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Cashless Economy in India: Challenges Ahead

Aslam Hasan
Department of Commerce, Aligarh Muslim University, Uttar Pradesh, India

Mohammed AtifAman
Department of Business Administration, Aligarh Muslim University, Uttar Pradesh, India

Mohd Ashraf Ali
Department of Commerce, Aligarh Muslim University, Uttar Pradesh, India

Abstract
In an attempt to curb-out black money, money laundering, and to have a sound economy, the central government of India has embarked on the cashless economy. It is the birth of a new era in the nation with life with digital money. This paper is going to conceptualize the meaning of a cashless system, explains online banking techniques in India, schemes by government to spread the cashless system in India and highlights the challenges of the cashless economy and electronic payment systems. The objective of this study is to examine the significant challenges that are faced by Indians on the way towards cashless. To achieve the objectives of this exploratory type of personal study, interviews will be conducted.

Keywords: cash-based economy, cashless economy, electronic payment system, electronic payment techniques, Challenges ahead consumers, and cashless awareness.

Introduction

In the recent past, the term cashless has been a matter of interest among bureaucrats, academicians, and researchers around the world. Cashless economy is a layout where to make transactions; one does not need to carry cash in physical form as a medium of exchange, but rather with the use of credit or debit cards or electronically. It does not mean the total elimination of cash, but it is just the transformation of the economy into an ambiance that minimizes the use of physical cash by providing alternative channels for making payments. Globally both developed and developing economies are making great strides in minimizing the use of paper money. Sweden is on the way to be the first cashless economy, as major banks had stopped working in cash. People in Belgium do not remember the last time when they had paid in cash. Denmark is also in the list where less than 25% of retail transactions are made in cash. To date, India continues to be driven by the use of cash; however, the finance minister, in 2016 budget speech, talked about the idea of making India a cashless society. In its recent publication, "Payments and Settlement Systems in India: Vision 2018", carved out plans to boost up electronic payments and to enable India to move towards a cashless society. India holds one of the highest cash to gross domestic product ratios in the world, and lubricating economic activity with paper costs Rs 21000 crores annually to RBI (Tufts University, The Cost Of Cash In India). In a step towards the development of the economy and to keep an eye over tax hoarders, the government of India has launched its campaign "cashless India."

To make India a cashless society government has also started various schemes like Digishala, Digital Finance for Rural India, Visaka, Creating Awareness and Access through Common Service Centers (CSCs) and laid down multiple steps such as Unified Payments Interface, Unstructured Supplementary Service Data (USSD) based Mobile Banking, Aadhar enabled payment system (AEPS), Point of sale, National Electronic Funds Transfer (NEFT), Bharat Interface for Money (BHIM), Lucky Grahak Yojana and the Digi-Vyapar Yojana etc. that will be covered in this study, but the main aim of the study is to find out the significant challenges faced by Indians while moving towards cashless society.

Review of Literature

It was in 1918 when the Federal Reserve Bank used telegraph to move currency for the first time and with the set up of Automated Clearing House (ACH) in 1972 provided the U.S treasury and commercial banks an alternative to process cheque, which led to the revolution of e-payment as Benjamin Graham (2003) noted in his work "Evolution of Electronic Payment." Many researchers over the world have undertaken research, symposia, seminars, journal articles, and lectures to evaluate the system of e-payment. Snorkel and Kwast used the Federal Reserve's 1995 survey of consumer finance and analyzed the effect of demographic characteristics on the likelihood of e-payment instrument usage by households. Carrow and Stanten (1999) investigated the preferences of consumers among debit cards, credit cards, and cash. In October 2005, Wondwossen & Tsegai and G. Kidan (2005) completed their work on e-payment challenges and opportunities in Ethiopia and found; Poor telecommunication infrastructure, Frequent power disruption, People are resistant to new payment mechanisms, Lack of skilled manpower, Unavailability of payment laws, and regulations particularly for e-payment.

Balachandher., K.G., Santhan, V., & Norazlin, R (2000) studied electronic banking in Malaysia and found that ATM was the most widely accepted and highly utilized channel. Joshua Abor (2004) researched technological innovation and banking systems in Ghana and found a positive relationship between them. Studies by; Hunter, W. C., & Timme, S.G. (1991) found that information technology has an appreciable positive effect on banking productivity; cashier's work, banking transactions, bank patronage, bank services delivery and customer services.

Researches regarding the issues of the cashless system are also done as Wondwosson T & Tsegai G. Kidan (2005) found out that e-payment is surrounded by widespread challenges in Africa. Poor telecommunications infrastructure, limited readiness by banks, behavioral constraints, inadequate legal and regulated framework, and credit card access at low level are among the constraints that have hindered the progress of e-payments. Baraghani (2007) examined factors influencing the adaption of Internet banking. Bassey (2008), in his work "Digital Money in a Digitally Divided World," revealed the challenges perceived by Africans in the adoption of e-payment systems. He categorized challenges into three categories viz; the infrastructure, regulatory, cultural-cum human dimensions". In his view, the infrastructural challenges were the most important. This comprises of accessibility, affordability, networks, connectivity, and usage. According to Worku (2010), e-payment and e-banking applications carry a security challenge due to high dependency on critical ICT systems that may create vulnerabilities and can harm customers. "It is imperative for banks to understand and address security concerns to leverage the potentials of ICT's in delivering e-banking applications." Akhalumeh and Ohioka (2011) found out some challenges at the front of general people with the introduction of cashless policy. Their findings show that 34.0% of the respondents faced the problem of internet-based fraud, 15.5% of respondents argued the problem of limited POS/ATM, 19.6% cited the problem of illiteracy, and 30.9% stayed neutral - the respondent not been sure of problem been expected or experienced. Okey. Ovat (2012) found Fraud, Indiscriminate deductions from accounts, high rate of illiteracy, inefficiency, epileptic public power supply as challenges in Nigeria. Ajayi, L.B. (2014) found a lack of unique national identity system, inadequate infrastructure, high rate of illiteracy and poor sensitization, poor timing, and sequencing for both the policy as challenges for cashless policy.

Research gap

In India the term cashless is not new concept, people were using debit/credit cards, mobile/net banking, smart cards, etc. since early 2000, but that was optional or we could say that it was the outcome of the technological, industrial advancement and socio-economic upliftment in the country, and that too was a small proportion as mentioned above just 2% of all transactions were cashless. But, now there is an all-around call to became cashless for that government has also started various schemes, but in a country where one-fourth of the population is illiterate, 30% of the population is below poverty, and 40% of the population was unbanked till 2006, 43% of the total accounts are dormant. These are some pecuniary facts that stimulate us for this study to find out the challenges that are faced by citizens of Indian while going towards cashless.

Objectives of the study

To identify the various challenges faced by Indians while moving towards cashless.

To analyze the status of 'cashless layout' in rural and urban areas.

Conceptual Issues

Cash-based economy

The cash-based economy is defined as that economy in which day-to-day payments and business activities are predominantly transacted in physical notes and coins. These notes and coins are issued mainly by the central bank of any country duly signed by the Governor, promising the bearer to pay the printed amount. These notes and coins are the basic media of exchange in the country.

Cashless economy

Cashless economy is a system that aims at reducing, not eliminating total physical currency, i.e., notes or coins circulating in the economy while encouraging more electronic-based transactions (payment for goods, services, transfers, etc.). It is an economic system in which transactions are not done predominantly in exchange for actual cash (Daniel, D. G., R. W. Swartz, and A. L. Fermar, 2004). Some researcher says that it represents the pure state of electronic payment systems where the central bank does not print sturdy notes and coins for circulation, for which Claudia and Grauwe (2001) opines, a cashless society is a regime in which currency issued by the central bank has ceased to exist.

Electronic Payment system

The electronic payment system is an arrangement for making payments electronically via debit/credit cards, m-wallets, point of sale (POS), Mobile banking, internet banking, etc. It is not a new phenomenon use of electronic networks for trade began in the early 1970s in the financial sector. One of the first applications evolved as Electronic Funds Transfer (EFT) - the movement of money between financial institutions via telecommunications networks.

E-payments greatly increase payment efficiency by reducing costs that were incurred in printing physical currency that leads to trade in goods and services at low value. That enables the society to make payments conveniently and swiftly with the help of various electronic devices connected to global networks.

Electronic Payment Methods

Banking Cards (debit/ credit/ cash/ travel/ others): One of the basic and method for online payment is through cards issued by the bank, which are used to withdraw money from ATM and to make online payments. Each card secured by a four-digit pin, and whenever we make an online transaction, we are required to enter the pin and OTP, i.e., one-time password that is sent to the registered mobile number. Banking cards, whether debit or credit cards, offer consumers more security, convenience, and control than any other payment method.

Unstructured Supplementary Service Data (USSD): The innovative payment service *99# works on Unstructured Supplementary Service Data (USSD) channel that doesn't even require the internet connection to operate as this service allows mobile banking transactions through basic feature mobile phone. This service is currently offered by 51 leading banks across the country on all GSM networks in 12 languages. (NPCI)

*99# service has been launched to take the banking services to every common man across the country. Banking customers can avail of this service

by dialing *99#, a "Common number across all Telecom Service Providers (TSPs)" on their mobile phone and transact through an interactive menu displayed on the mobile screen. Services offered through *99# service include interbank account to account fund transfer, balance inquiry, mini statement beside a host of other services.

Aadhaar Enabled Payment System (AEPS): AEPS is a bank-led model which allows online interoperable financial transaction at PoS (Point of Sale / Micro ATM) through the Business Correspondent (BC) / Bank Mitra of any bank using the Aadhaar authentication.

Unified Payments Interface (UPI): Unified Payments Interface is launched by NPCI to facilitate instant fund transfer between multiple banks via mobile phones. It is built over immediate payment service IMPS for fund transfer using virtual payment address, account number with IFSC, mobile number with mobile money identifier, Aadhar number. Each Bank provides its own UPI App for Android, Windows, and iOS mobile platform(s). A mobile banking personal identification number is required to confirm each transaction.

Mobile Wallet: A mobile wallet is a way to carry digital money on your mobile phone. One can link credit or debit card information via the mobile wallet application to make online transactions. Instead of using the card to make purchases, one can pay with a smart phone, tablet, or smartwatch. An individual's account is required to be linked to the digital wallet to load money in it. Most banks have their e-wallets and some private companies. E.g., Paytm, Free charge, Mobikwik, oxygen, rupee, airtel money, Jio money, SBI buddy, its cash, citrus pay, Vodafone m-Pesa, axis bank lime, ICICI pockets, speed pay, etc.

Point of Sale: A point of sale (PoS) is the place where sales are made. On a macro level, PoS may be a mall, a market, or a city. On a micro-level, retailers consider PoS to be the area where a customer completes a transaction, such as a checkout counter. It is also known as a point of purchase.

Internet Banking: Internet banking is also known as online banking, e-banking or virtual banking, is an electronic payment system that enables customers of a bank or other financial institution to conduct a range of financial transactions through the financial institution's website.

Mobile Banking: Mobile banking is a service provided by a bank or other financial institution that allows its customers to conduct different types of financial transactions remotely using a mobile device such as a mobile phone or tablet. It uses software, usually called an app, provided by the banks or financial institutions for the purpose. Each Bank provides its mobile banking App for Android, Windows, and iOS mobile platform(s).

Micro ATM: Micro ATM is a small device that is used by Business Correspondents (BC) or business facilitator to deliver basic banking services to common man via bank cards. They are cash dispensers and cash depositors with a print receipt of each transaction. This enables a person to instantly deposit or withdraw funds regardless of the bank associated with a particular BC. The device is based on a mobile phone connection available at every BC. Customers would just have to get their identity authenticated and withdraw or put money into their bank accounts.

Different Types of Online Transaction Techniques

National Electronic Fund Transfer (NEFT): National Electronic Funds Transfer (NEFT) is a nation-wide payment system facilitating one-to-one funds transfer. Under this Scheme, individuals, firms and corporates can electronically transfer funds from any bank branch to any individual, firm or corporate having an account with any other bank branch in the country participating in the Scheme. NEFT also enables walk-in-customers to transfer money but options 50,000 only. Presently, NEFT operates in hourly batches - there are twelve settlements from 8 am to 7 pm on weekdays (Monday through Friday), and six settlements from 8 am to 1 pm on Saturdays.

Real-Time Gross Settlement (RTGS): RTGS is the fastest possible money transfer system through the banking channel as settlements are made in real-time without any queue time. 'Real Time' means the transaction is not subjected to any waiting lines, and it is settled as soon as it is processed. 'Gross Settlement' means the settlement of funds transfer instructions occurs individually or on a one-to-one basis without netting with other transactions.

'Settlement' means that once processed transactions final and irrevocable. The RTGS system is primarily intended for large value transactions. The minimum amount to be remitted through RTGS is 2 lakh. There is no upper ceiling for RTGS transactions.

Electronic Clearing Service (ECS): ECS is an alternative method for effecting payment obviating the need for issuing and handling paper instruments for periodic transactions (monthly/ quarterly/ half-yearly/ yearly) like payment of interest/ pension/ salary/ dividend etc. from a single user source to a large number of destinations.

Immediate Payment Service (IMPS): IMPS is an instant, 24X7, interbank electronic fund transfer service via mobile phones all over India. It is managed by NPCI and is built upon National Financial Switch network objected:

To enable bank customers to use portable instruments as a channel for accessing their bank's accounts and remit funds.

I am making payment simpler, just with the mobile number of the beneficiary.

To sub-serve the goal of Reserve Bank of India (RBI) in the electronification of retail payments.

To facilitate mobile payment systems already introduced in India with the Reserve Bank of India Mobile Payment Guidelines 2008 to be inter-operable across banks and mobile operators in a safe and secure manner.

To build the foundation for a full range of mobile-based Banking services.

Capacity building and awareness program by the government of India

Digishala: In an attempt to promote digital payments in the country ministry of electronics and IT has introduced the 'DigiDhanAbhiyan' campaign to enable viewers to move towards cashless transactions. Digishala is an education and non-commercial free channel about digital transactions where viewers will be informed and educated through demos of various cashless transaction methods.

Digital Finance for Rural India: Ministry of Electronics and IT launched "Digital finance for rural India: Creating awareness and access through common service centers (CSCs)" under Digital SakshartaAbhiyan (DISHA) with an objectives to enable the CSCs to become Digital financial hubs, by hosting awareness sessions on government policies and digital finance options available for rural citizens as well as enabling various mechanism of digital financial services such as IMPS, UPI, Bank PoS machines, etc.

Vittiya Saksharta Abhiyan (Visakha): India is on the cusp of an economic revolution towards a cashless economy, and to bring any major change, the youth had always played a keen role. Visaka is one such campaign that actively engages teens of higher education institutes, motivating and encouraging them for the cashless economic system.

Challenges to Consumers

From the previous studies, we found the following problems perceived by consumers in making e-payments. These challenges are grouped into seven factors, which include a few sub-factors, as shown in diagram 1.

Security concerns: This is probably the most critical factor that influences negatively the prospective customers who make payment electronically. Every channel of e-payment has its security problems, but it may be argued that when somebody concerns about security in e-payment, then the first that comes to his/her mind is the Internet. This is substantiated by the numerous articles in the press concerning Internet security breaches. People see and hear everywhere about hackers, fraud, crackers, computer viruses, identity theft, phishing attacks, spyware, malware, and many other terms that refer to security issues regarding the Internet. Nevertheless, it is not only the Internet that is fraught with security breaches. There are numerous incidents regarding frauds through the use of fake ATM cards or cases of theft of identity data through the infiltration of inadequately guarded information systems. The incidence of ATM, credit, debit card and net banking-related fraud has gone up by more than 35 percent between 2012-13 and 2015-16 in India, according to the country's federal bank Reserve Bank of India (RBI). According to RBI data, 8,765 cases were reported by banks in 2012-13, and the corresponding figures for the subsequent three years were 9,500 (2013-14), 13,083 (2014-15), and 11,997 (in the first nine months of 2015-16) respectively. India ranked third after Japan and

the US as countries most affected by online banking malware in 2014.

Non-familiarity and lack of required technological skills: A lot of bank customers lack the required skills to operate technologically advanced devices (personal computers and new generation mobile phones, i.e., smartphones), and they are not familiar with browsing the Internet. These people, therefore, cannot benefit from the digital economy. In a move to digitally empower millions of Indians in rural areas and educate them about how to do cashless transactions, the Ministry of Electronics and Information Technology (MeitY) launched a TV channel named 'DigiShala.' Ministry of Electronics and IT (MeitY) has launched a new scheme entitled "Digital Finance for Rural India: Creating Awareness and Access through Common Service Centres (CSCs)" under Digital SakshartaAbhiyan (DISHA) with objectives to enable the CSCs to become Digital Financial Hubs, by hosting awareness sessions on government policies and digital finance options available for rural citizens as well as enabling various mechanism of digital financial services such as IMPS, UPI, Bank PoS machines, etc.

Lack of specialized equipment and infrastructure: Although many people possess personal computers and mobile devices nowadays, there are many more that do not. Not only must the potential customer have access to the required equipment, but the required telecommunications networks must be available and accessible. Such networks have to satisfy some minimum requirements regarding security, capacity, and bandwidth. Because of inappropriate connection, sometimes, bank charges double amount in case of delay in confirmation and transaction failure.

Extra Charges: Many people do not want to make a cashless transaction because they perceived the e-payment involve extra costs. Before users can engage in electronic retail payments, they must invest in devices that give access and then purchase that access to the networks that constitute the Internet.

Lack of grievance body: Prospective customers perceived that no grievance body is available in case of online fraud regarding their amount. If available, they are not familiar with that so much. Sometimes the consumer faces a delay in refund because of the unavailability of appropriate grievance bodies.

Disclosed Privacy: Consumers perceived that they could not hide their information regarding purchase items and articles. They think that their banks have full knowledge about the product they bought. They lack trust, how the bank or government would use their private information.

Not Universally Accepted: The main problem of e-cash is that it is not widely accepted because the commercial establishment must take it as a payment method.

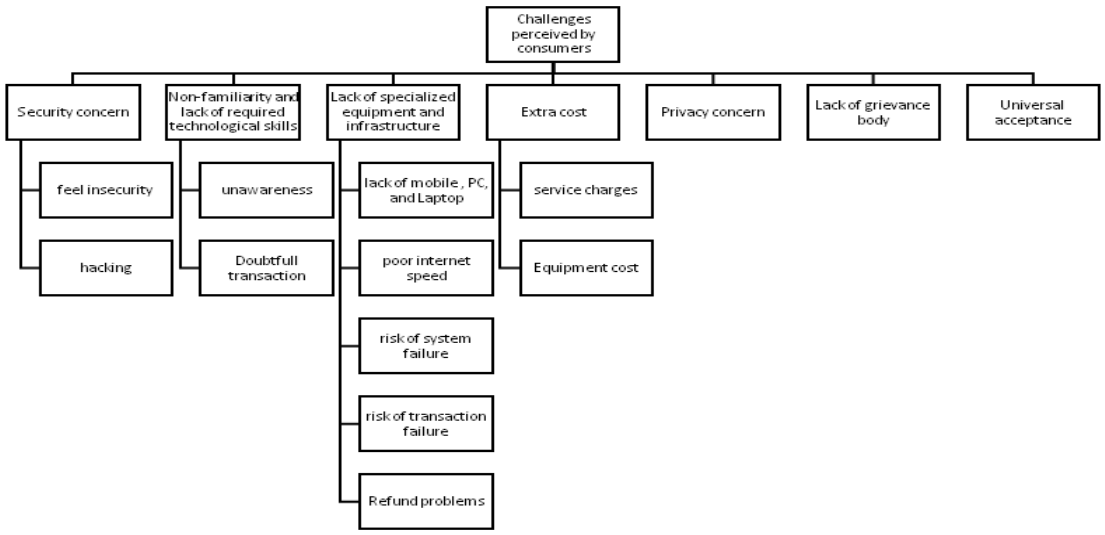

Diagram 1: Factors considered as challenges by consumers in making cashless payment

Research Methodology

This study is based on the qualitative research method because qualitative research is characterized by its aims, which relate to understanding some aspects of social life, and its methods, which (in general) generate words, rather than numbers, as data for analysis. It also seeks to understand a particular research issue or subject from the local population's perspective. Qualitative research is especially powerful in obtaining culturally specific information about the values, opinions, behaviors, and social contexts of particular populations. Some secondary data has been used in this research that was extracted from various sources viz: journals, books, e-books, reports, etc.

The data for this study was collected through an interview session. The research population for this study was all the residents of city Aligarh; with a sample size of 70 respondents, convenient sampling was used to determine our respondents from both urban and rural regions, which include all sections of the society, i.e., students, businessmen, academicians, and service class. Open-ended questions were asked regarding the challenges they face while going cashless.

Findings

In light of the study conducted by us, the significant challenges that are faced by Indian consumers are:

Education & knowledge: One of the major challenges is the lack of basic knowledge among the major population, it is a severe obstruction for the adoption of a cashless society as it obstructs the accessibility of banking services. For citizens to fully enjoy the benefits of a cashless economy, they should be informed not only how to read and write but also how to possess basic ICT literacy. The government and its companion organization should acknowledge the general people through general media sources.

Unawareness: Despite various awareness and capacity building programs by the government, most of the areas are still unaware regarding cashless mechanisms, especially the rural regions, where we know that one-third of the country resides. About 50 percent of respondents responses that they not aware of how to access ICT to do the cashless transaction.

Lack of infrastructure: Villagers do not supply basic equipment such as cell phones and computers. This study shows, only 70 percent of respondents have mobiles and computers. Besides these challenges, there is inadequate infrastructure ranges from network failure and slow speed of internet, which leads to failure or dual payment for the same transaction, incompatibility with modern banking techniques, epileptic power supply which is precarious to efficient electronic payment system will undoubtedly militate against the success of the cashless policy.

Security & Privacy issues: Security and privacy issue seem to be one of the major challenges in the development of cashless policy in India; people are much concerned about leakage of personal information, fraudsters, and hackers. Sixty-one percent of consumers perceived that the cashless transaction is not secure as there is a high chance of hacking and personal identity stolen. In spite of this, 10 percent of consumers perceived that the grievance body for settlement of such type of cybercrimes is not available.

Behavioral constraints: Which could also be said as resistant to change, many people we met fulfill all necessary obligations to be cashless as they are educated, carry latest gadgets, knows how to use online banking but also they don't want to change the way of living they are happy as they are. It may seem due to distrust in the cashless transaction. About 11 percent of consumers do not trust the cashless transaction.

Extra Charges: Online transactions incur extra charges that make a pocket of general consumers to be tight. Forty-four percent of consumers consider cost as a major challenge that keeps them away from the cashless transaction.

Conclusion

This paper was aimed to find the challenges that are faced by Indian citizens in a move towards a cashless economy, for that we interviewed students, academicians, and businessmen from both urban and rural areas. The government of India has laid much stress on becoming cashless to curb-out black money and corruption from the nation, for that various schemes and campaigns had also been launched

to aware and motivated peoples. Various digital payment methods were also introduced to make the cashless transaction easy and eco-friendly. Despite such efforts by the government, only 17% of the population is making cashless transactions often. A major part of the population is concerned about security and privacy issues. Lack of infrastructure is also a matter of challenge for two-third of the population. One of the challenges faced by Indians is the lack of education and knowledge regarding the cashless economy.

Suggestions

From this study, we would like to suggest that:

- Mere launching of schemes and campaigns regarding cashless doesn't seem to be worthwhile. To make these schemes more impactful, some marketing tools should be applied to make these schemes fruitful.
- Online transactions should be made as cheap as possible, eliminating all sorts of extra charges so that more and more peoples switch from cash-based to cashless economy.
- More emphasis should be laid on educating the people in rural areas as a major part of the nation resides in rural areas only.
- All sorts of transactions dealing with huge investment must be cashless to keep control over black-money.
- Adequate security mechanisms should be put in place to safeguard the interest of consumers against dubious and fraudulent practices of fraudsters.

Limitations of the Study

Despite all efforts and dedication towards this study, there are some limitations to this research which are as follows:

- **Sample size:** The sample size for this study was 70, which is too small for a diversified country like India.
- **Population:** The whole research was conducted in Aligarh district, which itself is a small city as compared to other metro cities of India. Therefore there is a possibility that with a large area of the population, we could have found some more challenges.
- **The mood of respondents:** As interviews are face to face, and verbal method of data collection, therefore, it is possible that with the spirit, the answers of the respondent may change.
- **Lack of prior research on the topic:** As the cashless economy is a new phenomenon in India, that's why not so much of work is being done on its challenges.

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Author Details

Aslam Hasan, *Department of Commerce, Aligarh Muslim University, Uttar Pradesh, India,*
***Email ID**: aslam.rs@amu.ac.in*

Mohammed AtifAman, *Department of Business Administration, Aligarh Muslim University, Uttar Pradesh, India,*
***Email ID**: maaman@myamu.ac.in*

Prof. Mohd Ashraf Ali, *Department of Commerce, Aligarh Muslim University, Uttar Pradesh, India,*
***Email ID**: drashrafali1@gmail.com*