

## ALTERNATE BANKING CHANNELS IN NORTHINDIA: E-BANKING RELIABILITY PERSPECTIVE

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### ABSTRACT

Alternate Banking Channels includes ATM, Internet Banking, and Mobile Banking, Point-of-sale (POS) terminals or Electronic Draft Capture (EDC) Machine terminals. All the e-transaction or e-payment is done by these Alternate banking channels. The user's adoption based on reliability of these alternate banking channels and reliability is based on several aspects. Reliability attributes includes confidentiality, authorization, sustainability, psychological acceptability, audibility, verifiability, serviceability. This survey is conducted in a state of India i.e., Uttar Pradesh. This survey paper is based on the questionnaires which ask the reliability of all alternate banking channels from the respondents. In this survey paper, all alternate delivery channels reliability analysed. All the Reliability attributes are discussed to know the current status, performance and adoption of alternate banking channels. The critical analysis, observation and major finding are done.

**KEY WORDS**-ATM; Internet banking; Mobile Banking, Point-of-sale; Service Quality, Reliability

Banks have always been a constant source of use for people. There seems no time in which one can find no use of a bank. However, with the passage of time, much development has taken place and the facets of a bank have changed. Today, instead of going, in person, to a bank, people usually prefer alternate channels of banking. These alternative channels include ATMs, EDCs (Card Swipe Machines), internet banking, and mobile banking, etc. However, with this easiness that comes with the alternative channels, frauds have also become more common, and hence, the reliability of these alternative banking channels is being questioned.

Reliability according to the Merriam Webster Dictionary refers to the "ability to be trusted to do or provide what is needed; or the ability to be believed: likely to be true or correct." Reliability, in case of a particular channel of alternative banking transaction, arises from: being user friendly, serviceable, auditable, easily available, non-repudiate, of worthy quality, secure, delivering on privacy, satisfactory towards the customers, ease of operation, economical, efficient, integrated, and consistent etc (Hasan, 2010). It is this one factor that will lead to an increase or decrease in the number of users of alternate banking channels single-handedly. This survey paper is based on the questionnaire which questioned the reliability of all alternate banking channels from the respondents. The sample

was collected based on the method on purposive selection/sampling and consisted of hundred respondents in all. In this survey paper, all alternate delivery channels reliability analysed. Reliability attributes are discussed to cover all aspect of reliability. Reliability attributes includes confidentiality, authorization, sustainability, psychological acceptability, audibility, verifiability, serviceability. This paper is organized as: Section-I. defines attributes and reliability, Section-II brief the reliability of alternate banking channels, Section- III highlights the observation and findings further at last paper conclusion in done.

### RESEACH METHODOLOGY

This survey is conducted in a state of India i.e., Uttar Pradesh. This survey paper is based on the questionnaire which the sample was collected based on the method on purposive selection/sampling and consisted of a hundred respondents in all. It was so because the respondents were proving to be relevant to the topic in concern and were fairly easily available survey questionnaire.

### Alternate Banking Channels Reliability Attributes

Alternate Banking Channel i.e.ATM, EDC, Internet Banking, Mobile Banking made people life easy, comfortable and time saving. These Technology should be very safe and secure as it's all about money. Fraudster, cyber criminals keep an eye

on the vulnerabilities to break and take benefit of it. Banking channel should be reliable for users trust and secure transactions (Sankhwar, 2016). There are some reliability attributes given below:

- **Confidentiality** refers to the state or condition of being free from being observed or disturbed by other people. In other words, private data cannot be disclosed to other(s) without the consent of individual(s) concerned.
- **Integrity** refers to internal consistency or completeness or lack of corruption in electronic data over a period of time. It points towards non-modification of digital data in an unsanctioned manner.
- **Authorization** refers to sanction or consent. Authorization is one feature for enhanced security measure for shielding sensitive data.
- **Availability** refers to the quality of being at hand when needed. Data when secured on-line must be easily obtainable and accessible.
- **Sustainability** refers to be able to be maintained at a certain rate or level or for a certain period of time. Digital sustainability refers to the safeguarding of data in soft-copies.
- **Psychological Acceptability** is satisfactoriness by virtue of compliance to approved standards. Psychological acceptability, in digital security, is the use of security measures/mechanisms straightforwardly applied by users on a regular basis, without any difficulty.
- **Non-Repudiation** is to fulfil or discharge an agreement, obligation, or debt. In digital context, nonrepudiation is a proof of ingenuity of data. It is a safeguard measure; a proof of security of data provided. Cryptography is one such measure backing non-repudiation.
- **Auditability** is the ability of being evaluated. In simple terms, data is auditable if it can give the same results from two dissimilar sources, but with similar assumptions.
- **Verifiability** is making sure something is true or accurate.
- **Serviceability** is the quality of being able to provide good service. It refers to the ability of persons to install, repair or provide hardware or software maintenance in case a problem arises.

It increases the efficiency of the particular good/service and maintains continuity.

## RESULTS AND DISCUSSION

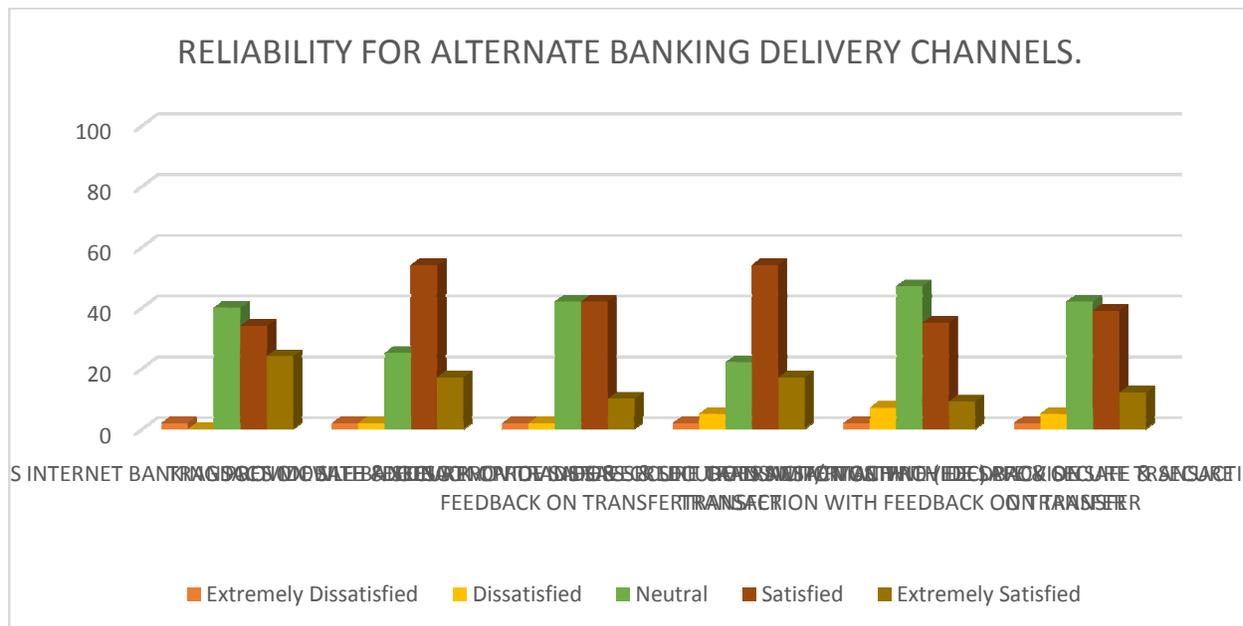
Survey Results for the Alternate Banking Channels reliability is divided in 3 parts, given below

### Rating the reliability of Alternative Banking Channels

Reliability, as per the results (Graph.1) of this survey currently lies at a maximum figure of 55% on the automated teller machines or ATMs, with mobile banking securing 42% and NEFT/RTGS obtaining 40% on reliability as shown in Graph 1. EDC machines and internet banking managed to secure just 37% and 35% points on satisfaction with reliability, thus covering the entire range of alternative banking channels concerned.

The alternative channels gaining the most amount of dissatisfaction were EDCs (Card Swipe Machines) with 7% respondents dissatisfied with them; and NEFT/RTGS & ATMs both securing 5% on the dissatisfaction criterion. Though ATMs scored high on reliability, it is also true that ATM transactional frauds are the most frequent in the country which makes it, again, paradoxical in nature. Recent reports (India Today Reports, 2016) showed that around 32 lakhs of credit and debit cards' information had been compromised in India. Thus, adding to the paradoxical nature of this relationship. It is so because it is pretty easy to steal sensitive information concerning ATMs – PIN numbers, CVV codes, the card itself. The ATM scored low on the attributes of privacy (data is prone to theft); availability (though ATMs are way easier relative to banks, but one still has to go to an ATM, in person, to use its services); and serviceability (ATMs are not easily serviceable; repairing one might take days).

The alternate banking channel that 7% of the people found dissatisfactory is the EDC machine. It's so because it is easy to obtain PIN numbers of credit/debit cards because they are being typed right in front of the merchant/vendor and in clear view of the CCTVs, hence adding to people's dissatisfaction. The EDC, in the context of the aforementioned attributes, has very low confidentiality (prone to being observed by others); and non-repudiation (data is not provided with an encryption).

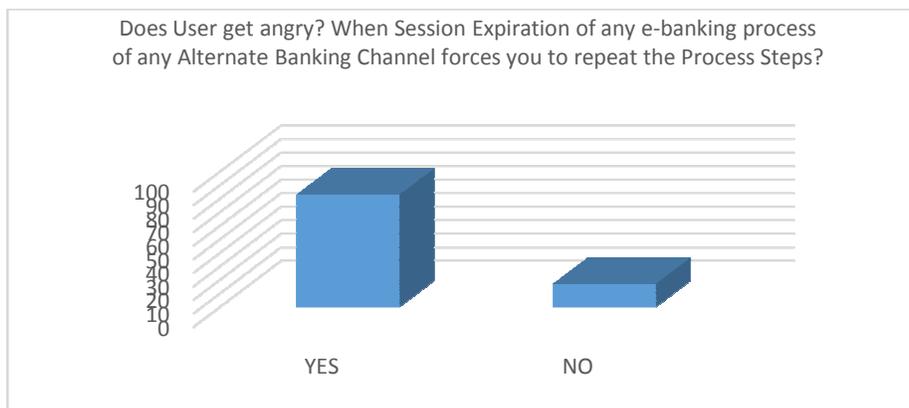


Graph.1 Reliability of alternate banking channels

User’s Dissatisfaction is also high in the context of Internet banking, for example, the NEFT (National Electronic Funds Transfer) and RTGS (Real Time Gross Settlement) channels of banking. NEFT is a wire transfer of funds, involves a large number of steps, and takes time to proceed, hence achieving people’s dissatisfaction. RTGS takes place on a gross basis, hence cannot be attached to any other transactions or vice-versa, and the payments made through RTGS systems are unchangeable. This adds to features for dissatisfaction.

**Online Banking Session Expiration**

For security reasons, online banking session will automatically timeout after defined time limit. User get angry or irritated, when online banking session get expire forces his/her to repeat the Process Steps. According to this survey analysis as shown in Graph.2 more than 80% of respondent punched “Yes” for getting angry or irritated when online banking session get timeout or expired (Jones, 2008). Session is used security reason but north Indian user are not well trained or use to technology. They work slow over these technology as many of them are new to Online banking. Many time they leave the process uncompleted and go for manual banking.

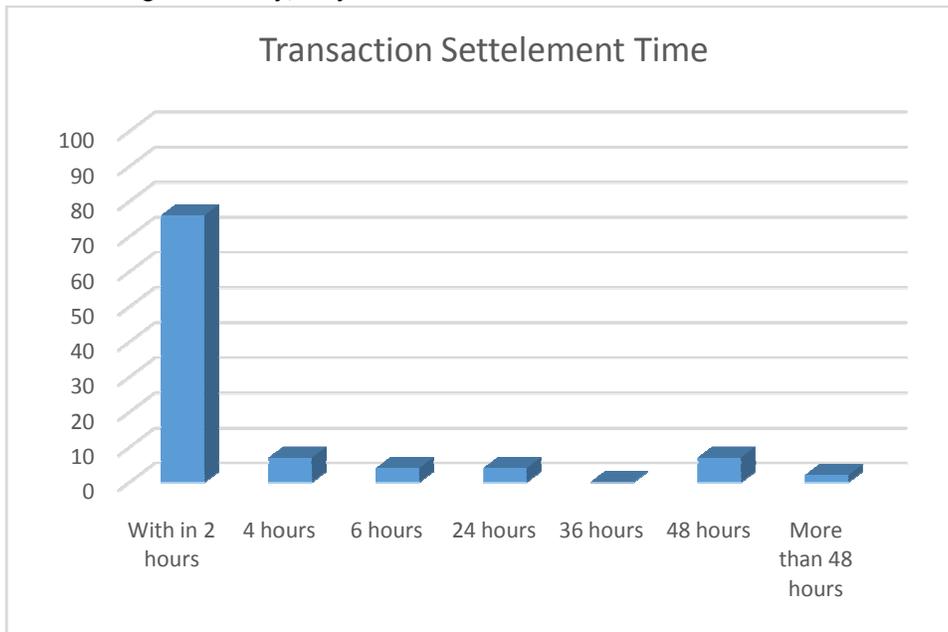


Graph 2. Online Banking Session Expiration

**Alternate Banking Channels Transaction Settlement**

Transaction settlement message is kind of verification that transaction completed successfully. User get panic and tensed if they don't receive Transaction settlement message. Generally, they receive

it within few minutes or within 2 hours according to approx. 75% of respondent. Approx. 8% respondents get it in 48 hours as shown in Graph.3, which is big question mark for the online banking processing or network issues.



**Graph 3. E-Transaction Settlement Time**

**OBSERVATION AND FINDING**

The survey conducted in the context of alternate banking channel reliability. It is observed from this survey that ATMs to be the most reliable among people. What one can easily infer from this is out of the given attributes of reliability of the alternate channels of banking, ATMs were satisfactory regarding the traits of integrity (lack of corruption of data in an unsanctioned manner); authorization (PIN numbers are required for authorization to do transaction); psychological acceptability (compliance to usage when needed); non-repudiation (transactions are discharged successfully and are of original nature; cannot be copied); auditability (can be assessed); and verifiability (transactions can be verified through ATM transaction slips). Reliability towards ATM usage can be enhanced by working on the attributes of confidentiality, by providing better safety and security at places where ATMs are installed; of availability, by installing more ATM machines and

Thereby increasing availability; of serviceability, by reducing the time it takes to repair a dented ATM machine and by repairing the currently installed by not-working ATM machines (Sankhwar, 2016).

Mobile Banking, a very popular alternate banking transaction channel. Though mobile banking is much popular, one cannot depend on its confidentiality (privacy of data or vulnerability against theft of digital data). The confidentiality of mobile banking can be increased by designing and usage of better security applications and in-built applications [Crowe, 2010].

The EDC channel of payment lacks privacy or confidentiality; is not available at all stores or with all merchants/vendors, lacks sustainability (safeguarding data in softcopies), and, if something goes wrong, it lacks serviceability (takes a long time to modify/repair). The enhancement of confidentiality would require work from both ends - that of a

customer fully aware of his surroundings and that of more secure premises –to gain reliability; the availability of EDCs would require, beforehand, an increased usage of plastic currency (or increase in demonetisation policies of the government) and, thereafter, an increase in the spread of the EDC machines; increase in serviceability would necessitate the making of better hardware that can handle hefty usage; and increased sustainability would require better software development for the EDCs.

Internet Banking, is frequently used but is prone to theft, hence causing a lack of confidentiality (data can be stolen through the use of viruses/malwares. Reliability as regards the confidentiality aspect Internet Banking can be improved by making new, better and improved security software; integrity, again, can be improved through better banking software with as less number of bugs as possible; availability can be achieved through increased internet penetration; serviceability can be enhanced through provision of better hardware and software and lesser installation and repair times; non-repudiation through better and improved cryptography and authenticity of transactions; psychological acceptability will come through removal and better implementation of these attributes of reliability (Ho, 2010). For online banking session expiration, it is recommended to make user aware and tech- friendly, so that this security can't become hurdle for their online banking usage. There are some factors which effect Alternate Banking Channels Reliability as given below:

**Factors decrease Alternate Banking Channels Reliability.**

- Vulnerability in User Interface
- Data Compromise
- Expensiveness
- User Dissatisfaction
- Complexity of Interface
- Repudiation
- Unavailability
- Long service time
- Long transaction time.

**Factors increase Alternate Banking Reliability.**

- Transaction Security
- Privacy
- User Satisfaction
- User Friendly Interface
- Availability
- Integrity
- Psychological Acceptability
- Availability
- Serviceability
- Sustainability

**CONCLUSION**

Reliability of Alternate banking channels analysed through this survey. In the wake of a digitalised economy, with manifold cashless transactions as compared to physical cash transactions, reliability of the alternate banking channels such as Internet Banking, ATMs, EDCs, Mobile Banking etc. seems to have a tough road ahead – with most of it being accounted for peoples' resistance to change, and more so in the rural areas than in urban areas. Not only through provision of media of cashless transactions, both urban and rural people also need to be taught how to use these technologies safely for their benefit. They also need to be made aware of the information concerning the advantages (and perceived disadvantages) of the use of plastic money and entirely digital means of e-transacting business and their day-to-day usage of money. Their fears of increased vulnerability, leaks of data, expensiveness, dissatisfaction, repudiation, lack of psychological acceptability among the users, less availability results less reliability of alternate banking channels. Unless there is a boost in transaction security, integrity, availability, authorization, data privacy, a user-friendly interface, non-repudiation or authenticity of data, serviceability, psychological acceptability, and user trust/satisfaction, reliability on alternate banking channels will not increase to greater standards. Therefore, proper user awareness and robust security is needed for bright future of digital north India.

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