

## Impact Of Digital Payments On Retailers' Across Tamil Nadu

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### ABSTRACT

Indian Economy Is Moving Towards Digital Revolution, A Milestone In Payment Mechanism. The Trends During Covid-19 Drive The Impact Of Digital Payments Are Digital India, Favourable Regulatory Environment, Emergence Of Next Generation Payment Service Providers And Enhanced Customer Experience. In This Paper The Researcher Indicates That Various Digital Payments Like Imps, Neft, Mobile Wallets Etc. Through In Tamil Nadu And Its Impact. In Recent Years, Digital Payment Having Significant Growth In India Among Retail Traders. Digital Payment Volume Declines Are Seen In Airlines, Tourism, Hospitality, Hotels, Entertainment, E-Commerce (Non-Essentials) And Restaurants, Among Other Sectors. However, There Are Also A Various Sectors That Are Seen An Increase In Digital Payments During Covid-19 Lockdown. These Include (Retail Trading) Online Grocery Stores, Online Pharmacies, Ott Players (Telecom And Media), Edtechs, Online Gaming, Recharges And Utility/Bill Payments Have Played A Significant Role In Enabling The Rural Indian Economy To Move Towards Digital Payment In A Macro Level. According To A Recent Report, The Indian Digital Payment Industry Is Expected To Reach \$1 Trillion By 2023. A Number Of Policy Initiatives Have Been Taken Over The Last Six Years To Discourage Cash Exchange And Promote Digital Payments. Based On The Impacts Of Digital Payments Adoption Among Retailers Across Tamil Nadu, Insights From Our Work With The Respondents We Explore The Impacts Of The Study. The Study Highlights The Ease Of Using The Digital Payments Among The Respondent Retailers.

**KEYWORDS** Digital Payments; Retailer, Behavioural

### INTRODUCTION

The Role Of Money Has Not Changed Over The Course Of History Especially As Medium Of Exchange And As A Store Of Value. Modern Transactions Also Involve Massive Payments Over Long Distance With Minimum Cost Of Transaction For Which Digital Payments Offer Convenience By Saving Time. Research In The Behavioural Sciences Conveys That People Experience Higher 'Pain Of Paying' When Paying In Cash Than Digitally, And This Contributes To Deferred Payments. Despite Urbanization And The Advent Of Supermarket Chains And Online Shopping, These Small Retailers Still Control 98% Of The Retail Market In India. Small Retailers, To Survive, Must Take Advantage Of The Digital Technologies And Refocus On Flexibility And New Forms Of Customer Engagement Enabled By Those Technologies. There Is A Dearth Of Studies And Data Covering The Behavioural Aspects At Individual Level That Have An Impact On Choice Of Payment Adoption Behaviour In The Indian Economy. The Present Study, Is A Small Step Towards Filling The Research Gap In The Context Of Behavioural Analysis. Respondents Who Trust The Service Providers And Regulators Seem To Have A

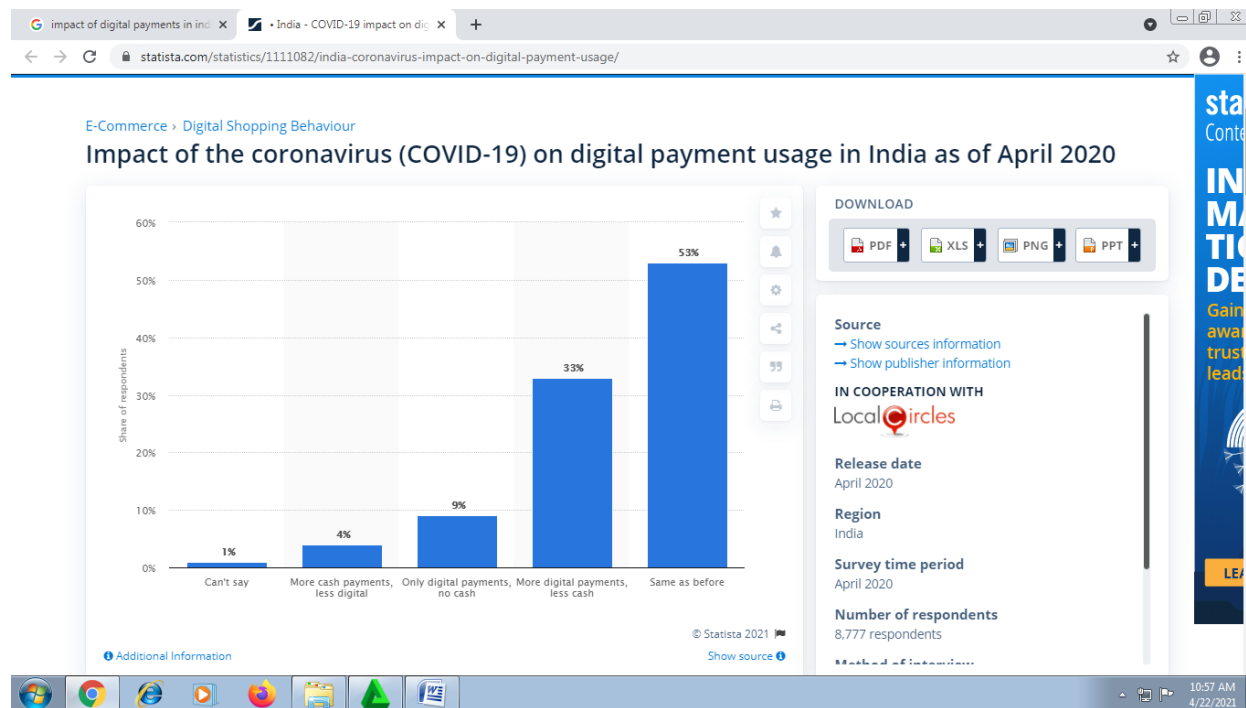
Greater Likelihood Of Paying Digitally. We Find Inconsistent Behaviour When Studying The Impact Of Experience Of Digital Payment Fraud On Choice Of Payment Tool.

### Types Of Digital Payments In India

1. Banking Cards
2. Ussd
3. Aadhaar Enabled Payment System (Aeps)
4. Upi
5. Mobile Wallets
6. Bank Pre-Paid Cards
7. Point Of Sale (Pos)
8. Internet Banking
9. Mobile Banking
10. Bharat Interface For Money (Bhim) App

About 2.38 Digital Transactions Per Capita In Financial Year 2014, To 22.42 Transactions Per Capita In Financial Year 2019, Cashless Payments Had Shown Significant Growth. This Study Investigates The Challenges These Small Retailers Face In The Adoption Of Digital Technologies In A Developing Country Like India. In A Cash-Dominant Country Like India, The Scope And Means For Cashless Digital Transactions Had Grown

Steadily Over The Last Decade (Statistical Research Department, Mar 30, 2021). A Majority Of Respondents Reported No Change In Their Use Of Digital Payments. However, 33 Percent Said They Used Digital Payments More Than Before, While Nine Percent Made Online Payments Exclusively During Pandemic Period And Its Consequent Lockdown (Statistical Research Department, Mar 24, 2021)



## Impact Of The Coronavirus (Covid-19) On Digital Payment Usage In India As Of April 2020

### Covid-19 Impact On Use Of Digital Payments In India 2020

#### Objectives

1. To Understand The Perspective Of Retailer's Decision To Adopt Digital Payments
2. To Highlight The Challenges Associated With Adoption Of Digital Payments

#### Review Of Literature

Anil Jain (2020) Stated That The Indian Banknote Demonetization Was One Of The Most Significant International Events Of 2016. Overnight, 86 Percent Of Indian Currency In Circulation Ceased To Be Legal

(Source: [Statista Research Department](#), 2021)

Tender. The Sudden And Unexpected Nature Of The Announcement And The Weeks-Long Cash Shortage That Followed Created Significant Disruptions Throughout The Economy. The Cash Shortage Had A Particularly Interesting Impact On The Online Retail Industry. Along With The Demonetization In Late 2016, Digitization Penetrated The Country At A Staggering Rate, Nearly 50 Percent In 2019. The Digital Economy Is Bringing A Tremendous Growth Changing Both The Production And Consumption Patterns At The Global Scale. As Per The Indian Payment And Settlement Act 2007, Digital Payments Are Defined As Electronic Fund Transfers. The Retail Industry Has Materialized As One Of The Most

Acrobatic Sectors In India. The Last Four Years, Digital Payments Have Grown Substantially From 5% To 30%, Backed By Demonetization And The Government's Ongoing Drive To Further The Unwanted Indian Economy.

Ravikumar T Et.Al. (2019) Has Stated That The Retail Industry Will See An Exponential Growth In The Coming Few Years Which Is Forced By Unlimited Factors Like Changes In Taste And Preferences And Government Policies As Well. It Is Expected To Double To Us\$ 1 Trillion By 2020 From Us\$ 600 Billion In 2015 As Per A Report By The Boston Consulting Group And Retailers Association Of India. The Usage Of RtgS, Ccil Operating System, Paper Clearing, Card Payments, Retail Electronic Payments, And Prepaid Payment Instruments Are Used To Measure Digital Payments To Reveal The Real Gdp As A Proxy Of Economic Growth. Digital Payments At Large And Retail Electronic Payments Don't Contribute To The Economic Growth In India Directly In The Long-Run

David Prepletaný (2013) Has Stated That Innovation In Technology, Both Inside The Retail Stores And In The Hands Of Customers, Is One Of Those External Forces That Impact The Retail Industry. Customers, The World Over, Have Been Quick At Adopting New Digital Mobile Technologies Enabling Access To The Internet 24/7. Digital Mobile Technologies Bring The Retail Store Inside Customers' Homes Or Rather Their Devices.

Dr. K.A Rajanna (2017) Clarifies The Change That Has Occurred In India Because Of Digitalization And Cashless Payment Systems. The Paper Clarifies How India Can Accomplish Development Of Money Less Transactions And Features Challenges And Approaches To Handle Them.

Dr. Dasgupta (2017) In The Paper On "Cashlessness" States That A Nation Like India Needs To Move To Advanced Transactions To Determine Her Issues. The Creator Discusses The Effect Of Demonetisation, The Requirement For Expanding Financial Education And Mindfulness, Techniques To Lessen Tax Avoidance Among The Rich And Wealthy And A Little See Of The Shadow Economy Running In Parallel Inside India.

Dr. P. Senthilkumar In Discusses Possibilities Of E-Trade Development In Tamil Nadu And Proposes

Developing This Section With Centre Around Security For Online Transactions.

Ashima Dominic (2018) In The Paper Depicted Cashless Economy As One Which Diminishes Utilization Of Physical Monetary Certificates And Coins And Rather Utilizes Computerized Money. The Paper Discusses An Investigation Directed Among Fifty Respondents Including Businessmen, Government Representatives, Understudies, And Housewives And So On. The Investigation Shows That Greater Part Favour Money Transactions On Account Of The High Hazard Related With The Computerized Transaction And Absence Of Advanced Proficiency. The Creator Prescribes Instructing Individuals On Computerized Money.

Kippers Et Al (2003) Is Specific To Netherlands Which Has An Evolved Cashless Economy. This Paper Studies The Evils Of Cash Payments To The Society And The Need For Change To More Transparent Modes Of Payments.

Zhang & Dodgson (2008) In Their Book, States The Opportunity Of Commerce Using The Mobile Phone In The Future. The Competition Is Said To Move From Currency To Digital. Developing Payment Methods To Enable And Fuel This Growth Is Imperative.

Feige (2014) Talked About The Netherlands Which Is A Evolved Digital Payment Society Cash Payments And Its Costs Are Considered And The Paper Studies Denomination Wise Cost Of Cash Payments Using Statistical Methods.

Rajinderkaur Et.Al. (2015) Clarified The Development Of Internet Business And How The New Sector Has Made The Requirement For New Computerized Payment Strategies To Be Presented And Made Prominent. The Paper Features That The Electronic Payment Industry Has Scope For A Gigantic Development In The Time To Come And Will Be Connected To The Development Of Internet Utilization.

Kilian (2016) Talks About Germany As One Of The Most Evolved Nations Which Adopted Cashless Payments Long Ago. This Paper Recommends The Government To Put On A Strict Ceiling On Usage Of Currency For Payments. This Paper Helped Us Understand The Importance Of Steps Undertaken By The Government Towards Introducing New Modes Of Digital Payments

Guillaume (2016) Talks About Cash And Its Importance Beyond Purchase Transactions. Person To Person Transaction, Hording And Other Key Aspects Of People Using Cash Is Studied In This Paper. This Paper Was Useful To Us To Undertake Hypothesis Tests From An Indian Perspective.

Bindu P. K. (2016) Stated That The Sector Is Moving Towards An Alternate Period Of Development With The Utilization Of Data Technology. Banking Today Has Moved From Paper To Plastic As The Most Loved Decision Over The Globe And Is Today The Most Favoured Method Of Payment. The Paper Discusses The Different Sorts Of Plastic And Corresponds Instruction To The Client Of Such Products.

The Article Green Banking Adoption (2016) Accentuates The Need And Job For The Financial Sector To Play In Guaranteeing That Evil Effects Of Global Warming And Environmental Change Are Addressed. The Paper Discusses Activities That The Sector Could Enjoy Guaranteeing Carbon Impression Of This Sector Is To A Great Extent Diminished.

## Methodology

Based On Prior Research, Our Research Question Seeks To Fill The Current Gap In Research By Identifying The Technology, Organization And Environmental Constraints That Affect The Adoption Of Digital Technologies By The Small Retailers In India. Very Little Is Known About The Nature And Extent Of Adoption Of Digital Technologies Such As Mobile And Internet By These Small Retailers (Bollweg Et Al 2016). For The Purpose Of This Study, Primary Data Is Collected Using A Structured Questionnaire And Circulated Online. Following Snowball Sampling, The Survey Was Shared On G-Forms For Better Reach. The Data Was Collected From 379 Retailers In The Retail Eco-System Across The State Of Tamil Nadu, India To Understand The Phenomenon. Selection Of Respondents Was Random And Based On Online Accessibility And Willingness Of The Respondents. The Data Collected Was Analysed With Reference To The Themes Discussed Below. The Interview Questions Were Developed According To Three Major Aspects. The First Set Of Questions Explored The Respondent's Demographics. The Second Theme Of Questions Relate To The Environment (External), Individual/Organizational

And Technology Related Factors That Have An Influence On The Adoption Of Digital Technologies Including Digital Payments. The Final Theme Relates To The Potential Advantages And Challenges Respondents Perceive In The Adoption And Use Of These Digital Technologies.

Factor Analysis Is A Generic Name Given To A Class Of Multivariate Technique And Its Primary Purpose Is To Define The Underlying Structure In A Data Matrix. Broadly Speaking, It Addresses The Problem Of Analyzing The Structure Of The Interrelationships (Correlations) Among A Large Number Of Variables By Defining A Set Of Common Underlying Dimensions, Known As Factors. With Factor Analysis, The Researcher Can First Identify The Separate Dimensions Of The Structure And Then Determine The Extent To Which Each Variable Is Explained By Each Dimension. Once These Dimensions And The Explanation Of Each Variable Are Determined, The Two Primary Uses For Factor Analysis, Namely Summarization And Data Reduction Can Be Achieved. In Summarizing The Data, Factor Analysis Derives Underlying Dimensions That, When Interpreted And Understood, Describe The Data In A Much Smaller Number Of Concepts Than The Original Individual Variables. In The Present Study, Factor Analysis Has Been Used To Identify The Underlining Dimensions In Adoption Of Digital Payments And Problems Faced By Retailers.

Linear Regression Analysis Was Used For Estimating The Determinants Of Digital Payments. The Use Of This Technique Facilitates The Easy Identification Of The Important Variables Influencing The Dependent Variable. The Coefficient Of Multiple Determination And 'T' Values Were Also Computed To Verify The Extent Of Variation And The Level Of Significance Of The Independent Variables. The Perception Of Retailers On Adoption Of Digital Payment Systems Is Ascertained With 23 Variables In Five-Point Likert's Scale Which Ranges From Extremely High To Extremely Low. With The Help Of Exploratory Factor Analysis, The Statements Pertaining To Retailers' Perception Towards Adoption Of Digital Payments Has Been Reduced To 7 Factors. The Researchers Then Applied Linear Regression On This Seven Factors - Independent Variables To Identify The Exact Perception Of The Retailers' On

The Sample Respondents Are Mostly Male And Educated. This May Be Due To The Online Nature Of The Survey, And Circulation Limited To The Social Circles Of The Authors, Which Occurred Due To The Enforcement Of The Covid-19 Induced Nationwide Lockdown In India During The Survey Period. Responses Were Received Across Tamil Nadu. Awareness As Well As Usage Regarding Various Digital Payment Instruments Were High In The Sample. It Is Important To Keep This In Mind While Interpreting How Payment Behaviour Is Affected By Other Variables. Our Respondents, Being From The Relatively Well-Of Sections Of Society, Were Much More Aware And Comfortable With Cards And Upi, Aeps And Usdd Code-Based Payments. Digital Mode Was Preferred For Online Shopping, Paying Utility Bills, And Purchasing Durables (Mostly Medium To High Value Transactions). A Combination Of Cash And Digital Modes Was Preferred For Purchases Of Grocery And Gold, Which Are Starkly Different In Terms Of Transaction Value. Being Solely Dependent On Cash Was Relatively Less Preferable For All Purposes. The Perception Of Cash And Digital

The Application Of Exploratory Factor Analysis  
By Principal Component Method Derived The  
Following Results

Kaiser-Meyer-Olkin Measure Of Sampling Adequacy.	.764
Bartlett's Test Of Sphericity	Approx. Chi-Square
	Df
	Sig.
	3065.180
	253
	.000



The Above Table 1, Shows That The Kmo Measure Of Sampling Adequacy Is 0.764, Bartlett's Test Of Sphericity With Approximate Chi-Square Value Of 3065.180 Are Statistically Significant At 5% Level Denoting That The Variables

Are Normally Distributed And Suitable For Grouping Of Variables. The Following Total Variance Table 2 Explains The Formation Of Number Of Factors Out Of 23 Variables Pertaining To Retailers' Perception Towards Adoption Of Digital Payments

**Table 2:** Total Eigen Variance And Its Loading For Retailer's Adoption Of Digital Payments

**Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums Of Squared Loadings			Rotation Sums Of Squared Loadings		
	Total	% Of Variance	Cumulative %	Total	% Of Variance	Cumulative %	Total	% Of Variance	Cumulative %
1	4.836	21.025	21.025	4.836	21.025	21.025	3.454	15.017	15.017
2	2.362	10.269	31.295	2.362	10.269	31.295	3.147	13.685	28.702
3	1.952	8.489	39.783	1.952	8.489	39.783	2.101	9.136	37.838
4	1.747	7.596	47.379	1.747	7.596	47.379	1.813	7.883	45.721
5	1.476	6.419	53.798	1.476	6.419	53.798	1.406	6.114	51.834
6	1.189	5.168	58.966	1.189	5.168	58.966	1.380	6.000	57.834
7	1.109	4.824	63.790	1.109	4.824	63.790	1.370	5.955	63.790
8	.967	4.205	67.995						
9	.883	3.840	71.834						
10	.842	3.663	75.497						
11	.803	3.492	78.989						
12	.722	3.138	82.127						
13	.652	2.833	84.960						
14	.582	2.529	87.489						
15	.455	1.978	89.467						
16	.424	1.844	91.311						
17	.393	1.707	93.018						
18	.367	1.597	94.615						
19	.341	1.484	96.099						
20	.283	1.229	97.328						
21	.259	1.125	98.453						
22	.219	.952	99.405						
23	.137	.595	100.000						

Extraction Method: Principal Component Analysis.

The Table: 2 Revealed That The 23 Variables Are Reduced To Seven Factors With Cumulative Variance Of 63.79%. The Initial Solutions Revealed That The 23 Variables Are Reduced To 7 Factors. The Extraction Method Of Principal Component Analysis Extracted 7 Components. The Rotation Method Of Varimax With Kaiser Normalization Analysis Revealed That The Rotation Converged In 7

Iterations. So The Researcher Considered Those 7 Iterations As 7 Predominant Factors For The Retailers' Perception Towards Adoption Of Digital Payments. The Results Of The Vari-Max Rotation Revealed The Following Results In The Following Tables. The List Of Factors With Exploratory Factor Analysis And Explanation For The Factors Are Clearly Mentioned Below Along With The Table By Splitting The

Rotated Component Matrix Table Based On The Factor Components.

**Table 3:** Rotated Component Matrix

Factor	Components	Factor Loading
I	Performance During First Quarter	.862 .837 .799 .693
Ii	Performance During Second Quarter	.813 .813 .807 .724
Iii	Education, Experience	.927 .534
Iv	Performance Quarter Before Pandemic	.840 .824 .563 .532
V	Method Of Digital Payment	.734
Vi	Reasons To Adopt Digital Payment	.684 .618 .567
Vii	Gender	.633

Factors Like Performance During First And Second Quarter Of Pandemic Forced Retailers To Adopt Digital Payments. Retailers' Perceive That The Digital Payment Systems Are Useful As They Can Perform All Their Financial Transactions With The Various Gadgets And Not By Contracting Covid 19. Experience And Education Factor Helps Retailers Digital Payments Which Enhance The Performance Of Payment Activities And They Can Accomplish Their Task More Quickly. The Degree To Which Innovations Can Be Professed As Reliable With The Users' And Potential Adopters' Lifestyle, Existing Values, Needs, Past Experiences And Behavioural Pattern Is Consistent (Rogers, 1995). Factor – Method Of Digital Payment Above 0.4 Indicates Trust On Service Providers. Trust Is The Major Factor Influencing The Adoption Of Digital Payments By

The Retailers. And It Is Also Found That High Level Of Trust Has A Direct Effect On The Consumers' To Use Of Digital Payment System. (Kim Et Al., 2010; Mallat, 2007). Reasons To Adopt Digital Payment Includes Extra Transaction Cost Incurred, Network Issues, Accessibility. It Is Also Observed That Male Respondents Are More Confident To Adopt Digital Payments Due To The Influence Of Social Networking Websites.

This Factors Loaded Are Taken As Independent Variables And Keeping Adoption Of Digital Payment As Dependent Variable We Further Extended The Research To Regression Analysis. Dependent Variable Adoption Is Tested For Its Normality As Under.

**Table 4:** Normality Test For Distribution Of Adoption

N	Mean	Median	Min	Max	Skewness		Kurtosis	
					Statistic	Std Error	Statistic	Std Error
379	61.75	62	31.71	61.75	0.23	0.125	0.412	0.250

Skewness Is 0.23 With A Standard Error Of 0.125  
This Gives A Measure Of Skewness Of  $0.23/0.125 = 1.84$ . Kurtosis Is 0.412 With A Standard Error Of 0.250 Giving A Value Of  $0.412/0.250 = 1.648$ . Based On Z Value For Test Of Normality Is Either Or Both

The Skewness And Kurtosis Value Should Be Within The Range Of Value  $\pm 1.96$ . Since The Condition Is Satisfied Regression Analysis Was Carried Out And The Results Are As Follows:

**Table 5:** Results Of Linear Regression Analysis

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted Square	R	Std. Error Of The Estimate
1	.984 <sup>a</sup>	.969	.968		1.397

A. Predictors: (Constant), Gender, Reasons To Adopt Dp, Method ( 98.4% Correlation Exist Between The Chosen Variables. R Square Shows Before Pandemic, Ednexperience, Ii Qtr Pandemic, I Qtr Pandemic 96.9% Changes Are Explained By Independent Variables. Goodness

Also Indicated The High Significant Relationship Between Chosen Dependent Variable And Independent Variables.

Model		B	T	Sig
1	(Constant)	61.755	860.651	.000
	I Qtr Pandemic	4.949	68.880	.000
	Ii Qtr Pandemic	4.402	61.266	.000
	Edn Experience	.847	11.790	.000
	Before Pandemic	2.332	32.460	.000
	Method Of Payment	1.644	22.878	.000
	Reasons To Adopt Dp	2.618	36.438	.000
	Gender	.246	3.425	.001

All Independent Variables (Ie. 7 Factors) Showed Significance Less Than 0.05% Which Indicates Each Independent Variable Explained Dependent Variable (Adoption). It Can Be Inferred That A Positive Outlook On Digital Payment Modes Motivates The Respondent To Pay Digitally. However, Digital Payments Still Have A Long Way To Go If They Are To Prove Themselves As Good Substitutes To The Cheapness, Convenience And Privacy Of Cash Use. Another Observation From The Above Results Is That

High-Value Payments (Gold And Durables) Are Relatively Less Affected By Perception Of Modes Of Payment, When Compared To Low- Value Payments (Grocery).

**Conclusion**

This Is The Apt Time To Understand How Digital Payment Systems Are Perceived By End User Despite The Fact That Government, Financial Institutions Etc. Working Towards The Enhancement Of Digitalization To Improve Access



And Reliability Of Digital Applications. In Contrast To Popular Belief Retailers Were Willing To Adopt Digital Payments For The Role Played By Demographic Factors. While Data Has Been Limited To Digitally Literate Population And To Retailers Who Wanted To Protect Themselves From Contracting Covid-19, Though E-Commerce Stepped Up Their Services, Filling In The

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Vacuum Created By Closure Of Brick And Mortar Stores And To Experience The Benefit Of Digitalization, Low Socio-Economic Background Of Retailers In Rural And Semi-Urban Regions Should Overcome External Barriers. In Time, Small Retailers Will Recognize The Inevitable Impact On Their Business Models And Adopt Digitalization To Survive.

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