

ELECTRONIC BANKING MODELS

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***Abstract:** This paper explains banking products and services that modern banking systems provide to their clients in order to achieve competitive advantages in turbulent financial market in a concise way. Dynamic development of information and telecommunication technologies and their applications in banking, erased time and space as the limiting variables of modern business. Models of electronic banking based on new information and telecommunication technologies are becoming the standard performance of banking and other financial institutions in today's market. We see models of electronic banking in particular the Internet and mobile banking taking primacy over traditional banking models that were dominant until the beginning of the twenty-first century.*

***Keywords:** banking system, conventional banking, electronic banking, models*

1. INTRODUCTION

Today, modern banking has tendency of dynamic evolution, adapting its business to valuable changes occurring in the global marketplace and a new philosophy of banking business that is oriented towards end users. New banking business philosophy with new business strategies, new organizational design, and new business models based on Internet technologies, distribution systems, mobile computing and business intelligence can provide the survival, growth, and development to each of the banking system. The dynamic development of information and telecommunications technology moves time and geographical boundaries and significantly improves and facilitates the implementation of financial or banking transactions worldwide. The influence of very strong competition in the financial market, where difference between banks, investment banks, insurance companies, brokerage house gradually disappearing, etc. financial business systems are under permanent pressure to keep the users of its products and services, reduce costs, manage risk and implement new technologies and business models. Traditional banking models who dominated the banking space more than a half century of 19th to the last decades of the twentieth century, where form often give up the place to content and where the bank were talking central place, without taking into account the needs and preferences of its client, slowly but surely losing the battle on the global financial market with modern banking systems. Modern banking systems based its business philosophy on new strategies and new models of electronic banking and offer a diverse range of banking products and services, such as passive banking operations (sourcing of funds, property and legal affairs and maturity), active banking operations (short-and long-term active jobs) neutral banking business (banking transactions and intermediary commission of banking transactions) and

its own banking operations (short-term and long-term banking business), etc. Banking services are implementing through the following banking functions - credit, saving, the function of cash management, payment functions, investment functions, insurance, broker, merchant banking, and real estate business. Banking systems that want to operate rationally and to insure against business risks have to adhere to the following banking business principles: the principle of liquidity, the principle of professionalism and efficiency, security placement principle, the principle of operation of profitability, solvency principle and the principle of efficiency.

2. ELECTRONIC BANKING

Electronic banking (e-banking) is a contemporary business model that involves the use of modern information and telecommunication technologies in carrying out banking transactions from home, the office, or from business trip, 24 hours a day, 365 days in a year [3].

According to the Lexicon of banking, electronic banking is providing a wide variety of banking services. Based on the technological capabilities of electronic data processing (use of computers in banking) or banking services for physical and juristic persons (companies) that are offered and performed with the use of electronic support [7].

Electronic banking is a form of banking business and provide banking services to individuals and corporate entities, which are offered and performed with the use of computer networks and telecommunications media (electronic support) [10].

Electronic banking includes conducting banking activities using information and telecommunication technologies [5].

It provides global connectivity, access to banking services and information, interactive communications and other benefits to customers in the field of finance.

- Elimination of paper documents and manual processing of financial transactions,
- Transfer of funds at the moment of payment (online), which drastically increases the speed of financial transactions,
- Operating costs are kept to minimum,
- Increase market share by introducing new business models,
- The creation of innovative image of the banking system that provides its clients with the latest technological solutions,
- The interactive features of communication over the Internet,

The further development of electronic banking was affected by many factors, which can be classified into five groups:

- Development and application of modern information and telecommunication technologies based on Internet and Web technologies that are suitable for the realization of financial transactions,
- Carrying out of major financial transactions via digital computer (EDI Electronic Data Interchange) using a computer network with additional services (VAN Value added resellers) that do not have to be part of the Internet and may not be supported by Web technology,
- Modern business models based on knowledge and new technologies, which imposes a computer (digital) economy must be followed by financial business systems,

- Deregulation of banking and financial markets and high competitiveness of financial business systems in the global financial market,
- Implementation of ISO 17799 standards for safety and protection of information in e-banking, ISO 7775 electronic messages for valuable papers and the new ISO 15022 standard, which has been developed to reduce the time of distribution of new types of messages and improved processing of securities,
- Modern systems of protection of financial transactions, such as passwords, security protocols, smart cards, firewall, proxy server, cryptography, and biometric security models [4].

Electronic banking is an attempt to merge a number of different technologies (electronic cash, ATM, POS/EFTPOS terminals, credit cards, home banking, online banking, Internet banking, mobile banking, etc.), each of them evolved in a different direction and in a different way, with the aim of providing various banking products and services to end-users. Creating favorable conditions for development of electronic banking contributes to increasing IT literacy among young people, informatized jobs, reducing the price of hardware and software, and cost of banking services.

Under the influence of the technological revolution, comes to the harsh separation of electronic operations in banks:

1. Electronically guided inter-bank activities;
2. Electronically conducted business with clients on their behalf:
 - Retail electronic banking,
 - Corporate electronic banking [9]

For successful implementation of financial transactions, the banking system must have a modern integrated information system that organizationally and spatially connects all the parts and processes in the bank, monitors the entire business of bank and allows efficient, rational, timely, and secure flow of business information. The integrated banking information system must meet the specifications that allow the application of modern computer equipment, which should be independent of suppliers and manufacturers that can be implemented on different operating systems, the HW 3-layer architecture, and is based on standards that allow integration of new technical developments. Most banking systems use modern Core banking systems (Oracle Financial Services Software: Flexcube, Microbanker and Finware, Fidelity National Information Services-FIS: Corebank and FIS Alltel, TEMENOS: TemenosCoreBanking TCB i T24, Infosys Technologies: Finacle, Tata Consultancy Services Financial-TCS: BaNCS- FS, Asseco SEE- Pexim, etc.), software solutions, which are specialized in banking transactions (Front Office, Back Office, e-banking, CRM, etc.), they are easy to develop, maintain and are oriented towards the client. Good Core banking systems characterized by modularity and possibility of integration, Java Enterprise Edition JEE technology and service-oriented architecture (Service Oriented Architecture-SOA), multi-layered architecture, the independence of data base and open standards for reporting. Figure 1 represents a model of information and telecommunication system of banking [4].

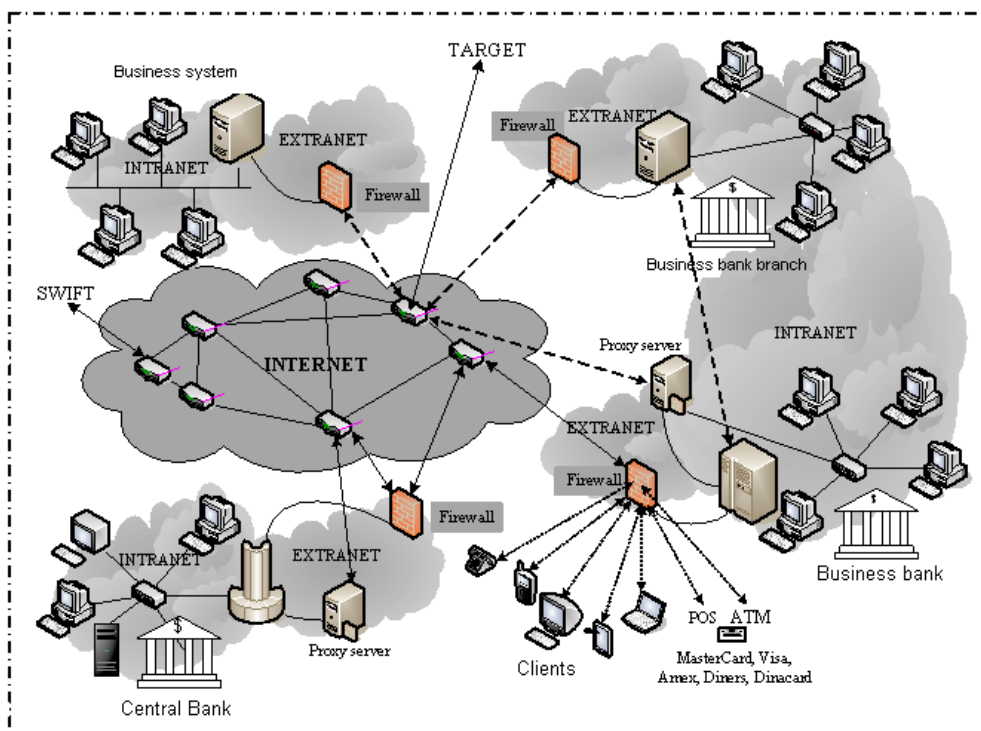


Figure 1: model of information and telecommunication system of banking

2.1. Models of electronic banking

The development of electronic banking dates from the late sixties and early seventies of the twentieth century and took place in several stages

- Initiative phase, the use of information and telecommunication technologies becomes an inevitable factor for competitive advantage,
- Phase of interactivity, a gradual transition from the provision of banking services from offline to online,
- Phase of personalization, online banking services take the lead role in providing services to clients,
- Phase of virtualization, a new trend in banking is the emergence of virtual banks (TeleBank-Virginia, Banknet-United Kingdom, etc.) whose business is based on providing online services that generally have lower operating and transaction costs.

Today, in modern banking systems exist in the following models and systems of electronic banking:

- Home Banking
- Office Banking
- Online Banking
- Internet Banking
- Mobile Banking
- Telephone Banking
- SMS Banking

• **Home Banking** is used for banking services in the home without physical presence in the bank using telecommunications link - a digital voice technology, TV, PC computer system and IVRs. Systems, i.e. home banking models appeared in the U.S. in mid-eighties of the twentieth century and its development was guided by telecommunications links between the banking information system and the clients of the bank, such as telephone banking, online banking, Internet banking and mobile banking. The services are mostly used in home banking are balance and transactions per dinar, foreign exchange and savings accounts, information on unrealized checks, information on loans, transfer funds between accounts (RSD and FX), payment of monthly expenses, catalog shopping, paying credit and loans, etc. For the successful realization of home banking, customer receives PIN (personal identification number-Personal Identification Number PIN) from the bank that enables authentication on a separate server that serves only to users of home banking services which includes application programs and databases in order to better protect data. In today's world, in developed countries, home banking is a trend of rapid growth with a tendency to spread to less developed countries.

• **Home Office Banking** is a model based on the principle of banking from home where staff in the business system through their computer systems (terminals) can use banking services. Modern banking systems to their clients provide cash flow management system and a complete portfolio of business systems (processing all financial transactions, online cash report presentation, online payment accounts, budgeting and financial control, low-cost hardware support, etc). Business systems that transmit the above tasks to banks realize certain benefits in mind, to reduce paperwork, shorten time needed for implementation of financial transactions, saving data to the database, raising the level of service, etc.

• **Online banking** is method of work base on direct and flexible communication (24 hours) between the bank and the client's computer system that is running special software (Microsoft Money, Manage Your Money, CornicheNet, etc). Financial transactions (access to the current account balance and credit cards, pay overdue bills, transfer funds between accounts, planned and scheduled payments for a specific term that will be executed automatically, term depositing of funds, financial management services for what is needed to install an additional application software, etc.) to be carried out between the bank and the client that are on the hard disk of a computer system of a client. Online banking is losing primacy over the Internet banking - expensive software and training time is required, limit users of banking services to perform services exclusively to the computer system on which must be installed special software and level of data protection on the hard disk is small.

• **Internet banking** or cyber banking has more users directly from home who perform financial transactions over the Internet, due to speed, efficiency, and effectiveness of execution of transactions. Modern banks through Internet Banking provide its clients (individuals and legal entities) around the world throughout the whole year (365 days) 2/7 services and financial transactions. The information services include balance and transactions per dinar, foreign exchange and savings accounts, information on unrealized checks, information on loans, loan information, information regarding transactions with payment cards, as well as funds available for the use of cards, information on the approved limit and credit card transactions, information on exchange rates, information on securities, information on inflows from abroad, in financial transactions. Financial transaction include transfers of funds between the local currency bank accounts, transfer funds between accounts without the conversion of foreign currency, purchases and sales of cash/foreign currency, electronic payment of predefined orders, loan payments, debt payments by credit card, card lock in case it is lost or stolen.

Most of the banks in our market do not take a commission payment to perform electronic transactions for paying in dinars and buying currencies or they are minimal.

According to the research and forecasts of Online Financial Innovations number of households that will use the services of Internet Banking in the United States is shown in Table 1

Year	Lowest		Middle		Highest	
	Number	Growth	Number	Growth	Number	Growth
1995	600.000	140%	500.000	150%	750.000	140%
2000	15.500.000	48%	14.500.000	53%	17.000.000	48%
2005	40.000.000	11%	36.000.000	6%	43.000.000	13%
2010	52.000.000	4%	45.000.000	2%	61.000.000	3%
2015	62.000.000	3%	50.000.000	2%	71.000.000	3%

Table 1: U.S. households that will use Internet Banking according to forecast (<http://www.onlinebankingreport.com>)

- **Mobile banking** is a new trend in electronic banking where the client is using modern mobile phones (J2ME mobile phones, Blackberry, Windows Mobile, Android, iPhone and iPad), personal digital assistants (PDAs), palmtop computers and mobile computing systems over Internet and WAP standards may at anytime and anywhere in a safe and quick way to perform the following banking operations - check account balances for all accounts and credit cards, to make payments of due bills, to transfer funds from account to account, carry out exchange operations, check expiration date on current account, review the unused checks, ordering checks, managed foreign exchange account card, check the exchange list, etc.

With the expansion of mobile phone (According to Bitkom Research GmbH, in 2011 1.4 billion mobile phones is going to be sold worldwide, which means an increase of 10.4% compared to 2010.) More and more business transactions will be conducted applying the intelligent mobile phone using the global standard for developing applications in wireless networks - WAP (Wireless Application/Access Protocol), Global System Mobile Communications - GSM (Global System for Mobile communications) and the Protocol to transfer data wirelessly via GPRS (General Packet Radio Service).

Intelligent mobile phones (iPhone, iPod touch, Android, etc.) with their applications, built-in mobile browsers and graphics solutions provide simple, convenient and safe (128-bit encryption) using mobile banking services. The advantage of mobile banking is reflected in the mobility, simplicity, accessibility, security and saving time and money.

- **Telephone banking** is a service that allows customers faster, easier and simpler way of performing banking transactions over the phone. Telephone banking is based on - call centers where a "call center" Web application is installed that allows the operator to carry out all tasks assigned by the client through the user interface.

- Systems for automatic speech recognition (IVR) through which the client can check account balances, transfer the money to other accounts in a bank that has or is entitled to them, meet liabilities on credit cards and transactions in securities. The requirement for the use of IVR is the phone that is capable of tone dialing.

- **SMS Banking** is a banking service by which the bank provides accurate and reliable information to clients about the status and changes of their accounts via mobile phones. SMS banking allows clients insight into the current account balance after each change, insight into the state of the current account at any time requested by the client, financial transactions via SMS ISP services, information on loan maturity and receiving promotional messages by the bank.

2.2. Models of electronic payments

Electronic payment (e-Payments) is an integral part of e-business application where on-line payment system (permanent link with the bank) and offline (intermittent connection with the bank) money exchange values between seller and buyer of goods sold or rendered services. Table 2 presents an overview of traditional and electronic instruments.

Methods of paying	Traditional Payment Instruments	Electronic payment instruments
Electronic commerce	- credit cards	- electronic cash (based on cards and digital networks)
Bill payments	- checks - Credit transfers in paper form	- electronic transfers through multi-purpose ATM - Phone, PC or Internet banking
POS payments	- cash - Checks	- Debit and credit card through EFT/POS terminals
Micropayments	- cash	- Electronic card-based money

Table 2: Summary of traditional and electronic payment instruments

From table 2, we can see that most of the traditional instruments of payment are still present in terms of domicile, and that is the main or dominant mode of service delivery. In electronic commerce for financial transactions following payment systems are used, based on:

- Payment cards (Mondex, Visa, MasterCard) and
- Electronic cash network (network money or CyberCash) is characterized by the fact that electronic value of electronic money is stored on hard disks of personal computers [3].

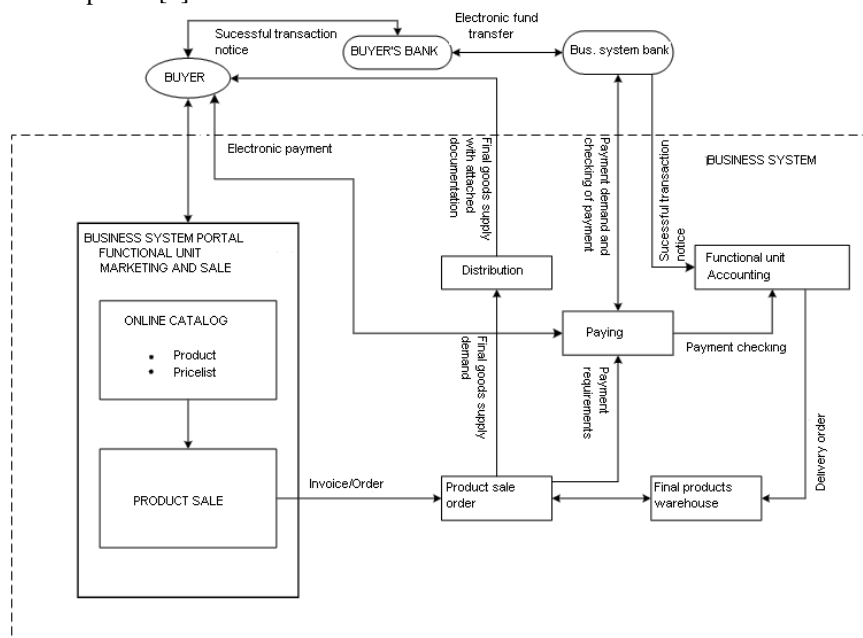


Figure 2: The process of online payment on a model of e-commerce, Business to Customer B2C.

2.2.1. Payment cards

The first card appeared on the market in 1914, a privilege granted to users for deferred payment by West Union Telegraph Company, and Diners Club issued the first universal credit card in 1950, for deferred payment for various goods in various outlets. Most business transactions are conducted online payment using credit and debit cards, although they are not, according to many analysts, the ideal solution in the digital economy due to the need for bunch of paper documentation.

Payment cards can be defined as standardized (ISO 7810 standard) non-cash payment instrument emitted by the banking system, commercial or specialized systems with which the cardholder may purchase goods or services (POS systems) and taking cash (ATM) from the bank account.

They can be divided into several groups as follows:

- The technological basis (standard classic cards, magnetic stripe cards and chip card),
- According to the use a) horizontal card and b) vertical card
- The brand, or location of application (VISA, AMEX, MasterCard, Dina, etc.)

The division of the payment card technology is based on:

- Classic embossed card, outdated technology cards, with engraving on it and a limited use for a certain number of users.
- Electron magnetic stripe cards (today is the largest instrument of payment, ATM and EFT/POS devices are necessary). Magnetic stripe card has three tracks on which specific data structures are entered:
 - The first track is for identification cards (Bank Identification Number - BIN) and shows to which network belongs
 - The second track is used to identify the account number (Primary Account Number - PAN), and
 - The third track is used to identify the account holder.

Intelligent or a smart card is a plastic card, based on the ISO 7816 standard with built-in integrated circuit (chip) which contains a microprocessor and memory, which allows the calculation of complex mathematical operations such as generating a digital signature, encryption and decryption of data, etc.

Smart credit cards are widely used in various fields of human existence; it acts as additional hardware and software protection for business systems that require a higher level of security of their business data on computer networks and computer systems, identification of a user's identity in the offline transactions, e-banking, e-commerce, online gambling, health records, etc.

Laser (optical) card, a relatively new card, which is characterized by a high level of protection, capacity (2.9 MB) and durable design, for reading/writing data/information using lasers. These cards have not yet found wide application in e-payments due to expensive additional equipment and terminals, and card readers. Laser or optical cards have found application in the identification of people as follows: U.S. Permanent Resident Card ("green card"), Italian national ID, etc. New generations of these cards for compatibility with existing infrastructure contain a magnetic strip or chip in order to expand the scope of the application.

The division of payment cards according to the use i.e. the time of payment and transaction anonymity:

- a) Horizontal card consists of the following types:
 - *Credit card* (a card that allows spending money in advance),
 - *Debit card* (bank card directly related to the client's account contained in the bank),
 - *Corporate card* (used for local use, issued by a particular corporation or business systems), and
 - *Loyalty card* (there are a number from different economic sectors: airlines, sports clubs, department stores, supermarkets, etc.), customers who have loyalty cards get great discounts for goods or services).
- b) Vertical cards are cards that perform segmentation of the market and each of them determines the purchasing power of the owner:
 - *Platinum card* (elite card with no limit and a small number of issued cards);
 - *Gold card* (elite card with no limit without authorization and a small number of cards issued);
 - *Business card* (related to the account of the business system and reads the name of the user);
 - *Classic card* (directly related to the user's account and allows the overdraft limit), and
 - *Virtual card* is an online card, which is only used on the Internet and is protected by a virtual account. Virtual cards issued by banks and large virtual portals, used for identification and authentication between the merchant and the customer for execution of transactions in a secure form.

There are pre-paid cards with a chip: one-time card (cannot be amended) and multi-purpose cards (can be amended) that contains a pre-paid certain amount of financial resources available to the end user to purchase certain goods or the use of certain services.

According to the brand i.e. location of the use, credit cards can be divided into domestic payment cards and international payment cards.

Domestic credit cards are:

- DinaCard debit, DinaCard credit, and Dina Virtual cards.

Card for international payments are:

- VISA (Debit Visa Electron and debit Internet payment card, credit ones: Visa Classic, Visa Signature and Visa Gold, etc.), MasterCard (debit cards: MasterCard Cirrus and MasterCard Maestro, and credit: Standard, Business Gold and Platinum MasterCard card, etc.), Diners Club International (Diners Club Personal Card, Diners Club Business Card, Co-brand cards, etc) and American Express (credit cards: American Express Green, American Express Gold and American Express Blue, etc.). The payment card transaction involved four parties, the cardholder (customer), a merchant who sells goods or services, a bank of the customer and the merchant's bank,

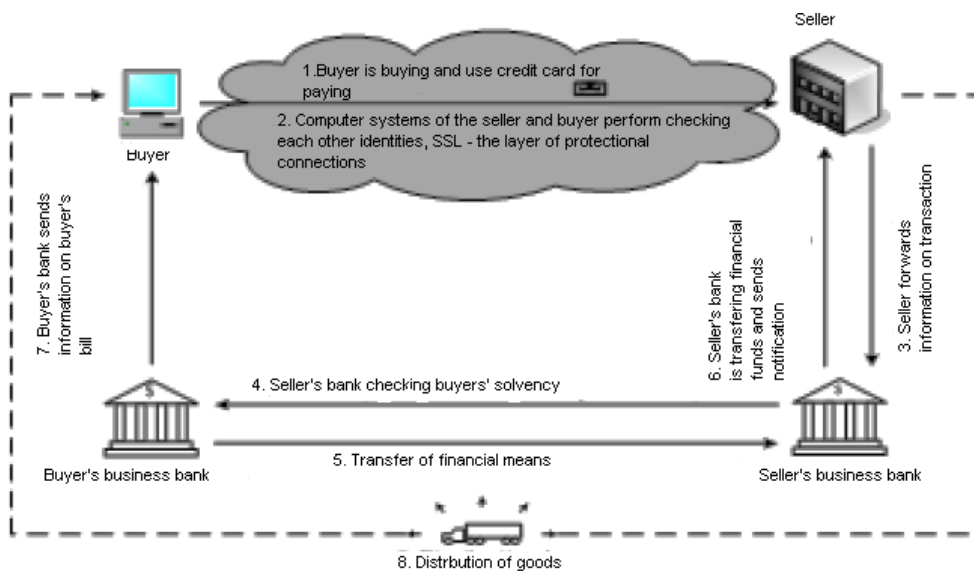


Figure 3: Business transactions with credit cards

2.2.2. Payment systems based on electronic money

Electronic money, according to the Banking lexicon, is *electronic monetary payment information between transactor/entity that participates in transactions/, which is done in real time/immediately /, and transferred to a computer or digital cash in the form of prepaid cards ("network money")* [7].

The most used definition of what is electronic money, as follows; Electronic money is defined as specific "monetary information," which is the electronic impulse in "real time" transfer between transactors who perform paying.

In order for electronic money to justify their role must meet the following requirements, to provide maximum security that is universally acceptable, it is portable, privacy, anonymity, two-way, the ability to work offline, divisibility, ease of use, unlimited duration, etc.

Electronic money includes two important characteristics:

1. The initial holder (owner) of electronic money must pay monetary value in advance; it is stored on a microprocessor chip that is located on a plastic card or hard disk in a PC.
2. Electronic value must be widely accepted in payment for a range of goods and services. The concept of electronic money does not cover those prepaid cards that can be made only for one-time payments, such as phone cards. Therefore, the electronic money only applies to multi-purpose with stored value used for purchases of different kinds of goods from different vendors [3].

With the transfer of electronic money, four groups of activities are used:

- **Automatic collection of checks** through the Automated Clearing House, ACH, using offline processing system. Automated Clearing Houses appeared in the United States, England and Japan in the sixties of the twentieth century with the aim of faster and more efficient transfers of funds using computer networks. The financial market was one of the earliest forms of using computer systems or computer networks between banks for

processing electronic orders approved by the business system (direct deposit) payments for clients in various bank accounts.

- **Payment on the point of sale**, EFTPOS / POS (Electronic Funds Transfer on Point-of-Sale/Point of Service), a system for electronic transfer of money to the point of sale products or services, which is implemented by using credit card or electronic check using the installed terminal in the commercial and service network, connected through a fixed telephone link, or integrated services digital network-ISDN (Integrated Services Digital Network) with the banks. The introduction of EFT / POS terminals is reduced: circulation of cash, use checks from customers, processing costs, time, financial transactions, and increases the overall safety of users' payment card and payment, etc.

- **Automatic Teller Machine**, ATM, is self-service customer service (ATMs) in the electronic banking system. They are modern devices (mini-bank teller) who perform 24 hours a day, 356 days in a year in on-line mode: the payment and cash payment, deposit, disposal of documents and cashing payments, transfer funds from one account to another account, obtaining state current and gyro accounts, buying supplements mobile network, etc. The basic components of ATM are processor, Windows NT/XP/7 operating system, keyboard, monitor, printer, confirmations, the mechanism for counting bank notes, card reader, banknote housing cassette, telecommunication connections to a computer for managing ATM.

- **Electronic banking system** or electronic systems for great value transactions increasingly use non-cash payments through the implementation of distributed computer networks within a single country or several countries, enabling fast, accurate, and secure financial transactions across the globe. In the world there are systems for the calculation of the financial transactions of great value: Electronic Fund Transfer-ETF, Electronic Data Interchange-EDI, State system for the transfer of resources and valuable papers - FEDWIRE (Federal Reserve Wire Transfer System, USA), the payment system for clearing large payments in real time in dollars -CHIPS (Clearing House Interbank Payments System, USA), World Association for interbank financial telecommunications - SWIFT (Society for Worldwide Interbank Financial Telecommunications, USA), Electronic payment system of gross payments in real time in the euro zone-TARGET (Trans-European Automated Real-time Gross settlement Express Transfer, EU), a unique area of payments in the euro area - SEPA (Single Euro Payment Area), Swiss interbank clearing system - SIC (Swiss Interbank Clearing System), BOJ-NET (The Bank of Japan Financial Network System, Japan), etc.

Digital money or e-cash (electronic cash, electronic money) is one of the earliest forms of alternative payment systems developed for electronic commerce (e-commerce). Digital money, an electronic monetary information (a number of bits) which is performed using real-time digital most business transactions on the Internet or other distributed networks using plastic cards instead of cash. To be able to operate, e-cash must have monetary value, the possibility of conversion to other payment instrument (real money) and safety issue. In digital money, there are following: E-Cash (developed by the company DigiCash), NetCash (developed at the University of Southern California), CyberCash, etc.

Micro payments is an operation of electronic payments for business transactions (public transport, public payphones, vending machines, distribution software, movies, music, photos, dice, lotteries, parking, etc.) small cash value to \$1. The payment of small value leads to unnecessary technological savings because of the verification of each transaction and the possibility of using symmetric encryption. Known for micro-payment systems are Millicent (Digital Equipment Corporation), CyberCoin (CyberCash), NetBill (Carnegie Mellon University), Clickshare (Clickshare Service Corporation), etc. Electronic display of status and paying - EBPP (Electronic Billing Presentment and Payment), the online micro-payment system for digital debit balance that allows customers paying online at the end of

each month (utility bills, insurance bills, always active accounts, etc.). These systems are still used for the purchase of intellectual property on the Web, such as individual music tracks, excerpts from books or newspaper articles. Several types of EBPP exist, such as Biller-Direct, service bureaus, and portals.

Electronic Check is the electronic equivalent of paper checks and allows a transaction of money from one bank account (customer) to another bank account (merchant) electronically. Electronic Check is designed based on the model of a paper check by a consortium of banks FSTC (Financial Services Technology Corporation) with the CyberCash system that allows the use of electronic waiting to carry out financial transactions over the Internet. In order to realize an electronic check, it must contain the following information - a digitally signed application form with a description of the transaction, information on the payer and the recipient, the nominal amount of the check and the date and time of the transaction. The implementation of financial transactions by electronic check involves five actors - buyer, seller, a bank customer, vendor, and bank clearing house or other authorized financial institution that processes the checks. Processing of checks will be done using special financial software EPH (Electronic Payment Handler) installed on their computer systems. Figure 4 shows the electronic check and electronic business transactions using the check.

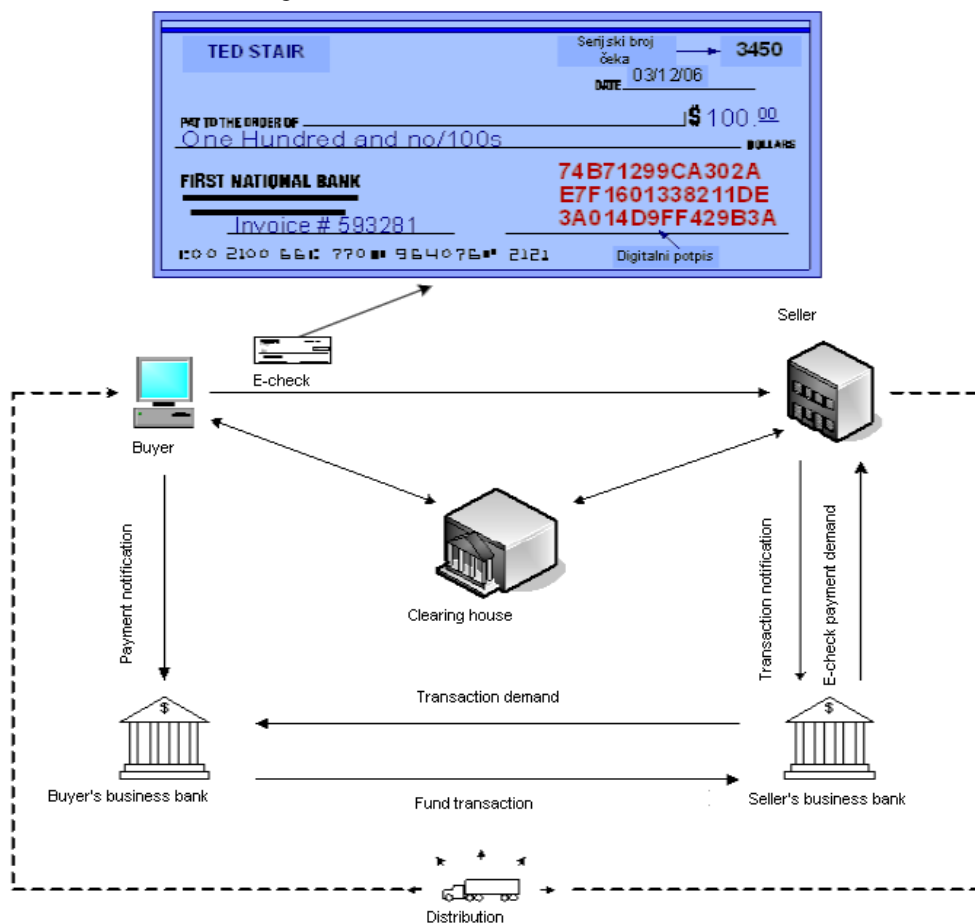


Figure 4: Electronic Check and business transactions

Modern methods of protection that provide greater security and confidentiality of transactions are used with electronic check. Payment by electronic check brings many advantages over traditional methods of payment - greater flexibility in managing the check, the ability to quickly verify the available funds, increased security due to the use of digital signatures, a faster transaction, reducing the manual work necessary for the servicing of paper checks, etc.

Frequently used digital systems for paying using checks are:

- eCheck, founded in 1998, by the consortium comprised of 15 banks, government agencies and companies dealing with modern technology. eCheck requires that client has a digital wallet or identification that confirms users through digital certificates, secure and transfer the cash value and ensures the payment process from the buyer to the seller.
- Achex Inc. is the system of digital paying by check, made in 1999. It represents one of the easiest digital payment systems that do not require possession of a digital wallet.
- BillPoint Electronic Checks, made in 1999, by eBay and Wellsfargo & Company for use only on the online market eBay, and does not require possession of a digital wallet of the client.

3. RESUME

Dynamic development of information and telecommunications technology based on Internet technologies have created large and rapid changes in the functioning of financial business systems. Classic banking systems with traditional banking philosophy of decentralization and a wide network of subsidiaries, branches, and outlets that offer standard passive banking operations cannot survive on the global financial market. Globalization of global production, transport, and financial flows of traditional banking models lose their priority in relation to contemporary models of banking business whose business philosophy is oriented towards the client and application of new technologies in business.

Modern information and telecommunication technologies have significantly changed the financial instruments, procedures, and methods of work of all participants in financial transactions leading to a redesign of the banking business processes in the entire banking system. Electronic banking as a new form of banking business provides many benefits to customers and banks for new business opportunities to banking systems. Further development of electronic banking has focused on the application of modern mobile IT and telecommunications technology, modern security systems, new standards and modern business models that will be implemented in mobile banking, because according to prediction of world renowned research houses, mobile technology and mobile telephony will continue to record rapid growth and increasingly will be used in the banking business. Banking systems that want to survive, grow, and develop their businesses must adapt to new trends dictated by global competition on the financial markets.

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