Cashless Humans with Electronic Payments

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Abstract

This paper discusses about how the electronic payments made humans easier in making the payments. It also discusses about the different payment types and different types of cards that exists in the current world. Considering the todays generation, people want to finish their payments/transactions within small instance of time intervals. Customer could even transfer the money to their loved ones from any part of the world. I am going to explain how banks make money from these electronic payments. What different types of electronic payment systems that exists in the current world. How does the bank transfer the money to the recipient's address? What details do the recipient need to provide to the sender while transferring the money? Several different digital wallets that are existing, how do they make the payments easier and faster. Do people use credits cards more? How do the credit cards benefit the customers? On what basis does the banking sector approve a credit application? How do bank attract their customers to apply for credit applications? Why is the credit score really that important? Is there any credit bureau which has access to each customers data and their banking score? How many different bureaus have access over the credit reports? Do credit score have any impact on the annual percentage rate. What is annual percentage rate and how exactly is the rate calculated. Is the APR same for every customer who holds the credit card? How do the APR vary from person to person? This paper covers all these factors which are a part of the electronic payment system.

Introduction

Electronic payments are simply known as payments that we make electronically while purchasing some required products and services. These types of payments allow people to purchase clothes, accessories, gadgets through your favorite online store and finish the payment through online mode which is also known as electronic payment (n.d.) This is being used as the most preferred mode of payment in today's world. Electronic payments are super easy, fast, and flexible. We could use this mode even to pay our bills, purchase movie/flight tickets, placing online order on any of the e-commerce websites. There is a background system server that helps in delivering the payment to a respective person's bank account. Even this is pretty safe, secure, and expensive too (AvidXchange, 2021). There are lot many payments options for the customers like cash, check, money order etc.,

But then compared to all the other modes of payments this electronic payment system is more convenient because you don't need to carry a check or carry any physical cash with you all the time wherever you go. Electronic mode of payment is growing day by day as everything in the world is becoming electronic.

Various modes of Electronic Payments

Mostly commonly used payments are Card payments, Bank transfers, Digital/E- wallets, ACH (Automated clearing house), Physical Checks etc., These would be a breakdown for the different electronic payments that are used globally in the today's world (Stampli, 2021).

Card payments:

There are two different types of cards that we make use for payment. One is the debit card, and the other is the credit card. Debits are the cards that we could make use of them when we have sufficient funds available in our bank account. Credits are the cards that are preloaded credit line with few amounts of money basing on which the customers bank has approved the credit limit. These are the most and popular type of payments that are being used by every single individual in today's world. Card payments offers a wide variety of deals for making use of them. They attract customers with different promotions and cashbacks. Each and every bank has different type of credit cards, and they have variations in their annual percentage rate (APR). There are few advantages and disadvantages of making use of these card payments. These are pretty small and easy to carry them everywhere within pockets. These cards come with fraud prevention and built-in security. Even though if the customer is unaware of the card, he/she could get the replacement of new card with no loss of money. There are few merchants, who charges the service fee when the purchase is made on their website or retail store. Few businesses, they need to pay processing fee for the cards.

Bank Transfers:

Bank transfers are the way to transfer funds from one bank account to another bank account from anywhere in the world. In this mode, transfer of money is fast, secure, and reliable. In order to transfer funds, customers are supposed to know the recipient's details like account number, routing number, branch address, swift code, bank address. These helps in verifying the account holders exact and accurate details and then only after verifying a person could transfer the funds. If the details don't match to the recipient's details, it pops up a notification as transaction is declined.

There is a timeframe for completing the bank transfer. A customer could make a same-day transfer, next day or can set a preset-date for transferring the money. But this functionality typically changes from bank to bank. If the customer needs an immediate transfer of the funds to their friends/family members bank account, then probably sender's banks charge some portion of fee for the immediate transfer. If a customer needs the transfer of funds as per the regular bank timeline, there wouldn't be any charge for the transfer, and it should typically take three to seven business days. Before making a bank transfer, customer needs to make sure that we have sufficient amount of funds available in their bank account (Lewis, 2021).

Digital/E-wallet:

Digital wallets are a kind of secure wallet's that holds user money and data and could be used as the payment method for various e-commerce websites and retail stores. People holding an account with these digital wallets can make use of the wallets to simple and securely purchase the necessary things. Let's say when a person visits Costco, he/she purchases few groceries and food items for our household and at the time of checkout if they lose their wallet or running out of cash, they could simply open their digital wallet in their mobile phone and scan the QR code and finish the payment. These digital wallets have widely eliminated the necessity to carry the money and cards (Kagan, 2021). These digital payment systems are going to future mode of payments across the globe. Considering a country like India, they have few digitally developed wallets like Paytm, Phonepe, Google pay etc., People make use of these e-wallets at few grocery stores and transferring money to friends and even for purchasing the movie tickets. People who use digital wallets do get rewards sometimes for making use of them.

Now a days everyone is familiar with crypto currencies like Bitcoin, Dogecoin, Euro coin etc., Even all these are the kind of digital currencies. Because all the currency is in the form of some QR code. So, all the funds that belong to a person is stored in an encrypted wallet and if someone wants to send money, they will be given an encrypted code so that the money can be directly routed to their wallet. Below figure (a) represents the working process of digital wallet.

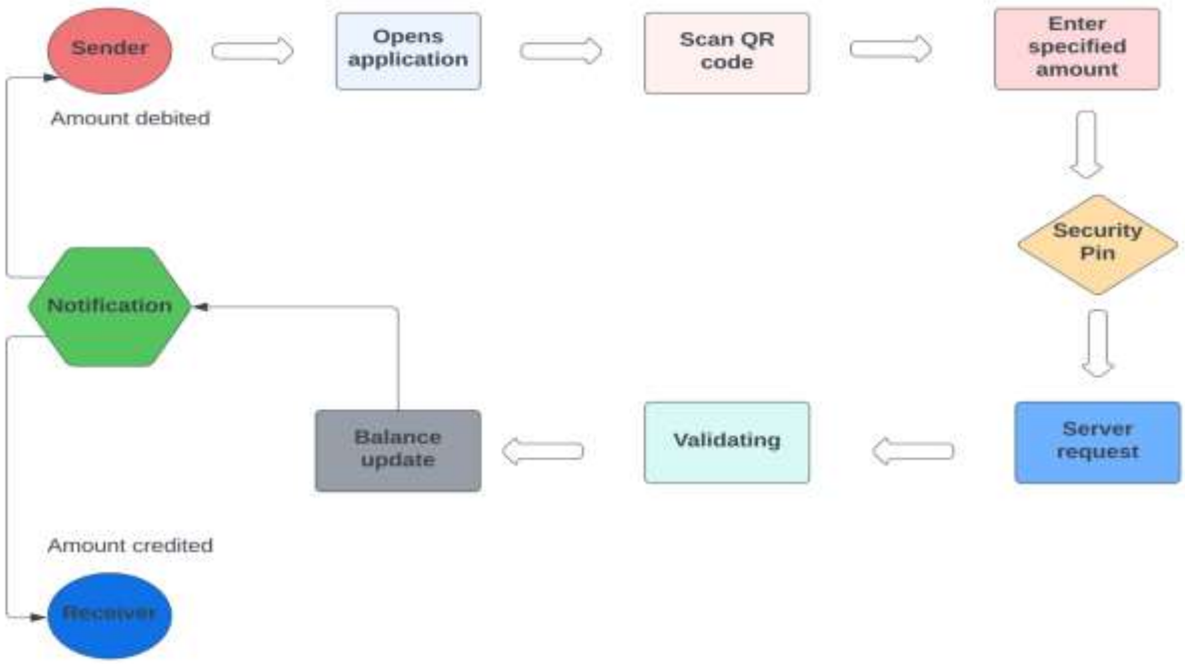

Figure (a) Digital wallet working process

Automated Clearing House (ACH):
ACH is a kind of electronic based network server which helps in processing and finishing the transactions. It holds in transferring both the credit and debit transactions even if they have large volumes of transactions. This is only for the payment services in United States. This system usually provides transactions for payroll, direct deposit, tax refunds etc., This is being managed and handled by National Automated Clearing house association (NACHA). Main advantage for the organizations is that they can easily and flexibly transfer money (Kenton, 2021). Let's say if there is an organization which holds 20 employees, and each employee has different pay date, then by using this mode of payment the management could schedule payments from the employer's account. Most of the bigger organizations in United States prefer using this mode of payment while clearing their employee payments.

Physical Checks:

A Physical check is usually handwritten one that is being given to the bearer. By using this check, he/she could directly go to the bank and collect the money. Check makes the transactions very simpler without making the use of physical currency. Usually, these checks are printed with the account numbers and a unique code assigned to each beneficiary who holds account in every bank. Let's say a person leased a house in a gated community, and he needs his pay your monthly bills for maintenance, electricity, water, internet. So, whenever he receives his monthly bill remainder, he could pay bills simply by making use of the physical check and even he could make the payments earlier by mentioning the exact date on the check (n.d.). In this way the payment has been submitted and he don't need to access internet to login and make the payment. Few people even now they are likely to pay their bills using checks. There are various types of checks like personal check, payroll check, bounced check, cashier's check etc.,

Types of Credit cards and their APR

There are several types of credits cards that a person make use off in their daily routine. Few cards like American Express, Bank of America, Discover, Capital one, Apple, PayPal Credit etc., that everyone make use in United States. All these cards have different APRs, and they attract the new customers by simply offering them with 0% APR for first one to 2 years. Firstly, when a customer apply for credit card the bank usually makes a background verification just to verify their credit history i.e., how many cards do a person have and how much credit line does he/she make use off. Are they paying bills on time and few other factors. Once the background verification is done, the card gets approved with the credit line instantly and the bank mails physical card to the customer in one to two weeks. Each and every country has different types of credit cards and different interest rates. Few of the cards allows their customers to make the purchases internationally and there is no international fee charge for the card.

Each bank has different APR's basing on the market value. Usually, APR refers to Annual Percentage rate that is being calculated on the amount of money a customer spent from his/her card. Every bank provides the customers with their interest rate when they send their physical card. APR is calculated with a formula by multiplying the periodic interest rate by the number of periods in a year.

APR = ((Interest + Fees / Loan amount) / Number of days in loan term)) * 365 * 100

By using the above formula, I am going make a simple APR calculation example:

A borrows $2000 and the Interest rate is 5% for 2 years and Closing cost for the loan is $200
Now let's calculate the using the simple interest formula

A=(P(1+RT)

Where A= Total accrued amount
P= Principal
R= Interest rate
T= Time period

Here, P= $2000, R=5%, T=2 years. Therefore A= (2000(1+0.05*2))
A= $2,200

Now adding the interest rate to the closing loan amount. We are making use of the APR formula, fees + interest= $200 + $200
=$400

Dividing the loan amount into number of periods and then multiplying by 100 to get the percentage.
APR = (400/2000)/ 2 * 1 * 100 = 10%

The total APR on this loan would be 10% (n.d., 2021).

Credit cards have different APR's, and the bank loans have different ones. Bank loan comes with fixed or variable APR's. Fixed APR' s doesn't have change in the interest rate during the whole tenure of the loan where in variable APR have the variations. Basing on the customer's banking history and the banking score few banks they offer the customers with zero interest rate for first few months wherein customers attract in getting their loans (Fernando, 2022). Having credit cards might help at the needy times and the cards offer a variety of cashback options depending on the department that a customer makes use of the card. Let's say for retail store the card offers 1% and for restaurants they offer 5%.

What basis does the credit application gets Approved?

Banks offer credit application for every customer who is 18 years old. It is not that banks approves every credit application. They consider multiple factors either to approve the credit card application or not. One factor is the Credit score, the credit bureau has a record of every transaction and payment that we make. Credit scores ranges from 300 to 850 (Devaney, 2022). Customers with credit scores above 750 points have the highest changes of the credit application approval. When a customer makes their loan repayments, pay their credit card bills then the score gradually keeps increasing. For instance, if a person is approved with 1000$ credit line and he/she should likely use only 40%-50% to maintain the credit score. Before applying there are several factors to validate like annual income, occupation, Source of income, location they live etc., Customer need to submit their annual income just to calculate their credit line. If all the criterions are met is then the credit application is approved (Arora, 2018). Below table 1.1 represents ranges of credit scores (Devaney, 2022).

Credit Score Range	Vantage Score 3.0	FICO
Excellent	781-650	800-850
Very good	N/A	740-799
Good	661-780	670-739
Fair	601-660	580-669
Poor	500-600	< 580
Very poor	< 500	-

Table 1.1 Ranges of credit scores

How Banks get profited

Banks make a lot of money on the services they provide like loans, mortgages, and credit cards. They charge interest on loans and money transfers. When a customer applies for the loan and gets approved initially, he/she will be charged with the pre-approval fee and later when the loan is disbursed and then the interest period starts, and then bank starts making money from that period. If the loan period is longer, then the interest rate is low and if the period is short, then the interest rate would be relatively high. All the banks disclose their charges and terms at the initial stage when a person receives the welcome kit via mail. There are several types of charges that are being charged by the bank like Insufficient fund fee, Overdraft fee, ATM fee, Late payment fee, transfer fee, withdrawal fee, Minimum balance fee etc.,

There are few ways for a customer to avoid the bank fees. It is not that all the banks collect additional fee from their customers. When a customer accesses the Internet banking service, he/she could find variety of services like money transfer, available funds, loan availability, trading account, mutual funds etc., So if he/she need to transfer money to another person, once they login to their internet banking portal and select the options, there they could find zero processing fees for transfers if it’s not instant transfer. In this way a customer could have some basic knowledge on transfers and other savings plans. A customer could even monitor their payments and charges related to their account and even set up the pop-up notifications for the charges and deducted money. A customer could even unenroll in few of the services like overdraft fee so that at any point he/she will not be charged any fees (Mint, 2021). Below table 1.2 shows the interest rate on credit cards from different banks (n.d.).

Different types of Credit Cards	Introduction APR	Variable APR
Capital one	0 % for 15 months	15.24 % - 25.24 %

Bank of America	0 % for 15 months	13.99 % - 23.99 %
Discover	0 % for 15 months	12.24 % - 23.24 %
Chase freedom	0 % for 15 months	14.99 % - 23.74 %
American Express	0 % for 12 months	14.24 % - 24.24 %
Wells Fargo	0 % for 21 months	13.24 % - 25.24 %
Citi rewards card	0 % for 15 months	13.74 % - 23.74 %

Table 1.2 Interest rates o different credit cards

Conclusion and Discussion

I could conclude this paper by, saying that the electronic payments play a very crucial role in every human's life. This particular mode of payment made things easier to pay bills, transfer money. The future is completely reliable on this payment system. Even the transactions between two persons who transfers and receives the money is convenient. By this particular mode of payment every customer can access through all the services that are available to them through their internet banking portal. A customer could access their balance, available loans, charges, fixed deposits etc., Even the banks could be benefited by reducing their operational costs. I could even say that these new payment methods are not only a threat but even a potential benefit to the banking sector.

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