presentment aggregators, such as CheckFree and TransPoint. Companies could outsource to Billserv.com to have it set up their Internet billing, then provide that information to billing aggregators. Billserv is targeting midtier companies that have been largely ignored. B2C play.

Checkfree is a leading provider of financial electronic commerce services and products, including electronic billing and payment solutions. CheckFree provides online billing and payment services to 5.6 million Customers of over 400 sponsor organizations such as Bank of America, First Union, Merrill Lynch, Morgan Stanley dean Witter, Navy Federal Credit Union, PNC Bank, Quicken.com, Yahoo!, and the U.S. Postal Service. ==Push and Pay avian Scheider Jan3, 2002

Cyberbill: runs the Consolidator sites StatusFactory.com and Apfactory.com. Like CheckFree, it will need to prove that it has the software to compete with the big boys in B2B bill management. B2C play.

Derivion Corp. is an e-billing solutions provider, the company's main product is called "inetBiller." The company claims to have a billing site up in only 30 days. Has strategic alliances with First Union, CheckFree and Intuit. B2B and B2C.

EDocs develops, markets and supports a software platform for Internet billing and Customer management. Its flagship product is called BillDirect. B2C play.

Epost.ca is Canada Post's web-based service, offering a single location for Canadian Consumers and businesses to send and receive mail, pay bills, and access services and information in a private and secure electronic environment.

i-Plant Biller Expert, B2B Edition is www.iplanet.com, is a Java-based EBPP system that supports all processes from invoice, initiation to payment authorization. Messaging Direct Provides software to facilitate www.messagingdirect.com the secure delivery and e-processing of statements and bills. Also offers bill presentment solutions.

Metavante with more than 3,500 clients, Metavante Corporation is a leading financial services enabler, offering Customer relationship management, electronic banking, electronic funds transfer and card solutions, electronic presentment and payment, financial technology services, private label banking, and wealth management. Headquartered in Milwaukee, Wis., Metavante is a subsidiary of Marshall & Ilsley Corporation (NYSE: MI).

Mobius Management Systems Inc. is The company's electronic document warehouse products store and integrate documents and transactions of different formats on a wide variety of computing platforms and electronic storage devices. Click N' Done is Mobius' big entry into the EBPP marketplace. B2C play.

Paytrust offers one-stop bill payment and management. Company says it can deliver 100 percent of a Consumer's bills through a single, secure Website that lets the Customer make direct payments from his or her pre-existing checking account. B2C play.

Princeton eCom customized turnkey solution offers total management of the e-billing process, expediting payments, minimizing billing costs and integrating with existing financial accounting systems. The main focus is on midtier Billers, but it also works with large companies. B2B and B2C.

Source: Deutsche Banc Alex.

6. Glossary of Terminology

ACH - Automated Clearing House (ACH) is a method in which financial institutions exchange payments and remittance information electronically on behalf of Consumers and businesses, and the government makes payments to beneficiaries and vendors. Payments made over the ACH Network include Direct Deposit of payroll, expense reimbursements, pensions, Social Security benefits and tax refunds, automated payments of mortgages, car loans and insurance and utility bills, business-to- business payments, and government payments to contractors.

Activation - The process where a Customer selects a Biller account for bill presentment, agrees to Biller terms and conditions, and establishes the account within the Biller's and the CSP's systems.

Agent - An individual or business, other than the Customer or Biller, that receives and originates bills or notices on behalf of the Customer or Biller.

Aggregator - A Customer service Provider that aggregates bills and bill summaries from Consolidators, Biller Payment Provider s and Billers for viewing by the Customer.

Authentication - A reliable process that determines the identity of a party.

Bill/Invoice - An electronic or paper document sent to a Customer associated with a payment due.

Bill Consolidator - A Bill Service Provider that consolidates bills from other Bill Service Providers or Billers and delivers them for presentment to the Customer service Provider

Bill Detail - Information from a Biller that provides invoice line level information to a Customer. This may include specific billing event information such as credit card charges, telephone calls, or kilowatts used. Also: Invoice Detail.

Bill Summary - The summary information from a Biller that is essential to a Customer to understand what is owed. Typical information may include; Amount Owed, Date Due, Biller, Biller's Account Number. Also: Summary Record, Summary, Invoice Summary, Invoice Summary Record, and Bill Summary Record.

Bill Notification - A process whereby a Customer is notified that an electronic bill is available for review and payment.

Biller - A company or organization that sends a Bill or Statement, usually a request for payment for a product or service, to a Customer.

Biller Payment Provider (BPP) - An agent of the Biller that accepts remittance information on behalf of the Biller.

Biller Payment Provider (BSP) - An agent of the Biller that provides an EBPP service for the Biller.
Check & List - Multiple payments on one list with a single check attached for the total- no scannable remittance document attached.

Commercially Reasonable Time Frame - A period of time generally considered acceptable for a process within a given industry, taking into consideration the circumstances of the parties to the transaction.

Commercial Relationship - An agreement between parties to do business together for the purpose of EBPP. It may or may not include a contract.

Consolidator - A Biller Payment Provider that consolidates bills from other Bill Service Providers or Billers and delivers them for presentment to the Customer service Provider.

Credit Transaction - A payment transaction that pushes funds from the CSP or CPP to the BPP.

Customer – An individual or entity that receives goods or services, which are subject to bills or statements. The typical receiver of a bill.

Customer Account Information - A detail field within Remittance Information, usually the account number assigned to that Customer by the Biller. This can also be used to mean the Customer's billing name and address as well as any other information that the Biller uses to identify the Customer.

Customer payment Provider (CPP) - An agent of the Customer that originates payments on behalf of the Customer.

Customer service Provider (CSP) – An agent of the Customer that provides an interface directly to Customers, businesses or others for bill presentment. CSP enrolls Customers, enables presentment and provides Customer care, among other functions.

Debit Transaction - A payment transaction authorized by the Customer, originated by the Biller that pulls funds from the Customer's account..

Demand Draft - A single payment check without a scannable remittance document attached. This draft may be drawn on the Customer's account or the CPP account.

Electronic Bill Presentment and Payment (EBPP) - The electronic presentation of statements, bills, invoices and related information sent by a company to its Customers, and corresponding payment for goods or services.

Electronic Payment - Any non paper-based type of payment.

Email Address - A digital address usually belonging to the Customer.

Enrollment - The process associated with a Customer establishing a relationship with a CSP.

IFX (Interactive Financial Exchange) is emerging as the newest Extensible Markup Language-based incarnation for EBPP and is being championed by the IFX Forum, which is led by major EBPP software makers.

Interactive Financial Exchange (IFX) - A standard for the exchange of financial data and instructions independent of a particular network technology or computing platform. It builds on previous industry experience including OFX and GOLD, which are currently implemented by major financial institutions and service providers to enable electronic exchange of financial data between their Customers and them. **OFX** (Open Financial Exchange) is the financial transaction standards originated by Check Free Corp., Microsoft Corp. and Intruit Inc. and used currently by the financial industry to conduct electronic transactions.

Payment - A vehicle to effect the transfer of value. Typically, a transfer of funds from one Bank depository to another, but may also transfer funds to or from a debt instrument, such as a credit card. Also Funds Transfer.

Payment Concentration - The process of that takes payments from multiple banks and payment networks and concentrates them into a single format (eg. lockbox, EDI, and ACH).

Payment Due Date - The date by which the Biller requires payment from the Customer.

Payment Instructions – The Instructions for routing/posting the payment (e.g. into the Bank account that the funds should be deposited).

Payment Instruments - The instruments required to initiate a payment (e.g. checks, credit cards, debit cards).

Payment Method – A method used to facilitate and process payment. Includes

Payment Posted Date - The date by which a payment is posted to an account.

Payment Systems - A system or network used to process payments (e.g. ACH, debit card and credit card networks).

PFM - Personal Finance Management or Manager - Personal Finance Manager Software used by a Customer to manage his/her checking account, etc. Often includes categorization, reporting, and graphing capabilities.

Registration - The process of a Biller's establishing a relationship with a BSP.

Remittance Information - The information required by the Biller to effectively post Customer bill payments.

Remittance Method - The method used to deliver funds and remittance information.

Service Initiation - The overall term encompassing registration, enrollment and activation.

Statement/Notice – An electronic or paper document sent to a Customer/agent that does not have a payment due associated with it.

Thick Consolidation - A type of third party consolidation where both the bill summary and bill detail are available on the Consolidator's web server.

Thin Consolidation - A type of third party consolidation where the bill summary is available at the

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