

Shifting from Cash to Cashless Economy: A Study of Consumer Behaviour

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Abstract: With the rapid improvements in technology and increasing levels of internet penetration across India, the way that people make transactions is Changing. Cash may no longer be Ruler. Cashless economy is an economic System in which there is little or very low Cash flow in a Society goods & Services are purchased and paid through electronic/digital Services. Cashless economy is the economy in which transactions are made by debit Cards, Credit Cards, e-wallet, Cheques Or direct transaction from one account to another through e-banking. Cashless economy got eyes after demonetization where plastic money was widely used. The objective of this research is to understand the acceptance & mindset of Citizens of economy regarding the shift from Cash based to a more digital economy. It includes various indicators like main apps they prefer, main amenities for online payment, different age groups making online transactions & how their education level affects. To Conduct Survey, the Sample population has been Choose by Random Sampling. The primary data has been collected through questionnaires with responses of 413 respondents from Students, working professionals & business class people from every- age group. Data has been tabulated & analyzed to understand the perception of individuals towards Cashless economy. There is Still a long run for India to be Cashless to full extent as the government needs to develop a Secure infrastructure.

Key Word: Cashless, Demonetization, Economic System, Debit Cards, Credit Cards, e-wallet, Cheques, e- banking

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I. Introduction

The prime minister of India, on 8th November, 2016 demonetized the two largely used denominations of currency notes of INR 500 and INR 1000, which were ceased with immediate effect with a few exceptions. The entire nation was in shock because such a huge render was declared invalid in one announcement and it was not the first time the government of India had not taken such a step earlier. Indian government took this step in 1946 and 1978 but in 2016 it faced a lot of criticism as people were left with only INR 100 notes or less denomination for transactions. The main aim of this step was to attack counterfeit currency, currency used for terrorist financing, black money and corruption. The Prime Minister of India is also working towards digitization of India (DIGITAL INDIA). Thus, both moves DEMONETISATION and DIGITIZATION if worked effectively will help the Indian Economy to become Cashless Economy. Cashless transactions bring more transparency, ease and convenience in monetary transactions. At the same time, cashless transactions reduce the flow of black money to some extent and also increase liquidity in the banking system which will eventually lead to development of the Indian economy. With the expansion in the market share of telecommunications, increased number of smartphone users and innovations of a large number of digital payment platforms like Paytm, UPI APPs, mobile wallets, smart cards etc usage of cashless transactions have increased. In this Paper, we aimed to understand the consumer behaviour towards a cashless economy. The study is aimed towards studying the role of cashless transactions in daily lives of Indians.

MODES OF CASHLESS TRANSACTIONS

Banking cards

Banking cards like Debit and credit cards are one of the most famous cashless payment methods across the world. Banking various benefits like secure payments, convenience, and many more.

One of the major advantages of banking cards is that it can also be used for making other types of digital payments. For example, a user can store his/her card information in the mobile wallets or digital payment apps to make cashless payment. Moreover, banking cards can be also used in online consumptions, PoS machines, online transactions, etc.

There are various reputed names like MasterCard, Visa, and Rupay when it comes to banking cards.

USSD

Unstructured Supplementary Service Data (USSD) is a cashless payment choice for those who don't have a smartphone. The USP of this system is that the user can make payments without a smartphone device or internet facility.

In this method, the user must dial *99# to interact with a communicating voice menu via a mobile screen. However, to use this service, the customer must confirm that his mobile number is the same as that of the one linked with the bank account.

This service is pretty similar to the IMPS and it uses the MMID and MPIN with phone number or account number with IFSC code for a successful transaction.

Mobile wallet apps

Mobile wallet apps are quickly gaining attraction due to its fast, secure, and convenient payment systems. These are mobile applications which make it easy for the user to send, receive, and store money.

A user can add money in his wallet by simply linking his bank account. Correspondingly, a user can also send money to his friends, relatives, or any other person by entering phone number, email ID, unique ID, or scanning QR code.

Moreover, a user can also make payments to merchants and pay various utility bills like water bill, electricity bill, mobile recharge, and many more straight from the mobile wallet app.

QR Codes

QR means Quick Response. It's a two-dimensional code that has a pattern of black squares which are designed on a square grid. QR codes are scanned by imaging devices such as smartphone cameras.

QR codes are extensively used for making cashless payments in which a user just has to scan the QR code of the merchant service to complete the transaction.

Contactless payments

Contactless payment is a convenient and safe method which enables the users to purchase goods by simply tapping a card near a point of sale terminal. The card can be just a debit, credit, or smart card which is also identified as the chip card that is based on NFC (near field communication) or RFID technology.

Contactless payments are very convenient as it doesn't require any signature or PIN. Moreover, you can also make contactless payments via NFC enabled phones that are directly linked with mobile wallets. In this, the user has to simply keep his NFC-enabled phone near the scanner to make the payment.

User can make payments via NFC-enabled phone at many places such as:

1. Fuel stations
2. Toll booths
3. Parking garages

ECS

Electronic clearance service is commonly used for making bulk payments, equated monthly instalments, paying off for utility services, and to make payments like dividend interests, pensions, and salaries. ECS can be used for both credit and debit services.

To initiate the ECS, an authorisation has to be provided through the bank for making periodic credits and debits. ECS is a secure method as you can provide instructions for maximum sum of debit, validity period, and the purpose of transaction.

Gift Cards or vouchers

Gift cards or vouchers are a great gift idea apart from being a handy way to go cashless. It allows the receiver to buy anything with the help of a voucher. There are also many stores that give discounts on gift vouchers.

PoS terminals

Conventionally, PoS terminals are nothing but a handheld device present at the stores. These devices are used for reading banking cards of the customers. However, the scope of PoS is expanding as these services are now available on numerous mobile platforms via the internet.

Nowadays, PoS can be split into different types like Physical PoS, virtual PoS, Mobile PoS, etc. Mobile PoS is helpful for small businesses as they don't need to invest in expensive electronic registers, since the Mobile PoS operates through smartphones and tablets. Likewise, virtual PoS systems use web-based applications for its operation.

II. Review of Literature

Mr. Pradeep H. Tawade (2017), "Future and scope of cashless economy in India." This paper helps in assessing the future trends and the impact of going cashless in the Indian economy. After the study was conducted it was seen that the Government of India should consider more steps in digitizing India. And methods of transactions should be made more secure and risk-free.

Dhanda and Arora (2017), Genesis of cashless society: A study on growing acceptability towards plastic money. This paper is aimed towards studying the factors responsible for the rapid increase in acceptability of plastic cards in recent years. After the study was conducted it was seen that use of plastic cards is a matter of great pride among teenagers and is considered safe and free from any frauds.

Dr. Rashmi Gujrati (2017), India's march towards a faceless, paperless, cashless economy. The paper is aimed towards creating a sense of awareness about the cashless economy, its benefits, challenges and the steps taken by the government toward a cashless economy. After the research conducted it was seen that cashless economy comes with various benefits but brings in a lot more challenges with it.

Dr. Asha Sharma (2017), Potential for a cashless economy in India. The study was conducted to find the scope of India becoming a cashless economy, challenges and opportunities related to cashless economy. The study shows that there is a significant scope of Cashless India as we can abolish various problems we face today but we must be prepared for the challenges and problems which a cashless economy will bring.

Mr. Bharat Khurana (2015), Dream of cashless India: Benefits and challenges. The paper studies the benefits and challenges India might face if it becomes a cashless nation. It also helps in assessing the meaning of digital India and steps taken by the government towards achieving the dream of cashless India. After the study no matter how much the government had done for fulfilling the dream of digital India

but there is still a lot more that can be done to achieve that dream.

According to Alvares, Clifford (2009) in their reports —The problem regarding fake currency in India. It is said that the country's battle against fake currency is not getting easier and many fakes go undetected. It is also stated that counterfeiters hitherto had restricted printing facilities which made it easier to discover fakes.

Kokila and Ushadevi (2017), A study on consumer behaviour on cashless transactions in U.T. of Puducherry. The paper was focussed towards understanding the awareness and trust among the customers about cashless transactions. It was seen that people were aware about the cashless transaction but were still in doubt with implementing the same in daily routine.

Jain, P.M (2006) in the article —An Analysis of Growth Patterns of Cashless Transaction Systems. Available funds can be optimally used if fullest advantage of technology, quick payments and remittances is ensured. This will largely benefit banks, financial institutions, business houses and common citizens of India. He also pointed out the need for e-payments and modes of e-payments and communication networks.

Srinivas, N. (2006) in his study —An analysis of the defaults in credit card payments, has tried to analyze the socio-economic profile of the defaulters of credit cards, to identify the set of factors which contributed to such defaults and suggest relevant measures to minimize the default cases. Analysis of reasons indicated that economic hardship is the major reason identified by the majority of the sample units followed by rigid payment structure and loss of job/business. The main suggestion is that the banks concerned should redesign the payment structure of credit card defaulters in a flexible and affordable installment.

Garg and Panchal (2017), Study on Introduction of cashless economy in India 2016: Benefits & challenges. The study focuses on finding benefits and challenges related to the cashless economy in India. The study shows that there are various benefits related to cashless economy and various challenges related to the cashless economy.

Shendge, Shelar and Kapase (2017), Impact and importance of Cashless Transaction in India. The paper

focuses on impact and importance of cashless transactions in India. The study shows that if India becomes a cashless economy there will be both positive and negative impact, but negative impacts can be overlooked if the gain from positive impact is considered.

Thomas and Krishnamurthy (2017), Cashless rural economy- a dream or reality. The study is focussed towards understanding the impact of demonetisation on rural India and to keep a check on the government

initiatives to make the rural market a cashless economy. Studies show that the government of India should initiate various schemes to make the dream of a cashless economy a reality.

(Pathania, 2016) in his article mentions some of the benefits of cashless transactions to nations like increased GDP by using cards and reduced social cost, increased in financial inclusion due to acceptance of e-payments, reduces the shadow economy, reduced in cash payment enables e-commerce growth and facilitated trusted transactions online. He says that at 1.7% of GDP, India incurs a much higher cost of cash compared with most developed economies

(Hunt, 2014), Talked about the critical role to be played in ensuring the efficient and effective transition and transformation from Industrial Era models and processes to their Digital Era upgrades. He further said that social and digital technologies are transferring talent management. In addition to transforming talent management, social and digital technologies are changing the nature of work itself which have extensive human capital management implications, ranging from human capital strategy, organizational structure, and staffing - to job design, training and development, performance management, and compensation.

(Kumari D. N., Impact of Cashless Economy on Common Man in India), The paper meets an attempt to raise awareness about smartphones and the use of Smartphones in rural India. The low literacy rates in rural India, along with the lack of infrastructure like internet access and Power make things extremely difficult for people to adopt e-transaction routes.

(Kumari D, 2016), her paper spread the light on the basic concept of cashless transactions and its security issues. She says that insufficient infrastructure is also a major barrier for cashless transactions. Illiteracy is one of the major issues in the path of cashless transactions, as per UNESCO report. Hacking is one of the issues for cashless transactions as per the Economic time is the major challenge in cashless transactions.

(Gupta, 2017), The main purpose of the paper was to find out schemes, achievements and challenges of the Haryana government for the cashless transaction. She says that in order to promote cashless transactions in India, the Central Government has also launched Lucky Grahak Yojana and Digi Dhan Vyapar Yojana in which monetary benefits will be provided to citizens using cashless means for transactions. The Haryana government has decided to observe a 'cashless week' from January 20 to January 27 to promote digital payment in the state. The government has also decided to engage college students and staff (both teaching and non teaching) to promote the mission.

(Kumari & Khanna, Cashless Payment: A Behavioural Change to Economic Growth, 2017), The study examines the effect of adopting cashless payment on economic growth and development of the developing countries. The paper discovered that the adoption of the cashless economy policy can enhance the growth of financial stability in the country. It appears that much has already been done in making the people aware of the cashless economy and that a sizable proportion of the people are actually awaiting the introduction of the cashless economy. Cashless economy initiative will be of significant benefits to developing economies; hence the cashless system will be helpful in the fight against corruption and money laundering. One most significant contribution of the cashless economy is that it is expected to reduce the risk associated with carrying cash.

III. Objectives of the study

1. To study the concept of cashless transactions.
2. To know which age group is more likely to shift to cashless transactions.
3. To know if education level affects respondent's willingness for cashless transactions.
4. To know if there is any relation between no. of bank accounts respondents have and their mode of payments.
5. To know what are the main apps respondents use for transactions.
6. To know what are the main amenities respondents pay for while online transactions.

IV. Hypothesis of the study

H₀ = There exists no relation between age of respondents and their willingness to shift to cashless transactions.

H₀ = There exists no relation between respondent's education and their willingness towards cashless transactions.

H₀ = There is no relation between no. of bank accounts of respondents and their preferred mode of payments.

H₀ = There are no dominant apps respondents use while online transactions.

H₀ = There are no dominant amenities respondents pay for while online transactions.

V. Research Methodology and Design

For the following research we firstly decided on the parameters we want to study. Followed by conducting a survey for the same. This process can be described further as:

Area Coverage: This study is conducted in various areas of India.

Collection of Data: We collected primary data by conducting a survey. This survey was circulated to various parts of the country. The questionnaire asked for all the appropriate questions related to the research project. The data was collected between the time period of February 2021 to March 2021.

Analysis of Data: The master table was prepared for entering the responses of each respondent and small cross tables were made from the master table for analysis. Master table consists of the entry of all the entries from each respondent for each question of the questionnaire. From this table we took the particular variables for statistical analysis.

Statistical Method: IBM Statistical Package for Social Sciences (SPSS) software is used to analyse the data collected. Various types of statistical methods are to be conducted in this study such as descriptive analysis of the respondents and other variables associated with the studies and Chi-Square test of the independence variables.

Likert scale is used to measure the usage of cashless transactions. The Likert scale is one of the most widely used attitude scaling techniques.

Research Limitation: The online questionnaire is conducted and distributed online with channels such as email and text messenger (WhatsApp, Facebook messenger, etc.). Therefore, it limits to the correspondents with internet access or mobile data access

VI. Data Analysis

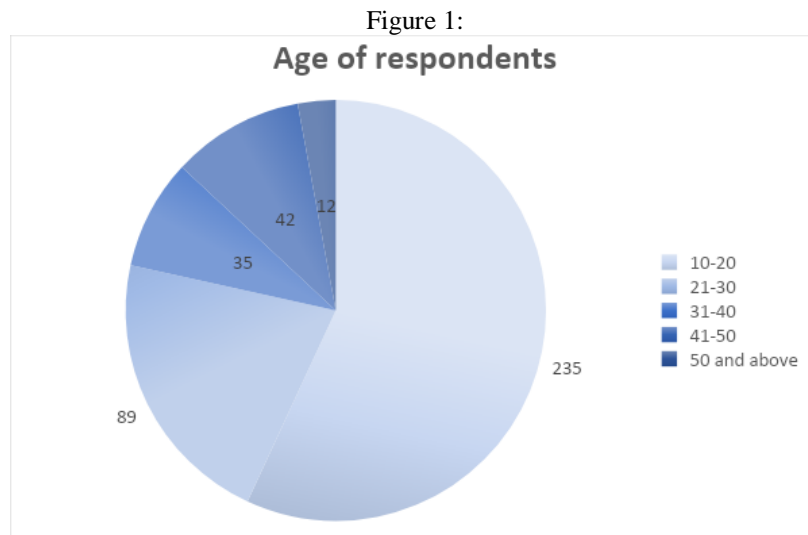
H0 = There exists no relation between age of respondents and their willingness to shift to cashless transactions.

H1 = There exists relation between age of respondents and their willingness to shift to cashless transactions

Variable used and their understanding:

We have data of 413 respondents and in this hypothesis testing we considered the factors of analysis as respondent's age and their willingness to shift to a cashless economy.

The responses from survey are from various age groups which can be seen in the following graph:



Through figure 1 we know that we have a range of responses from age of 10 - 20 years to above 50 years. Though, the age group with maximum responses is 10-20 years.

Now, taking the factor of willingness toward shift to cashless transaction we asked respondents:

Are you willing to switch to cashless transactions? *

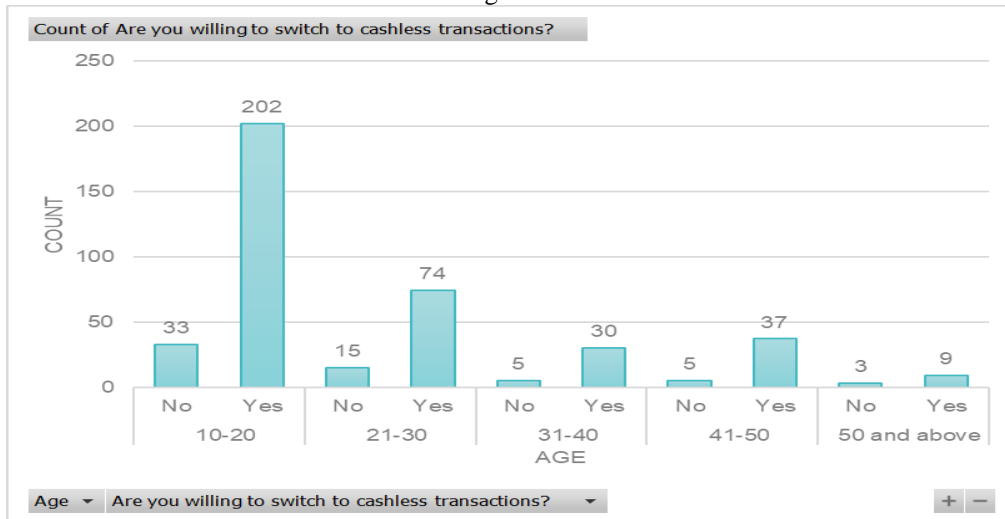
Yes

No

From this question we get dichotomous data. In a dichotomous data, we get output only in two ways i.e., in the above case also we can get response as either “yes, respondent is willing to shift to a cashless economy” or “No, respondent is not willing to shift to a cashless economy. The frequency table for this is given as:

Responses	Count of Are you willing to switch to cashless transactions?
No	61
Yes	352

Figure 2:



From figure 2 we can understand the division of the responses into the two categories of “No” and “Yes” of the willingness factor.

Test used:

Since, this is a dichotomous data we will use chi-square test for finding relation between the two factors i.e., respondent’s age and willingness toward shift to cashless economy. We will perform the test in SPSS.

Analysis:

Table 1:

Age * Willingness Crosstabulation					
		Willingness		Total	
		No	Yes		
Age	10-20	Count	33	202	235
		% within Age	14.0%	86.0%	100.0%
		% within Willingness	54.1%	57.4%	56.9%
		% of Total	8.0%	48.9%	56.9%
21-30		Count	15	74	89
		% within Age	16.9%	83.1%	100.0%
		% within Willingness	24.6%	21.0%	21.5%
		% of Total	3.6%	17.9%	21.5%
31-40		Count	5	30	35
		% within Age	14.3%	85.7%	100.0%
		% within Willingness	8.2%	8.5%	8.5%
		% of Total	1.2%	7.3%	8.5%
41-50		Count	5	37	42
		% within Age	11.9%	88.1%	100.0%
		% within Willingness	8.2%	10.5%	10.2%
		% of Total	1.2%	9.0%	10.2%
50 an		Count	3	9	12
		% within Age	25.0%	75.0%	100.0%
		% within Willingness	4.9%	2.6%	2.9%
		% of Total	.7%	2.2%	2.9%
Total		Count	61	352	413
		% within Age	14.8%	85.2%	100.0%
		% within Willingness	100.0%	100.0%	100.0%
		% of Total	14.8%	85.2%	100.0%

Table 2:

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.684 ^a	4	.794
Likelihood Ratio	1.549	4	.818
N of Valid Cases	413		

a. 1 cells (10.0%) have expected count less than 5. The minimum expected count is 1.77.

Table 3:

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.064	.794
	Cramer's V	.064	.794
N of Valid Cases		413	

Interpretation:

From table 1, we get to know that out of 413 respondents 352 responses are in support towards a cashless economy. Which is 85.2% of the total responses. Hence, we see that respondents have a positive attitude towards shifting to a cashless economy.

From table 2, we are only interested in the result of the Pearson's chi-square row. We can see here that value = 1.684 and $p = 0.794$. This tells us that there is no statistically significant relation between the age of the respondents and their willingness towards shifting to a cashless economy.

From table 3, we get values of Phi and Cramer's V = 0.64. Phi and Cramer's V are both tests of the strength of association. We can see that the strength of association between the tested variables i.e., Age of respondents and their willingness towards shift to cashless economy is very weak.

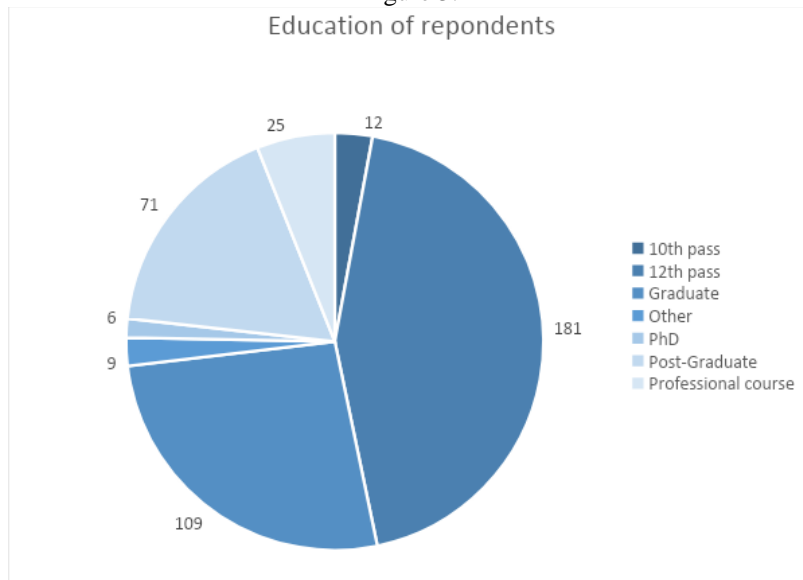
H0 = There exists no relation between respondent's education and their willingness towards cashless transactions.

H1 = There exists a relation between respondent's education and their willingness towards cashless transactions.

Variable used and their understanding:

In this hypothesis we are trying to find if there is any relation between the respondent's education and their willingness towards cashless transactions. From our survey we get 413 responses and education of respondents varies as shown below:

Figure 3:



Majority of our respondents have qualifications as 12th or graduation. Out of 413 responses 181 are 12th pass while 109 are graduates. Also, we see that 71 responses out of 413 are post graduates, 25 have a degree in a professional course while the remaining 37 are from other qualifications.

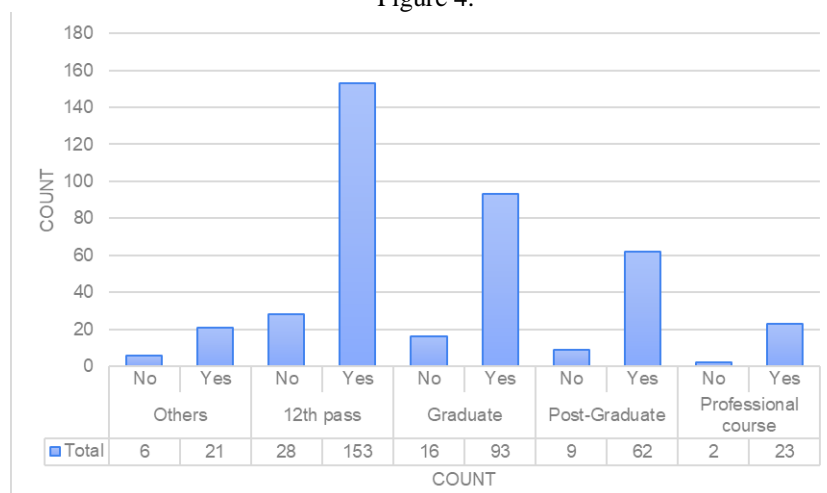
Talking about second variable that we are considering i.e., respondent’s willingness to shift to a cashless economy, we have following frequency table:

Table 4:

Willingness to switch	Responses
No	61
Yes	352
Total:	413

Table 4 shows that out of 413 respondents 352 say that they have a positive attitude towards a cashless economy while 61 are not willing to shift to a cashless economy.

Figure 4:



From figure 4, we know that we can divide each education group into two groups i.e., “Yes” which means respondent is willing to shift to cashless economy and “No” which means respondents are not willing to shift to cashless economy.

Frequency for each division is as given in the diagram.

Test used:

Since the data is dichotomous, we will use the chi-square test. Chi-square test will tell us if there is any relation between the two variables i.e., education of respondents and their willingness to shift to a cashless economy.

We will perform this test on SPSS.

Analysis:

Table 5:
Education * Willingness Crosstabulation

			Willingness		Total
			No	Yes	
Education	10th pass	Count	3	9	12
		% within Education	25.0%	75.0%	100.0%
		% within Willingness	4.9%	2.6%	2.9%
		% of Total	.7%	2.2%	2.9%
	12th pass	Count	28	153	181
		% within Education	15.5%	84.5%	100.0%
		% within Willingness	45.9%	43.5%	43.8%
		% of Total	6.8%	37.0%	43.8%
	Graduate	Count	16	93	109
		% within Education	14.7%	85.3%	100.0%
		% within Willingness	26.2%	26.4%	26.4%
		% of Total	3.9%	22.5%	26.4%
	Other	Count	2	7	9
		% within Education	22.2%	77.8%	100.0%
		% within Willingness	3.3%	2.0%	2.2%
		% of Total	.5%	1.7%	2.2%
	PhD	Count	1	5	6
		% within Education	16.7%	83.3%	100.0%
		% within Willingness	1.6%	1.4%	1.5%
		% of Total	.2%	1.2%	1.5%
	Post-Graduate	Count	9	62	71
		% within Education	12.7%	87.3%	100.0%
		% within Willingness	14.8%	17.6%	17.2%
		% of Total	2.2%	15.0%	17.2%
	Professional c	Count	2	23	25
		% within Education	8.0%	92.0%	100.0%
		% within Willingness	3.3%	6.5%	6.1%
		% of Total	.5%	5.6%	6.1%
Total		Count	61	352	413
		% within Education	14.8%	85.2%	100.0%
		% within Willingness	100.0%	100.0%	100.0%
		% of Total	14.8%	85.2%	100.0%

Table 6:
Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.640 ^a	6	.852
Likelihood Ratio	2.617	6	.855
N of Valid Cases	413		

a. 4 cells (28.6%) have expected count less than 5. The minimum expected count is .89.

Table 7:
Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.080	.852
	Cramer's V	.080	.852
N of Valid Cases		413	

Interpretation:

From table 5, we get to know about the percentage division of willingness among different educational groups. We can see that in table 1, the total column gives us that out of total responses 14.8% responded with a “No” while 85.2% responded as “Yes”.

From table 6, we will take the value of Pearson’s chi-square which is value = 2.640 and p-value = 0.852. This tells us that there is no significant difference between the two variables under consideration.

From table 7, we will take the value of Phi and Cramer's V which are 0.80. These are both tests of the strength of association. We can see that the strength of association between the variables is very weak.

H0 = There is no relation between no. of bank accounts of respondents and their preferred mode of payments.

H1 = There is no relation between no. of bank accounts of respondents and their preferred mode of payments

Variable used and their understanding:

For this problem we asked respondents following question:

How many bank accounts do you have? *

- One
- Two
- Three
- More than Three
- None

for the following question we get frequency distribution as:

Table 8:

No. of bank accounts	Frequency
None	41
1	215
2	118
3	31
More than 3	8

Test used:

Since, the data is dichotomous i.e., if people are preferring online transactions or cash transactions, we will use chi-square test. Chi-square test will tell us if there is any relation between the two variables i.e., education of respondents and their willingness to shift to a cashless economy. We will perform this test on SPSS.

Analysis:

Table 9:

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	36.699 ^a	4	.000
Likelihood Ratio	38.565	4	.000
Linear-by-Linear Association	32.604	1	.000
N of Valid Cases	413		

a. 1 cells (10.0%) have expected count less than 5. The minimum expected count is 2.03.

Table 10:

Symmetric Measures

		Value	Asymp. Std. Error ^a	Approx. T ^b	Approx. Sig.
Nominal by Nominal	Phi	.298			.000
	Cramer's V	.298			.000
Interval by Interval	Pearson's R	.281	.040	5.943	.000 ^c
Ordinal by Ordinal	Spearman Correlation	.290	.043	6.151	.000 ^c
N of Valid Cases		413			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

Interpretation:

From table 5, we are only interested in the result of the Pearson's chi-square row.

We can see here that value = 36.699. This tells us that there is no statistically significant relation between the number of bank accounts and their preferred mode of payment.

From table 6, we get values of Phi and Cramer's V = 0.298. Phi and Cramer's V are both tests of the strength of association. We can see that the strength of association between the tested variables i.e., number of bank accounts and their preferred mode of payment is very weak.

Hence, the number of bank accounts does not affect the mode of payments for respondents.

H0 = There are no dominant amenities respondents pay for while online transactions.

H1 = There are dominant amenities respondents pay for while online transactions.

Variable used and their understanding:

For the following analysis, we asked respondents question as:

What are the amenities for which you pay online? *

- Bills (Phone bills, electricity bills, etc)
- OTT subscriptions (Netflix, Amazon prime, etc)
- Groceries or kirana store payment
- School or educational fees
- Other...

For the following question we get frequency distribution as:

Table 11:

Amenities	Frequency
Bills	284
Groceries or kirana store payment	177
None	72
School or educational fees	148
Subscription	144
Others	18

Test used:

For finding if there are no dominant amenities which are used by respondents, we use the goodness of fit test. In this test we compare the observed frequency with the expected frequency which here we take as mean.

For finding which amenities are dominant we will use a simple bar graph.

Analysis:

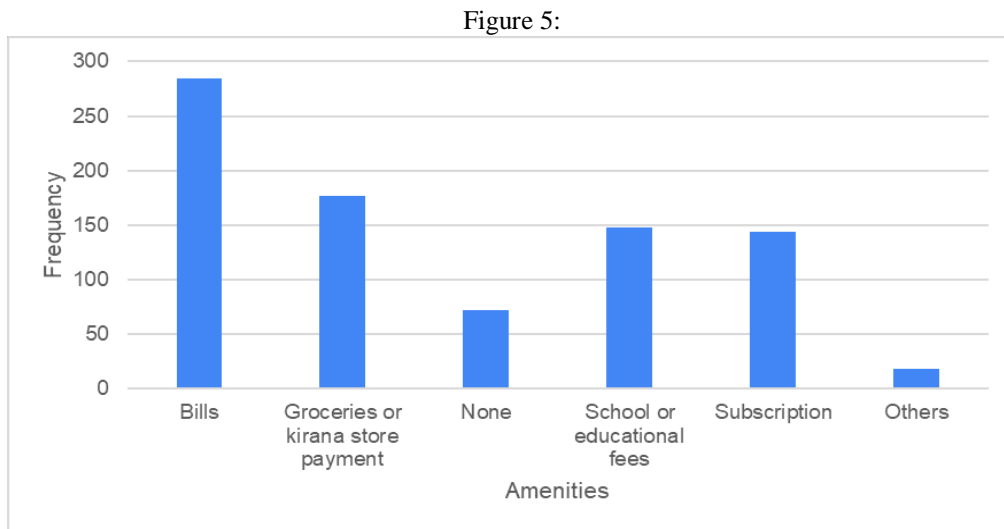
Firstly, for applying chi-square goodness of fit test, we take means and apply the following formula for calculation:

$$Test\ statistics, \chi^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

Table 12:

Amenities	Frequency (Observed)	Frequency (Expected)	$\frac{(O_i - E_i)^2}{E_i}$
Bills	284	140.5	146.5640569
Groceries or kirana store payment	177	140.5	9.482206406
None	72	140.5	33.39679715
School or educational fees	148	140.5	0.400355872
Subscription	144	140.5	0.087188612
Others	18	140.5	106.8060498
			296.7366548

Table 12, gives us the calculated value for the χ^2 i.e., 296.736. Now for 5 degrees of freedom, we reject the hypothesis that there are no dominant amenities. For finding most used apps we plot a bar graph for the above data as:



Interpretation:

On applying chi-square goodness of fit, we see that there are some amenities for which online transactions are done more. So, on plotting a bar graph as shown above we get bills such as Phone bill, electricity bill, etc. are dominants followed by groceries or Kirana store payments.

H0 = There are no dominant apps respondents use while online transactions.
H1 = There are no dominant apps respondents use while online transactions.

Variable used and their understanding:

For this problem we asked respondents the following question:

What are the apps you use for payments? *

- Google pay
- PayTM
- PhonePe
- BHIM
- Mobikwik
- Amazon pay
- None
- Other...

Through this we get to know about the most used apps for e-payments.

Table 13:

Apps	Frequency
Amazon pay	64
BHIM	60
Google pay	209
PayTM	254
PhonePe	116
others	20

Table 13, gives us frequency distribution for different apps.

Test used:

For finding if there is no dominant app which is used by respondents, we use the goodness of fit test. In this test we compare the observed frequency with the expected frequency which here we take as mean. For finding which app is dominant we will use a simple bar graph.

Analysis:

Firstly, for applying chi-square goodness of fit test, we take means and apply the following formula for calculation:

$$Test\ statistics, \chi^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

Table 14:

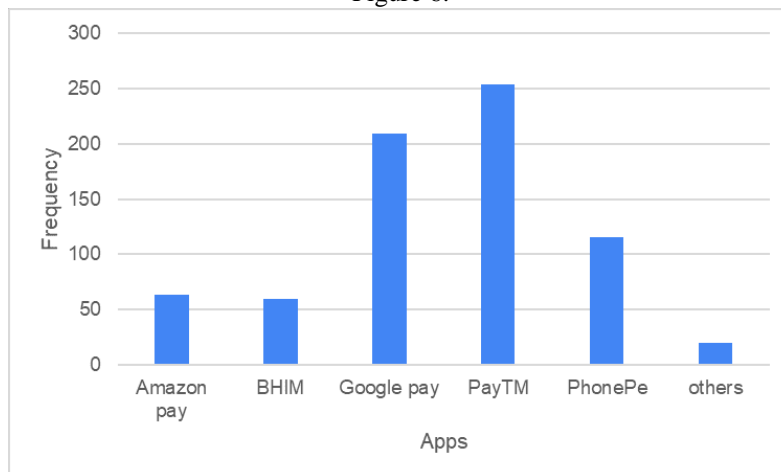
Apps	Frequency (Observed)	Frequency (Expected)	$\frac{(O_i - E_i)^2}{E_i}$
Amazon pay	64	120.5	26.491701
BHIM	60	120.5	30.375519
Google pay	209	120.5	64.997925
PayTM	254	120.5	147.90249
PhonePe	116	120.5	0.1680498
others	20	120.5	83.819502
			353.75519

Table 14, gives us the calculated value for the χ^2 i.e., 353.75519.

Now for 5 degrees of freedom, we reject the hypothesis that there are no dominant apps.

For finding most used apps we plot a bar graph for the above data as:

Figure 6:



Interpretation:

On applying chi-square goodness of fit, we see that there are few apps which are used more than other apps. So, on plotting a bar graph as shown above we get Google pay and Paytm as most used apps followed by PhonePe, Amazon Pay and BHIM.

VII. Conclusion

Based on the analysis, the research on the topic 'Shifting from Cash to Cashless Economy: A Study of Consumer Behaviour' has been successfully completed. It is concluded that people in India are enough aware of concept of cashless transactions and even using in their daily lives in form of Bills (electricity bills, Phone bills), Kirana and Groceries Payments, Educational Fees and Subscriptions etc., through various modes of cashless payments such as E-Wallets (Paytm, Google Pay, PhonePe, Amazon Pay etc.). It gives us hope that if adequate measures would be initiated and implemented then our dream of Digital India can be a reality. Cashless transactions should be made as cheap as possible by eliminating all sorts of extra charges so that more and more switch from cash based to cashless economy. More steps should be initiated on educating the people in rural areas as a major part of the country resides in rural areas only. Adequate security measures should be taken to safeguard the interest of consumers. This research also reveals that age, education and no. of bank accounts a person has doesn't affect the amount of cashless transactions in the economy as long as a person is aware about the concept. The future of cashless India seems to be pretty promising as the response of the citizens towards this move of the government is a clear indication that the government's move is likely to succeed.

VIII. Key Findings

1. 85.2% out of total, support Cashless Economy.
2. There is no relation between age and willingness of a person towards shifting to a Cashless Economy.
3. There is no particular relation between education and willingness of a person towards shifting to a Cashless Economy but the majority of willing are well educated.
4. The number of bank accounts does not affect the mode of payment for a person.
5. Online Transactions made by people for bills such as Phone bill, electricity bill etc. are dominants followed by groceries/kirana stores, educational and subscriptions payments.
6. Paytm and Google Pay are the most used apps for online transactions followed by PhonePe, Amazon Pay and BHIM.

IX. Limitations of the Study

Despite all the efforts and dedication towards this study, the only limitation to this research is that this study was limited to people who have access to Smartphones as the survey for Data Collection was conducted through online mode in the form of Google Forms.

X. Recommendations

This Study concluded that Indians are aware of usage of non-cash transactions. Further studies can be done on encouraging policies Indian Govt. should take to make the dream of Digital India a reality.

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