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Drivers for Upliftment of Cashless Buzz across its Users

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Abstract:

Cashless is the new buzz in Indian economy post demonetisation announced in November 2016. The availability and ease of using mobile wallets has further added to the charm of digital payments. Post 2000 era has been a revolutionary period for the conception of information technology (IT) and IT enabled services. Digitized payments may said to be deeply affected by internet technology and smart phones. The psychological issues related with theirunderstanding, safety, usage to name a few may develop hiccups for its users. The adoption and popularity of e-payments may vary across different regions and several perceived factors by the users may act as a motivating force for people to use it. The respondents reactions and usage traits have been studied for Delhi-NCR region while making use of digital and cashless transactions. It has been found with multiple regression that perceived usage, benefits, knowledge, understanding and safety together significantly explain the adoption and popularity of cashless system. Further, correlation and ANOVA statistics indicate that there is a significant difference across various occupation groups and adoption of cashless payments. The difference in age and gender has not been found to be significant in influencing peopleto use cashless mechanism.

Keywords: *Cashless system, e-payment, cashless transactions, perceived usage, benefits, safety, knowledge and understanding, adoption and popularity.*

INTRODUCTION

The demand for base money may be substantially eliminated with the introduction of cashless technology (Hendrickson, 2017). Every sector of an economy has revolutionized all over the world when internet and digital technology provided the basic infrastructure in the present century. Communication revolution, and the speed in movement, opened the doors for more robust modes of flow of money among all the components of an economic system. India has a long way to go in mobile applications and e wallets comparatively with traditional plastic money (Madasu, 2015).

One of the most significant innovations in the banking systems is the plastic money and the new cashless transactions through mobile applications.The electronic way of dealing has become the new thing and the physical cash in the form of currency notes has been observed to sweep away from the system gradually. In the 1990's

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during the advent of credit and debit cards, very few affluent customers held them. Sellers found it an advantage to increase 'sales' But, soon found that the advantage of increasing sales by using cards was more than offset by the disadvantage of higher tax burden and commission payable to bank.A study in Nigeria depicted positive influence on the economy and the banking sector with the newer mode of technology (Osazevbaru& Gabriel, 2015).

Individual factors related to demographics may affect consumer preferences in making choices through internet and offline mode of shopping (Akalamkamand Mitra, 2018). E-commerce initiated in 1990's, along with the opening up of the Indian economy to international trade, cashless transactions received a major boost. With the surge in B2G, B2C, B2B, C2G, C2B, and C2C, transactions, cashless mode of payment became the order of the day. Digitization of payments is gathering great attention worldwide making it essential to balance out safety and effective use of big data (Yanagawa& Yamaoka, 2019).The cash back offers given by e-wallets like BHIM UPI, PayTm, Phonepay, Googlepay, airtel money, mobikwik may be one of the 'pull' strategies to make people use them. They provide speed, safety, security and rewards and a customer cannot ask for more.

Demonetization made India a digital economy. India's likelihood to go cashless in almost all transactions is on the rise (Kumar & Kumar, 2018) 8th November 2016 was a revolutionary date for India when the Government decided to demonetize some currency making a deliberate step to push India into digital economy. This drive motivated the cashless system to deepen in Indian economy resulting into increasing numbers adopting it (Shah, 2017).

The leap towards cashless transactions happened during demonetization in 2016, as the public, even the lower middle class population, were almost compelled to use cashless modes of payment and retailers had the only option of mobile wallets and card payments. The period brought a renaissance in cashless payments and digital currency. However, rural population has not been affected much by this move as they had nothing much to lose (Shah et. al, 2016)

The new electronic payment methods developed in USA during March 2013 had an impact for the vulnerable households where none of the family member had a bank account (Anderson et.al, 2017)

The consumers belief for electronic payments for Malaysia region was influenced by offers advantages and ease of using them (Teoh et. al, 2013). The commitment of consumers has been found to be influenced by trust and confidence of users in the system. The private and confidential data along with safety while using electronic payment mechanism had a dominant space (Mukherjee & Nath, 2007).

The scope of present study has been extended to 212 respondents from Delhi-NCR to find out how different factors involved in cashless transactions may have led to adoption and popularity of this system.

LITERATURE REVIEW

The newer way of carrying business namely cyber purse consisted of information, files for safe transactions through internet (Chen & Wang, 1996). The electronic payment system leverages the existing credit card system in a reverse direction to providing convenience of making payments at multiple locations (Resnick & Callanan, 2001). There is an increased propagation of mobile communication services due to ongoing popularity of buying tickets, home banking with mobile network (Schuba et. al, 2002).

The introduction of electronic mode of payments in Nigeria in 2009 has not been found significant in reducing shadow economic activities for its economy (Samuel & Yusuf, 2018). The system has created ease for consumers while making payments and accurate financial transactions may take place without delay (Ukpong& Friday, 2016). The goods for goods and services for services trade has known to be there since ages(Goankar& Bhimrao, 2018). The financial safety assurance plays a vital role in

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encouraging cashless transactions. In online shopping, The COD (cash on delivery) mode of payment has been used by majority of people (Shah et.al, 2016). The reasons for the affinity could be lack of technology penetration, or lack of trust and confidence in e-payment instruments. For a country with poverty, a cashless society may make less sense, but digital inclusion was the first step to move up the social ladder (Hussain, 2017). Digital payment instruments are competing with each other in Japan to widen the window for user networks. Data technology is on the increase in Indian banking industry with digitalization of administration at work stations. But, the clients are still facing difficulties in understanding the advanced systems (Singh & Malik, 2019)

There is still a need for initial trust while using mobile payment depends on the high cost and perceived risk of the payment option. Its usage and adoption varies with factors like perceived security and ease (Zhou, 2011). Using Technology Acceptance Model (TAM) for two metro cities in India, has indicated that PE (performance expectancy), EE (effort expectancy), SI (social influence) and FC (facilitating conditions) impacted adoption for mobile payments. Studies from developed, (US) developing (India) and under-developed economies, Nigeria, Thailand reflects the Governments' willingness to adopt a cashless system due to reduced cost of holding, dispensing and movement of currency, avoiding theft, corruption management, money laundering, and fraud with lesser response from the public (Akhalumeh, 2012). The main dampeners to the cause have been illiteracy, poor dissemination of information, complexity, lack of trust, habits (Yaqub, 2013); limited availability of AOS (automated order system), internet frauds, limited opportunities to use, social approval barriers such as lack of trust, complexity, and habits associated with cash payment (Nguyen, 2018). The boosters to cashless transactions are long queue in banks, attitude of tellers, distance between home and bank (Echekoba, 2012); perceived usefulness, convenience, promotional offers, and; faster transactions, increased sales and cash collection. As a simple solution, it reduces cash in circulation and creates jobs (Laoye, 2011).

The ease while using electronic mode for payments may be surrounded by risks such as security, integrity, authorisation and confidentiality issues (Asokan et.al, 2000). Merely typing a user id and password have been considered as traditional security measures and advanced secured systems may be required using multi-factor identification techniques (Sanyal et.al, 2011).

Planned behaviour model was used to analyse and further compare factors that may lead to online purchase and thus paying through website by consumers (Malik and Guptha, 2013) irrespective of the mode of payment, Indian consumer focuses on safety, privacy, convenience, easy use and controlling tool, in addition to advantages and benefits from the system (Sharma, 2018).There has to be a distinction between payment systems and mediating systems to improvise system of e-payment (Abrazhevich, 2001). There have been significant association between risk perception, perceived advantages, system features of vendor and characteristics of consumer which intended consumers to use mobile payments(He &Mykytyn, 2007). An electronic payment system failed in Australia because of factors namely cooperating with business entities, simple approach, belief, safety and mutual understanding of user's benefits (Lim et.al, 2007). Six forces have been identified which may explain dimensions for a particular behaviour in fulfilling the need for cognition and thereby make a choice in online shopping (Verma and Jain, 2015).

There may be individual, social, technological factors influencing adoption of mobile payment technologies subject to statistical testing (Lee et.al, 2004). Efficiency and anonymity of electronic payment system has been perceived to be lesser important as compared to its other characteristics which have been found to be important at unequal levels (Abrazhevich, 2001). The factors surrounding

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benefits and trust for e-payments motivated Austrian users for making payments online (Treiblmaier et.al, 2008).

It has been believed that people use cashless methods because

a. They were able to perceive the usefulness of the cashless method
b. The benefits of using it lured them
c. They found it as a safe method of usage
d. They had knowledge and understanding of the cashless methods.

Of these, the study has been performed for finding which parametersfrom the list may explain the adoption and popularity for cashless system. An attempt has also been made whether factors such as gender, age or occupation affected the perceived advantage of using cashless mode of payment. Answer to these questions was felt crucial as any provider wants to know why a consumer uses his product. It is also expected to benefit the government, which is encouraging cashless payments, and the banking system needs to know if the licensed modes are safe for the regular and priority consumers.

RESEARCH METHODOLOGY

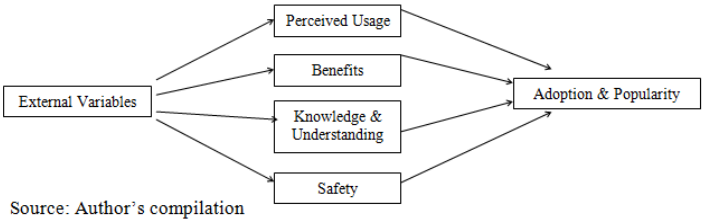
A primary survey in Delhi-NCR has been conducted using afive point Likert scalestructured questionnaireanddata has been collected from 212 respondents including students, professionals, businessmen, salaried, housewives and retired. Further, the sample population has been classified as per gender, age and occupation to analyse the factors (Table 1) and thereby usage of cashless transactions across different groups. An initial pilot survey has been done with 30 respondents and thereby two questions had been omitted from the questionnaire which were found to be non-responded in most of the cases. Cronbach's Alpha (0.783>0.700) has been considered to be satisfactory (Nunnally, 1978) and thus the results obtained with the help of factors in the study may be considered reliable and valid.

Four factors namely perceived usage, benefits, knowledge & understanding and safety which may have led to the popularity of cashless mode in Delhi-NCR have been incorporated in the study. Their background has been laid down in Table 1.

Table1: Factors Background

Perceived Usage	Perceived ease of use (Vinitha &Vasantha, 2017), Consumer perception (Singh, 2017), Multi-utility (Reddy et.al, 2017), Perceived usage (Sahut, 2008), Perceived usefullness and attitude (Shah, 2018)
Benefits	Cash back offers, Convenience and compatability as drivers (Humbani & Wiese, 2018), Cash back offers, convenience(Sheetal et.al, 2019), special convenience (Rysman and Schuh, 2017), easy to use (Dennehy and Sammon, 2015)
Knowledge and Understanding	Simplicity (Lonare, et.al, 2018), Knowledge Management system (Chakraborty and Mitra, 2018), Comparative Knowledge and Usage across India-China (Punjabi, 2016), Understanding of system (Muo et.al, 2013), financial literacy (Gaonkar, 2018), online registrations (Jakubowska, 2017), low literacy rate and awareness level (Goswami and Sinha, 2019)
Safety	Risk, cost and insecurity as inhibtors (Humbani & Wiese, 2018), perceived risk (Chakraborty and Mitra, 2018), provision of security in Nigeria (Wali et.al, 2014), Lack of trust and awareness (Madasu, 2015), security and risk issues ((Dennehy and Sammon, 2015), fear of faulty transaction (Chattopadhyay et.al, 2018), stringent cyber crime laws (Ayinde, T. O., & Adeyemo, 2015)

Figure 1:Conceptual Model



Source: Author's compilation

The variables which may lead to a particular perception and attitudinal change towards the cashless transactions have been categorised as

External Variables

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external variables. The influence of offers, discounts, comfort, ease, convenience and information floated on various websites, periodicals, social media may create an image in the minds of users or prospective users. These variables have been included in question sets to understand the resulting behaviour of respondents towards cashless payment system.

Perceived Usage

The belief of respondents towards cashless transactions has been captured by many behavioural traits like their awareness, convenience, enjoyment, bargaining ability which together constitute their perception while using the system.

Benefits

The cash back offers have been taken as the main motivation as a benefit derived after using cashless mode with mobile payments. Apart from such offers, avoiding physical cash, benefit of faster payment at toll booths to name a few have been taken as add on benefits explaining attitude of respondents for using mobile wallets.

Knowledge and Understanding

The level of knowledge and understanding has been gauged byability to understand the nature of cashless transactions, lack of knowledge about the working of system, difficulty in operating mobile applications, myth about loss from mobile wallets.

Safety

The safe and secure use of e-payment options may be considered as one of the most threatening factor which may stop users to adopt it. The level of safety while using cashless option has been observed through fear of using digital transaction, leakage of identity, password and other loss of such confidential information.

Adoption and Popularity

The number of transactions done through e-payment system, maximum usage of cashless transaction and avoiding physical cash, digital settlement of equated monthly instalments, mobile and electricity bills, using mobile application for payment wherever possible have been taken as drivers for adoption and popularity cashless payments.

Correlation

The relationship between gender, age and occupation with four factors and adoption of cashless method (Table 2) have been found to uncover any directional relation to understand the dynamics across factors and demographics. The correlation analysis and its significance level studied over age, gender and occupation helped to study different groups minutely.

Anova

The varied groups across gender, age and occupation have been tested for significant difference over four factors for their adoption towards cashless method(Table 3,4,5) with the help of ANOVA statistics. The results explain the group wise differences and their significance level for adoption of cashless system.

Regression Model

The regression model has been run taking adoption and popularity of cashless method as DV (dependent variable) and the other four (Figure 1) as IVs (independent variables). The equation (1) below describes the model:

$$AP = PU + B + KU + S + e \quad \ldots\ldots(1)$$

where AP=Adoption and popularity of cashless method

PU= Perceived Usage
B=Benefits
KU=Knowledge and understanding
S=Safety
e=error term

FINDINGS & ANALYSIS

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Table 2: Correlation Matrix

Correlations									
		PU	B	KU	S	AP	Gender	Age	Occupation
PU	r	1	.557**	.502**	.519**	.688**	.037	.027	.130
	Sig. (2-tailed)		.000	.000	.000	.000	.591	.694	.059
	N	212	212	212	212	212	212	212	212
B	r	.557**	1	.637**	.548**	.753**	.028	-.051	.085
	Sig. (2-tailed)	.000		.000	.000	.000	.684	.461	.219
	N	212	212	212	212	212	212	212	212
KU	r	.502**	.637**	1	.527**	.687**	-.013	-.028	.084
	Sig. (2-tailed)	.000	.000		.000	.000	.855	.688	.225
	N	212	212	212	212	212	212	212	212
S	r	.519**	.548**	.527**	1	.656**	.029	-.004	.143*
	Sig. (2-tailed)	.000	.000	.000		.000	.679	.950	.038
	N	212	212	212	212	212	212	212	212
AP	r	.688**	.753**	.687**	.656**	1	.084	.007	.115
	Sig. (2-tailed)	.000	.000	.000	.000		.221	.918	.095
	N	212	212	212	212	212	212	212	212
Gender	r	.037	.028	-.013	.029	.084	1	-.122	-.007
	Sig. (2-tailed)	.591	.684	.855	.679	.221		.077	.920
	N	212	212	212	212	212	212	212	212
Age	r	.027	-.051	-.028	-.004	.007	-.122	1	.572**
	Sig. (2-tailed)	.694	.461	.688	.950	.918	.077		.000
	N	212	212	212	212	212	212	212	212
Occupation	r	.130	.085	.084	.143*	.115	-.007	.572**	1
	Sig. (2-tailed)	.059	.219	.225	.038	.095	.920	.000	
	N	212	212	212	212	212	212	212	212

Table 2 explains the correlation between gender, age and occupation with four factors in the study and thereafter among the factors with adoption and popularity of cashless transactions.

H1: There is a significant correlation between gender, perceived usage, benefits, knowledge and safety.

The results of correlation for gender and perceived usage (.037; p-value 0.591), gender and benefits (.028; p-value 0.684), gender and knowledge (-.013; p-value 0.855), gender and safety (.029; p-value 0.679) have not been found significant (at 5% level of significance). The correlation between gender and knowledge has been observed to be negative and the correlation between other remaining factors has been positive. However, these relationships have not been found to be significant.

H2: There is a significant correlation between age, perceived usage, benefits, knowledge and safety

The correlation statistics between age and perceived usage (.027;p-value .694), age and benefits (-.051;

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p-value .461), age and knowledge (-.028; p-value .688), age and safety (-.004; p-value .950) has not been found significant at (5% level of significance). Interestingly, there is a negative correlation between age, benefits, knowledge and safety but the same has not been found significant.

H3: There is a significant correlation between occupation, perceived usage, benefits, knowledge and safety.

The occupation and safety correlation statistic (.143; p-value 0.038) has been found to be significant at (5% level of significance). However, the correlation between occupation and perceived usage (.130; p-value 059), occupation and benefits (.085;p-value 0.219), occupation and knowledge (.084; p-value 0.225)has not been found significant. It may be inferred that occupation of a person may influence the perception about safety towards adopting cashless transactions.

H4: There is a significant correlation between adoption and popularity of e-payments with perceived usage, benefits, knowledge and safety.

The correlation between adoption of e-payment and its perceived usage (.688; p-value 0.000), benefits (.753; p-value 0.000), knowledge (.687; p-value 0.000) and safety (.656; p-value 0.000) have been found significant (at 5% level of significance). It may be inferred that the perceived usage, benefits, knowledge and understanding with safety of e-payments may strongly impacted the behaviour of its users when adopting this mode.

Anova results

Table 3: Gender with factors and adoption

		Sum of Squares	df	Mean Square	F	Sig.
PU	Between Groups	.114	1	.114	.289	.591
	Within Groups	83.074	210	.396		
	Total	83.189	211			
B	Between Groups	.064	1	.064	.166	.684
	Within Groups	80.517	210	.383		
	Total	80.580	211			
KU	Between Groups	.014	1	.014	.034	.855
	Within Groups	85.005	210	.405		
	Total	85.019	211			
S	Between Groups	.107	1	.107	.171	.679
	Within Groups	130.761	210	.623		
	Total	130.868	211			
AP	Between Groups	.426	1	.426	1.508	.221
	Within Groups	59.324	210	.282		
	Total	59.750	211			

H5: There is a significant difference between male and female population for adoption and popularity of cashless system across the four factors.

The ANOVA statistics between gender and perceived usage (F-statistic.289; p-value 0.591), gender and benefits (F-statistic.166; p-value 0.684), gender and knowledge (F-statistic.034; p-value 0.855), gender and safety (F-statistic 1.71; p-value

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0.679) have not been found significant at (5% level of significance). Therefore, the difference of gender may not be affecting the perceived usage, perception about benefits, knowledge and safety while adopting cashless system. Further, it may also not impact the decision for adoption of cashless system (F-statistic 1.508; p-value 0.221).

Table 4: Age with factors and adoption

		Sum of Squares	df	Mean Square	F	Sig.
PU	Between Groups	.484	3	.161	.406	.749
	Within Groups	82.705	208	.398		
	Total	83.189	211			
B	Between Groups	.486	3	.162	.421	.738
	Within Groups	80.094	208	.385		
	Total	80.580	211			
KU	Between Groups	.592	3	.197	.486	.692
	Within Groups	84.427	208	.406		
	Total	85.019	211			
S	Between Groups	.892	3	.297	.476	.699
	Within Groups	129.976	208	.625		
	Total	130.868	211			
AP	Between Groups	.397	3	.132	.463	.708
	Within Groups	59.353	208	.285		
	Total	59.750	211			

H6: There is a significant difference between age groups for adoption and popularity of cashless system across the four factors.

The results between age and factors adopted in the study revealed that different age groups may not play a dominant role in determining perceived usage (F-statistic .406; p-value .749), benefits derived (F-statistic .421; p-value .738), knowledge about cashless transactions (F-statistic.486; p-value .692) and safety of the system (F-statistic .476; p-value .699). Similar results have been observed for adoption and popularity of the system and the age differentials (F-statistic .463; p-value .708).

Table 5: Occupation with factors and adoption

		Sum of Squares	df	Mean Square	F	Sig.
PU	Between Groups	4.734	5	.947	2.486	.033
	Within Groups	78.454	206	.381		
	Total	83.189	211			
B	Between Groups	2.381	5	.476	1.255	.285
	Within Groups	78.199	206	.380		
	Total	80.580	211			
KU	Between Groups	2.014	5	.403	1.000	.419

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	Within Groups	83.005	206	.403		
	Total	85.019	211			
S	Between Groups	8.212	5	1.642	2.759	.020
	Within Groups	122.656	206	.595		
	Total	130.868	211			
AP	Between Groups	3.916	5	.783	2.890	.015
	Within Groups	55.834	206	.271		
	Total	59.750	211			

H7: There is a significant difference between varied occupation groups for adoption and popularity of cashless system across the four factors.

It has been found that occupation and perceived usage (F-statistic 2.486; p-value .033), occupation and safety (F-statistic 2.759; p-value .020) have a significant difference at 5 % level of significance. However, occupation and knowledge (F-statistic 1.000; p-value .419), occupation and benefits (F-statistic 1.255; p-value .285) have not been found significantly different. The adoption and popularity of the system has been found to differ significantly with varied occupation groups (F-statistic 2.890; p-value .015).

Regression Output

Table 6: Regression results

There is a significant relationship between adoption and popularity of cashless system with its perceived usage, benefits, knowledge and safety.

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	F	Sig.
.859[a]	.738	.733	.27511	2.036	145.617	.000[b]

The regression model depicted adjusted R square (0.733) meaning that 73.3% of adoption and popularity towards cashless method has been together explained by four factors in the study (Figure 1).

The alternative hypothesis (H8:There is a significant relationship between adoption and popularity of cashless system with its perceived usage, benefits, knowledge and safety) may be accepted at 5% level of significance with F-statistic (145.62) and a p-value 0.000<0.05.

Table 7: Checking for multicollinearity

Variables	Collinearity Statistics	
	Tolerance	VIF
PU	.609	1.642
B	.492	2.031
KU	.535	1.868
S	.603	1.659

Multicollinearity between variables may impact the results and their interpretation. VIF statistics for perceived usage (1.642), benefits (2.031), knowledge & understanding (1.868) and safety (1.659) have been found to be less than 5 indicating the model to be of a good fit in describing the behaviour of respondents towards cashless transactions. It may be inferred that the hypothesis (H9: There is a multicollinearity between the perceived usage, benefits, knowledge & understanding and safety of cashless transactions) may be rejected. Thus, the issue of multicollinearity among the variables adopted in the study does not exist and the results hold good.

Conclusion and Implications

The study has shown that gender and age have no influence on people's attitude to adopt cashless methods, occupation (obtained with different qualifications) however change the behaviour of users of cashless transactions (Singh and Rana, 2017). This has been found in difference with behavioural intention of users in Spain where age has been a moderator for using e-payments

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(Cabanillas et.al, 2014).Further, it may be concluded that perceived usage (Sahut, 2008; Shah, 2018;Teoh et. al, 2013), benefits derived, knowledge, understanding (Muo et.al, 2013) about cashless mode and safety(Chattopadhyay et.al, 2018) while using e-wallets/other cashless types of operations have together contributed towards increasing popularity of cashless economy in Delhi-NCR. The quantum of people adopting this system may tend to rise with enhanced awareness and user-friendly system along with benefits offered by mobile wallets. The safety checks may be improvised with increased regulation and rules imposed from the Government which can further motivate users to adopt this system and hence promote cashless economy for India. This study may be extended for metro cities in India apart from Delhi-NCR and another side of the cashless economy may be studied for rural population. In addition to it, a comparative study may be carried for urban and rural population in India. The post-performance of economies across different nations may also be compared with the arrival of electronic payment systems especially mobile wallets. It may be studied that whether same factors have been responsible for adoption and popularity of this cashless system in developed and developing nations.

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