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An empirical analysis of customer perception towards cashless transactions: A case study of Haryana

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Abstract
The payment system has evolved over a long period of time. From barter system to coin-based currency and then a system in which payments were made by paper currency. Now a new system is evolving in which paper-based payments are being replaced by electronic or digital payments. In this digital era, the advancement in electronic and communication technologies has led to the development of alternate modes of payments. The Indian Government and RBI are continuously emphasizing the cashless transactions by using digital mediums like net banking, card payments, UPI Apps etc. Despite India is witnessing robust growth in cashless transactions, people are still hesitant to adopt cashless system. The present study examines the various modes of payment and focuses on the benefits and challenges of cashless payments perceived by customers. A primary data survey through a structured questionnaire has been conducted on 314 customers in selected districts of Haryana. The findings suggested that majority of the respondents agree that cashless transactions are convenient, user friendly and can also foster economic growth by reducing corruption. Major challenges in adoption of the cashless payment system are cyber security, inadequate facilities and lack of digital literacy. The results suggested an important policy direction is required for growth in cashless payments.

Keywords: cashless payments, cashless economy, digital India, awareness, perception

1. Introduction
Cashless Payment system is a system in which goods and services are exchanged without use of physical cash through digital modes. Basically, cashless transactions leads to a cashless economy, which describes an economic state in which the flow of cash within an economy is non-existent and all transactions are through digital/ electronic channels such as Dr. card/ Cr. card, NEFT, RTGS, Mobile wallets, UPI apps etc. In this digital era, with the fast-growing penetration of mobile devices and recent technological advancements has led to the development of new modes of payments including SMS payments, mobile applications, digital wallets and QR code scanning. In recent years, there has been a sharp inclination towards cashless methods of monetary exchange. Government is creating positive atmosphere for growth of digital payment in India by giving incentives and tax breaks. The launch of the 'Digital India' programme in 2015 reflects the government's commitment to bring efficiency and transparency in governance. Demonetization by government on 8th November 2016 pushed India towards cashless future.
According to Reserve Bank of India (RBI) as of September 2018, the number of debit and credit card has increased significantly to 990 million and 44 million respectively, showing a preference for cashless transactions [11]. Cashless payments offer advantages in terms of costs, convenience and fast transactions but it also pose a number of challenges in terms of required infrastructure, digital literacy and risks related to data security and cyber fraud. The present study examines the various modes of payment and focuses on the benefits and challenges of cashless payments perceived by customers.

1.1 Cashless Payment Methods
There are numerous modes for cashless payments which can be classified as paper based and electronic based. These are covered as under:

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1. **Cheque:** The cheque is one of the most established techniques for cashless payment. It is known technique to everybody. In this technique, a cheque is issued to a person or business for specified amount and deposited in the receiver's bank. After verifying the client details, bank issues the payment against cheque. Bank can dishonor the cheque if there is no sufficient balance in client account or in case of mismatch of signature. In order to avoid all these issues in cheque payments, people can goes through cashless transaction.

2. **Demand Draft:** Demand draft is another paper based method for cashless payment. It is used to transfer payment from one bank account to another on request of the client (drawer). It guarantees the payment of amount mentioned in draft in the name of payee. Compared to cheque, DD assures secure and on time payment as cheque can bounce and dishonor.

3. **Credit / Debit card:** to the use of cash when making purchases. Now a day's, the popular alternative of the cash, is card payment method through various cards like debit card, credit card and prepaid banking cards etc. The advantage of this card payment is convenience, easy payment and avoids carrying the cash. These cards are issued by banks along with 4 digit pin number to do all kind of transactions. Some of the most reputed and well-known card payment systems are Visa, Rupay and MasterCard.

4. **Internet Banking:** Internet banking refers to the process of carrying out banking transactions online. These may include many services such as transferring funds, opening a new account. Internet banking is often used to make online fund transfers via NEFT, RTGS or IMPS, bill payments etc. Customers can use all types of banking services through the bank website through log into his/her account by using a username and password.

5. **Mobile Wallets:** Mobile Wallets are the most popular way of cashless payment nowadays. The user can download a wallet application like paytm, mobikwik etc. from the play store on their mobile device. After registering the mobile number with the app, bank account or Dr./Cr card can be linked with the app. User has to provide KYC details to make or receive payments through these wallets.

6. **UPI apps:** UPI (Unified Payment Interface) is an application based payment system. This app enable transfer of money bank to bank and to users on 24/7 basis by providing details of bank account, IFSC code. The examples of few UPI Apps are BHIM app, SBI Pay, Axis Pay UPI App, Union Bank UBI App, PNB UPI, PhonePe and so forth.

7. **QR Code Payments:** QR (Quick response) code is a payment method where a payment is done by scanning a QR code from any mobile application. To make a payment, customer can scan the QR code displayed by the merchant from their mobile phone. It opens a payment link where customer can fill the amount to be paid and finally submit it.

Paper Based Methods	Electronic Methods
• Cheque • Demand Draft	• Debit/ Credit Card • Internet Banking • Mobile Wallets • UPI Apps • QR code Payments

2. Literature Review

(Poonam 2016) in her study on mobile wallet analyzed that ease of transactions, secured profile and convenience in handling application put forth the benefits of wallet money and also concluded that business sectors like banking, retail, hospitality etc., are making use of mobile payment instruments in the customers –business and customers to customers areas.

Preeti Garg & Manvi Panchal (2017) [6] examined that people have positive opinion about cashless transactions and consider it helpful to fight against corruption, money laundering, and terror funding. The biggest challenge in its adoption is internet security. For smooth implementation of cash less system, it is important to strengthen the security mechanism against cyber fraud.

(Podile & Rajesh, 2017) [5] examined customer perception on cashless transactions in India. The study concluded that ease of use, incentives, convenience have positive impact on cashless transactions while lack of digital knowledge, poor internet connectivity and defunct POS machines are some negative perception which set back the adoption of cashless system.

(Brahma & Dutta, 2018) [1] found that while people are getting comfortable with cashless payments but security problems, high transactional costs, poor network coverage, and lack of digital knowledge etc. are some kind of negative perceptions that creates a hurdle in adopting the new payment system.

(Ranjanna, 2018) in her study concluded that majority of the respondents was aware of cashless transactions and agreed that cashless transactions can help to fight against corruption, black money. It helps to reduce the risk of carrying cash and can also faster economic growth. Customers perceived the high level of risk in the application of cash less transactions.

(Rudresha, 2019) [8] Cashless transactions system helps to fight against major illegal or unethical activities in the economy like corruption, black money and terrorism but lack of Internet facilities, cyber security are the main problems which affect the functioning of cashless transactions.

(Kaur P., 2019) [9] concluded that digital payments will save a huge amount of money that is spend annually in printing and maintaining currency. The government needs to take the necessary steps to protect the payment systems from the cyber-attacks.

3. Materials and Methods

The research has been undertaken to analyze the benefits and challenges of cashless transactions as perceived by the people. The study is empirical and quantitative in nature where the primary data has been collected through a questionnaire distributed through online methods. The link of the questionnaire was shared on whatsApp and e mailed to various potential respondents in different districts of Haryana. Responses were recorded by 314 respondents. The data was analyzed through SPSS software using frequency table and percentage method.

3.1 Objectives of the Study
1. To examine various methods of cashless payments.
2. To analyze the benefits and challenges of cashless payments

Table 1: Demographic variable of the respondents

Variable	Category	Frequency	Percentage
Gender	Male	163	51.8
	Female	151	48.2
	Total	314	100
Age	0-18 Years	8	2.1
	18-25 Years	121	38.7
	26-40 Years	133	42.4
	Above 40 Years	52	16.8
	Total	314	100
Marital Status	Married	175	55.8
	Unmarried	136	43.3
	Others	3	0.9
	Total	314	100
Qualification	Undergraduate	37	11.8
	Graduate	87	27.8
	Masters	119	37.8
	Doctorate	47	15.1
	Professional	18	5.7
	Others	5	1.8
	Total	314	100.0
Occupation	Student	58	18.4
	Business	77	24.5
	Private Sector Job	74	23.8
	Government Job	47	15.0
	Farming	40	7.8
	Others	32	10.2
	Total	314	100.0
Income (Monthly)	0-25000	117	37.2
	25000-50000	76	24.1
	50000-100000	77	24.7
	100000-200000	37	11.7
	Above 200000	7	2.3
	Total	314	100.0

Table 1 indicates that the proportion of male (52%) and female (48%) is almost equal in size. A sizeable portion of the respondents aged between 26 years to 40 years (42.4%) followed by 18 years to 25 years (38.7%) and above 40 years (16.8%). Majority of the respondents are having a master's degree (37.8%) followed by graduates (27.8%), having a doctorate degree (15%), undergraduates are (11.8%) and some of the respondents (5.8%) are professionals. Occupation wise distribution shows that majority of the respondents are in business (24.5%), followed by private sector employees (23.8%), students (18.5%), respondents in government job are (15%), farming(7.8%) and remaining respondents falls in others category (10.5%). Majority of the respondents falls in monthly income group of less than Rs. 25,000 (37.2%), followed by almost equal number of respondents between Rs. 25,000 to Rs. 50,000, between 50,000 to 1,00,000 (24%), between 100,000 to 2,00,000 is (11.7%) and above Rs. 2,00,000 (2.3%).

4. Data Analysis & Interpretation

Table 2: Frequency of mostly used payment modes

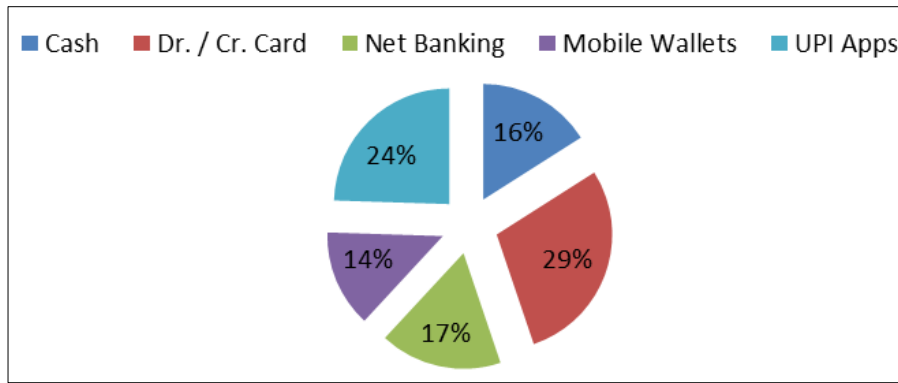| Options	No. of Respondents	Percentage
Cash	50	16
Dr. / Cr. Card	90	28.8
Net Banking	54	17.1
Mobile Wallets	43	13.6
UPI Apps	77	24.5
Total	314	100.0
Source: Primary Data		

Fig 1: Frequency of mostly used payment modes

Table 2 shows that about 30% of the respondents consider Dr. Card / Cr. card as the most comfortable mode of payment by respondents followed by UPI apps (24.5%).

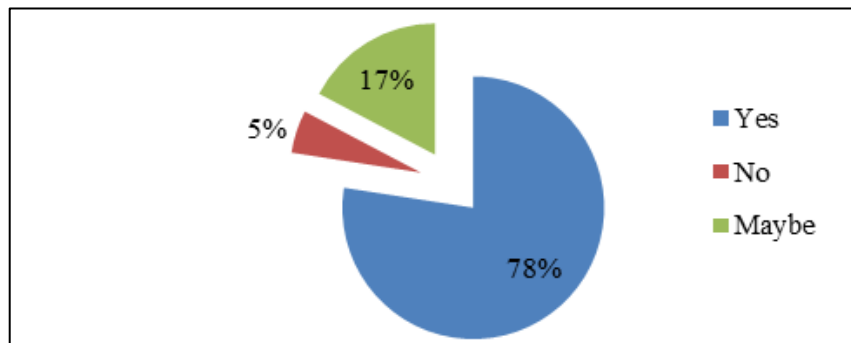17% of respondents used net banking and 13.6% used mobile wallets. Cash is preferred by 16% respondents.

Fig 2: Cashless transactions are better than Cash transactions

Most of the respondents believe that cashless transactions are better than cash transactions. Easy and convenient transactions, high transaction speed, reduce the risk of

carrying cash, cash back offers are some benefits perceived by the respondents to consider digital transactions better than cash transactions.

Table 3: Benefits of Cashless transactions

		Frequency	Percentage
Easy and convenient means of transactions	Strongly Agree	134	42.68
	Agree	109	34.71
	Moderately Agree	47	14.97
	Disagree	8	2.55
	Strongly Disagree	16	5.10
	Total	314	100
Reduces risk of carrying cash	Strongly Agree	135	42.99
	Agree	110	35.03
	Moderately Agree	42	13.38
	Disagree	15	4.78
	Strongly Disagree	12	3.82
	Total	314	100
High Transaction speed	Strongly Agree	102	32.48
	Agree	114	36.31
	Moderately Agree	68	21.66
	Disagree	19	6.05
	Strongly Disagree	11	3.50
	Total	314	100
Stimulates Economic Growth	Strongly Agree	98	31.21
	Agree	109	34.71
	Moderately Agree	56	17.84
	Disagree	37	11.78
	Strongly Disagree	14	4.46
	Total	314	100
Controls Black Money	Strongly Agree	58	18.47
	Agree	114	36.31
	Moderately Agree	80	25.48

	Disagree	49	15.61
	Strongly Disagree	13	4.14
	Total	314	100
Reduces Corruption	Strongly Agree	67	21.34
	Agree	104	33.12
	Moderately Agree	82	26.11
	Disagree	42	13.38
	Strongly Disagree	19	6.05
	Total	314	100

Table 3 shows that the most perceived benefit of the cashless system to India is its ability to reduce the risk of carrying cash and easy and convenient mode of payment, 76% of the respondents believed that the most important benefit of the cashless economy is convenient and easy method of payment and reduction in risk of carrying cash. In the similar way, 68%, of the respondents said that cashless payment increases the speed of transaction. 54% believe that the cashless economy will help to reduce corruption and control black money as the money flowing through the system can easily be traced and followed. 65% of the respondents believe that the cashless transactions stimulate economic growth and believe that digital payment system is positively correlated with the economic development of the country.

4.1 ANOVA Computation: In order to analyze the impact of demographic variables on perceived benefits, ANOVA was carried out. The results are given below. Table 4 gives the result of ANOVA computation on the basis of gender, age, education, occupation and income of the respondents.

Table 4: ANOVA Computation of perceived benefits on the basis of Demographic variables

Statement/ Attribute	Gender		Age		Education		Occupation		Income	
	F	Sig.	F	Sig.	F	Sig.	F	Sig.	F	Sig.
Easy and convenient means of transactions	.67	.412	1.37	.242	2.52	.028	2.38	.038	.75	.555
Reduces risk of carrying cash	1.43	.232	.566	.688	5.94	.000	3.75	.002	.59	.666
High Transaction Speed	1.20	.274	.550	.699	.437	.823	3.08	.009	2.1	.069
Cashback offers/ Discounts	1.89	.170	1.67	.154	2.89	.014	4.98	.000	2.4	.045
Controls Black Money	2.34	.127	1.49	.203	1.56	.168	2.48	.031	.89	.467
Controls Illegal Activities	2.26	.134	1.36	.246	1.55	.174	3.24	.007	1.74	.144
Reduces Corruption	4.37	.037	1.59	.174	1.66	.144	3.97	.002	3.15	.014

The result of ANOVA computation shows that no significant differences in perception of male and female respondents regarding benefits of using cashless modes. This indicates that both male and female customer perceive benefits of cashless modes in similar way. Similarly the ANOVA computation shows that no significant differences are perceived by the respondents on the basis of age and income. However significant differences are shown by respondents in perceived benefits of cashless payments on the basis of their occupation and in some cases on the basis of education.

Table 5: Challenges of Cashless transactions

		Frequency	Percentage
Lack of Security	Strongly Agree	66	21.01
	Agree	105	33.5
	Moderately Agree	72	22.9
	Disagree	58	18.5
	Strongly Disagree	13	4.0
	Total	314	100
Lack of Digital knowledge	Strongly Agree	71	22.6
	Agree	89	28.4
	Moderately Agree	72	22.92
	Disagree	62	19.65
	Strongly Disagree	20	6.23
	Total	314	100
Lack of Incentives	Strongly Agree	13	4.09
	Agree	71	22.6
	Moderately Agree	115	36.58
	Disagree	106	33.75
	Strongly Disagree	10	3.31
	Total	314	100
Inadequate Infrastructure	strongly agree	33	10.5
	Agree	99	31.53
	moderately agree	85	27.04
	Disagree	85	27.04
	strongly disagree	12	3.82
	Total	314	100

Poor Internet Connectivity	Strongly Agree	66	21.01
	Agree	106	33.75
	Moderately Agree	82	31.32
	Disagree	50	17.51
	Strongly Disagree	10	3.31
	Total	314	100
Charges of Online Transactions	Strongly Agree	32	10.19
	Agree	66	21.02
	Moderately Agree	98	31.21
	Disagree	97	30.89
	Strongly Disagree	21	6.68
	Total	314	100

Above table shows the major challenges which respondents are facing while adopting the cashless system. Majority of the respondents believed that lack of security, digital literacy and poor internet connection are the hurdles in the path of Cashless economy and 41% people believe inadequate infrastructure is also a problem for cashless system. Some of the respondents believe that charges of online transactions and lack of incentives is hurdle in cashless system.

4.2 ANOVA Computation: In order to test the difference in customer perception of challenges to adoption of cashless modes on the basis of demographic variables, ANOVA was carried out. Table 6 gives the result of ANOVA computation on the basis of gender, age, education, occupation and income of the respondents.

Table 6: ANOVA Computation of perceived Challenges on the basis of Demographic variables

Statement/ Attribute	Gender		Age		Education		Occupation		Income	
	F	Sig.	F	Sig.	F	Sig.	F	Sig.	F	Sig.
Lack of Security	2.18	.141	6.31	.000	2.62	.024	3.23	.007	3.46	.009
Lack of Incentives	2.07	.151	3.93	.004	1.44	.028	2.45	.034	2.99	.020
Inadequate Infrastructure	.294	.588	2.69	.052	.761	.579	.773	.570	.557	.694
Lack of Digital Knowledge	1.15	.285	2.38	.031	3.38	.005	.902	.480	1.53	.194
Poor Internet Connectivity	.041	.839	1.68	.153	3.04	.011	.370	.869	1.77	.135
Charges of Online transactions	.312	.577	2.03	.090	3.86	.002	.130	.986	2.60	.036

The result of ANOVA computation shows that there is no significant difference in perception of male and female respondents regarding challenges of using cashless modes. Similarly the ANOVA computation shows that no significant differences are perceived by the respondents on the basis of occupation and income. However, significant difference was observed in perception of customers on the basis of age and education in most of the cases.

5. Findings & Policy implications
The findings reveal that people are getting comfortable with cashless payments and believe that cashless system is easy and convenient, reduce risk of carrying cash and increases the transaction speed. Cashless transactions can stimulate the economic growth of the country by reducing corruption and illegal activities but there are some negative perceptions that hold back people from adopting the new system. The negative perceptions are like security problems, poor network connectivity, lack of digital knowledge and defunct POS machines. The government should take the some important steps to promote digital literacy and make some policy consideration to ensure cyber security from internet frauds to prepare India for a Cashless economy.

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