

Focus on the Evolving Landscape: The Rise of Contactless Payments: A Post-Pandemic Trend

OPEN ACCESS

Volume: 11

Special Issue: 1

Month: March

Year: 2024

E-ISSN: 2581-9402

Received: 10.02.2024

Accepted: 11.03.2024

Published: 22.03.2024

Citation:

Harshavarthini, B.
“Focus on the Evolving
Landscape: The Rise of
Contactless Payments: A
Post-Pandemic Trend.”
*Shanlax International
Journal of Management*,
vol. 11, no. S1, 2024,
pp. 87–97.

DOI:

[https://doi.org/10.34293/
management.v11iS1-
Mar.8063](https://doi.org/10.34293/management.v11iS1-Mar.8063)

Harshavarthini. B

*II MBA, School of Management
Dwaraka Doss Govardhan Doss Vaishnav College
Chennai, Tamil Nadu, India*

Abstract

The payment industry as a whole may be significantly impacted. The Covid-19 pandemic has affected almost everything, causing a tsunami of changes in a variety of businesses. The epidemic has also led to a decrease in physical interaction amongst family members and an increase in social distancing behaviours. In many regions of the world, this has also led to a decrease in the use of currency. These are only a few instances of how the COVID-19 pandemic has drastically changed consumer behaviour and put retailers in danger of going out of business. The whole world nowadays is getting digitalized and payments through mobile phones have become the easiest mode of payment, replacing the primitive modes of payment. The technological advancements have made it necessary for today's consumer to be dependent on mobile since it is faster, easier and handy to do the day-to-day transactions using their mobile phones. The Government of India initiative toward 'Digital India' and increased use of mobile and internet are the main reasons for the exponential growth in use of digital payment. As a result, this accelerated shift in consumer payment behavior from traditional banks and financial service providers to electronic payment. Digital payment firms such as Google pay, PhonePe, Paytm, Amazon Pay and others have seen nearly 50% spike in transactions through their digital wallets since the start of the covid-19 crisis. This has led them to focus on the payment instrument, which was disrupted by challenges due to know-your-customer (KYC) norms and the growth of Unified Payments Interface (UPI) in the country.

Keywords: E-Wallet Usage, Digital Payments, Impact of COVID-19, Contactless Payment, Social Distancing, Cashless Society, Shopping Behavior, Mobile Payments, Digitalization, Incentives (Rewards, Cashback), Digital India, Mobile Internet Usage, Consumer Behavior Shift.

Introduction

One of the main -19. Like many other nations, India implemented and is still implementing a number of measures to mitigate the effects of the coronavirus outbreak. These include imposing a nationwide goals of government of India is to make India digital. Many people in India have started using internet because internet is available cheaply. Thanks to telecommunication providers for making internet affordable to all people. For the past five years India has experienced exponential growth. The Covid-19 pandemic has affected almost everything, causing a tsunami of changes in a variety of businesses. The epidemic has also led to a decrease in physical interaction amongst family members and an increase in social distancing behaviours. In many regions of the world, this has also led to a

decrease in the use of currency. These are only a few instances of how the COVID-19 pandemic has drastically changed consumer behaviour and put retailers in danger of going out of business. This is not going to disappear as quickly as everyone had thought. Furthermore, it might have a significant impact on the payment sector as a whole. One of the main risks to the world economy and financial markets is the continuing spread of COVID lockdown, restricting population movement, closing public spaces and transportation, and advising people to stay indoors, keep social distance, and work from home. (PwC India). Digital payment providers have profited from the nationwide shutdown, since 42% of Indians now use digital methods for making payments. According to the New Indian Express (2020), the lockdown brought many inexperienced, non-techies closer to the world of digital payments since they had to use them to buy necessities.

The National Payments Corporation of India (NPCI) has been pushing Indians to utilise more digital payment methods in order to decrease social contact, stop people from going outside even to visit the ATM, and stop the coronavirus from spreading. According to the report, two of the most popular digital payment apps used by customers are Paytm and Google Pay.

E-Wallet Usage

The Government of India initiative toward 'Digital India' and increased use of mobile and internet are the main reasons for the exponential growth in use of digital payment. Even though the thought of digitalization raised long years ago, it took growth pace recently. Digital Wallets have eased our buying experience by providing another convenient money transfer platform. It is a significant role and positive impact on adoption of digital wallets.

The whole world nowadays is getting digitalized and payments through mobile phones have become the easiest mode of payment, replacing the primitive modes of payment. The technological advancements have made it necessary for today's consumer to be dependent on mobile since it is faster, easier and handy to do the day-to-day transactions using their mobile phones. Moreover, the incentives (Reward points and Cash Back) provided to the user, choosing to pay through E-Wallets, attracts the users from all age groups to pay through E-Wallets.

Popular online payment apps: Paytm, Google Pay, Amazon Pay, JIO Money, Freecharge, Yono SBI, Airtel Money, Payzapp, MobiKwik, Oxigen, Ola money, PhonePe, MSwipe, Axis Bank Lime, PayUmoney, ICICI Pockets, Citrus and so on

Objectives

1. To study the factors influencing e-wallet usage based on covid-19 pandemic
2. To understand consumer perception based on usage of e-wallet app
3. To analyse the growth of e-wallet transactions before covid-19 pandemic and after covid-19 pandemic
4. To identify growth of e-wallet transactions before covid-19 pandemic based on e-wallet apps used
5. To identify growth of e-wallet transactions after covid-19 pandemic based on e-wallet apps used
6. To determine the factors influencing usage of e-wallet with respect to age, gender and income levels.

Methodology

Research design- Descriptive, Analytical and cross sectional

Sample size- 209

Sampling technique- Convenience sampling

Methods of data collection-

Primary: Questionnaires

Secondary: Journals, Magazines, Websites

Tools of analysis- Descriptives, Independent t-test, Chi square test, ANOVA, Regression test

Developing the Questionnaire

- Defining research objectives clearly to guide questionnaire development.
- Formulating unbiased questions aligned with research goals, utilizing both closed and open-ended formats.
- Pre-testing the questionnaire with a small group to ensure clarity and validity.
- Distributing the questionnaire using Google Forms via email, social media, or other relevant channels.

Literature Review

- Identifying relevant academic sources through databases and search engines.
- Critically evaluating sources for credibility, methodology, and objectivity.
- Analyzing literature to identify key themes, trends, and gaps in knowledge.

Data Analysis

Analyzing data using statistical software (SPSS) to calculate frequencies, percentages, and correlations.

Integration and Reporting

- Integrating findings from analysis to draw comprehensive conclusions.
- Discussing implications and proposing recommendations for future research or action.

Literature Review

According to Undale, S., Kulkarni, A., & Patil, H. (2020), India was placed under national lockdown due to the coronavirus (COVID19) pandemic. During the lockout, eWallet usage rose by 44 percent. The rise in the use of digital transactions has also resulted in an 86% increase in cybercrime attacks. The country's socioeconomic climate and peoples' attitudes are still unprepared for this level of increase in digital transactions. This study aims to identify "comfortability" and "security concern" related to eWallet use during the COVID-19 epidemic.

Jain, A., Sarupria, A., & Kothari, A. (2020), concludes that the impact of the Coronavirus COVID-19 outbreak has gone on economically and socially, can have a temporary impact on purchase patterns, among others. While customer traffic to digital channels is still high, the price of payment has dropped dramatically. If this trend continues to persist for a long time, businesses in the digital payments sector will suffer in the next two or three months as people become increasingly aware of the outages.

Trisnowati, Y., Muditomo, A., Manalu, E. P., & Adriana, D. (2020, August), In order to determine whether there was an increase or decrease in the volume of transactions during the COVID-19 pandemic in 2020, they compared the numbers of cash, shop, intrabank, interbank, and electronic transactions under normal circumstances and during the pandemic. The study concludes that while there are no statistically significant differences for other electronic retail payment transaction instruments, such as credit cards, debit cards, intra transfers, and interbank electronic money, there is a statistically significant difference for the number of electronic money transactions before and after COVID-19.

Agarwal, V., Poddar, S., & Karnavat, S. J. (2020), have stated that banking has transformed from the traditional brick-and mortar prototype to modern day mobile banking which has enabled the customers to reach their banks virtually through Mobile phones and avail services anywhere and at any time within the click of a button. RBI has also been promoting the digital payments through Mobile Wallets during the Covid19 pandemic as it would ensure the social distancing norms as well as the flow of transactions at the same time without causing any exposure to the virus Dr. Jain, A; Dr. Sarupia, A; Kothari, A (2020).

Allam, Z. (2020) attempted to demonstrate how the high cost of maintaining the cash system and its many hazards have contributed to the decline in the attractiveness of cash-based transactions. Examining the various obstacles related to laws, customs, and opposition to change that have been observed, resulting in a sluggish adoption rate. This led to the conclusion that the COVID-19 pandemic and the reported possible contamination of banknotes and coinage demonstrated a strong preference for cashless transactions and that laws and procedures needed to be changed right away in order to preserve the stability and effectiveness of banking systems and accommodate the changing needs of customers.

Data Interpretation and Analysis

Hypothesis Testing

a. Linear Regression Analysis 1

- **AIM:** To analyze the growth of e-wallet transactions before covid-19 pandemic and after covid-19 pandemic.
- **H1:** To analyze the growth of e-wallet transactions before covid-19 pandemic and after covid-19 pandemic.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	Change Statistics df1	df2	Sig. F Change
1	.768a	.589	.587	.46916	.589	291.06 9	1	203	.000

a. Predictors: (Constant), Before covid-19

ANOVAa

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	64.068	1	64.068	291.069	.000b
	Residual	44.683	203	.220		
	Total	108.750	204			

a. Dependent Variable: After covid-19

b. Predictors: (Constant), Before covid-19

Coefficientsa

Unstandardized Coefficients				Standardized Coefficients			
Model B			Std. Error	Beta		t	Sig.
1	(Constant)	.452	.082			5.505	.000
	Before covid-19	.801	.047	.768		17.061	.000

a. Dependent Variable: After covid-19

Interpretation

The above chart shows that the hypothesis was tested under linear regression method and it was significant at $p=0.000$. In the first table $R=0.768$ which is the correlation between growth of e-wallet transactions before covid-19 pandemic and growth of e-wallet transactions after covid-19 pandemic.

In the model summary table $R^2 = 0.589$ of variance which indicates 58.9% correlation in the growth of e-wallet transactions before covid-19 pandemic and after covid-19 pandemic. The anova table shows $F = 291.069$ is significant at $p = 0.000$ and $t = 0.5505$.

Independent Sample T Test Analysis 1

- AIM: To study the factors influencing e-wallet usage based on covid-19 pandemic
- H2: There is significant difference in factors influencing e-wallet usage based on covid-19 pandemic

Group Statistic

First started using	N	Mean	Std. Deviation	Std. Error Mean
Factors 1	139	3.3641	.79957	.06782
Factors 2	66	3.2523	.96486	.11877

Independent Samples Test

		Levene's Test for Equality of Variances				t-Sig. (2tailed)	Test for Equality of Means Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower Upper	
		F	Sig.	t	df					
Factors	Equal variances assumed	4.149	.043	.874	203	.383	.11178	.12796	-.14051	.36407
	Equal variances not assumed			.817	108.849	.416	.11178	.13677	-.15929	.38285

Independent Samples Effect Sizes

		Standardizer ^a	Point Estimate	95% Confidence Interval	
				Lower	Upper
Factors	Cohen's d	.85598	.131	-.163	.424
	Hedges' correction	.85916	.130	-.162	.422
	Glass's delta	.96486	.116	-.178	.409

Interpretation

The result in the above table shows that there is no significant difference in factors influencing e-wallet usage based on covid-19 pandemic at $t=0.874$ and $p=0.383$

Independent Sample T Test Analysis 2

1. AIM: To examine the factors influencing e-wallet usage based on Gender.
2. H3: There is significant difference in factors influencing e-wallet usage based on Gender

Independent Samples Test

9 Gender	N	Mean	Std. Deviation	Std. Error Mean
Factors 1	128	3.2597	.91467	.08085
Factors 2	76	3.4213	.72102	.08271

Independent Samples Test

		Levene's Test for Equality of Variances				t-test for Equality of Means				
		F	Sig.	t	df	t-Sig. (2tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower Upper	
Factors	Equal variances assumed	4.116	.044	-1.316	202	.190	-.16161	.12279	-.40373	.08051
	Equal variances not assumed			-1.397	186.336	.164	-.16161	.11566	-.38978	.06655

Independent Samples Effect Sizes

		Standardizer ^a	Point Estimate	95 Lower	% Confidence Interval Upper
Factors	Cohen's d	.84795	-.191	-.475	.094
	Hedges' correction	.85112	-.190	-.473	.094
	Glass's delta	.72102	-.224	-.509	.063

Interpretation

The result in the above table shows that there is no significant difference in factors influencing e-wallet usage based on Gender at $t=-1.316$ and $p=0.190$

Anova Test Analysis-1

- **AIM:** To know consumer perception based on usage of e-wallet app
- **H4:** There is significant difference in consumer perception based on usage of e-wallet app

Descriptives								
perception	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1	139	3.2043	.86696	.07353	3.0589	3.3497	1.00	4.67
2	24	3.0972	.90745	.18523	2.7140	3.4804	1.00	4.17
3	27	3.5432	.62462	.12021	3.2961	3.7903	1.83	5.00
4	2	3.0000	.23570	.16667	.8823	5.1177	2.83	3.17
5	1	3.0000	.	.	.	.	3.00	3.00
6	3	2.7222	.67358	.38889	1.0490	4.3955	2.00	3.33
7	9	3.4037	.50427	.16809	3.0161	3.7913	2.67	4.00
Total	205	3.2351	.82891	.05789	3.1210	3.3493	1.00	5.00

ANOVA

Perception	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.362	6	.727	1.060	.388
Within Groups	135.805	198	.686		
Total	140.167	204			

Interpretation

The results in the anova table shows $F=1.060$ and $p=0.388$ ($p>0.05$) since p value is greater than 0.05 there is no significant difference in consumer perception based on usage of ewallet app

Anova Test Analysis-2

- **AIM:** To examine the factors influencing e-wallet usage based on age
- **H5:** There is significant difference in the factors influencing e-wallet usage based on age

Descriptives

					95% Confidence Interval for Mean			
	N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound	Minum	Maximum
1	120	3.2197	.90460	.08258	3.0562	3.3832	1.00	5.00
2	56	3.3943	.84461	.11287	3.1681	3.6205	1.00	5.00
3	12	3.5758	.44254	.12775	3.2946	3.8569	2.73	4.45
4	17	3.7005	.60110	.14579	3.3915	4.0096	2.36	5.00
Total	205	3.3281	.85548	.05975	3.2103	3.4459	1.00	5.00

ANOVA

Factors	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.749	3	1.583	2.201	.089
Within Groups	144.548	201	.719		
Total	149.296	204			

Interpretation

The results in the anova table shows $F=2.201$ and $p=0.089$ ($p>0.05$) since p value is greater than 0.05 there is no significant difference in the factors influencing e-wallet usage based on age

Nova Test Analysis-3

- **AIM:** To examine the factors influencing e-wallet usage based on household income/month
- **H6:** There is significant difference in the factors influencing e-wallet usage-based on household income/month

Descriptives

	Factors				95% Confidence Interval for Mean			
	N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound	Minum	Maximum
1	103	3.3655	.79466	.07830	3.2102	3.5208	1.00	5.00
2	44	3.1465	.99425	.14989	2.8442	3.4488	1.00	4.73
3	28	3.2857	.93194	.17612	2.9243	3.6471	1.00	5.00
4	30	3.5058	.75055	.13703	3.2255	3.7860	2.09	5.00
Total	205	3.3281	.85548	.05975	3.2103	3.4459	1.00	5.00

ANOVA

Factors	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.593	3	.864	1.184	.317
Within Groups	146.704	201	.730		
Total	149.296	204			

Interpretation

The results in the anova table shows $F=1.184$ and $p=0.317$ ($p>0.05$) since p value is greater than 0.05 there is no significant difference in the factors influencing e-wallet usage based household income/month

Anova Test Analysis 4

- **AIM:** To examine the growth of e-wallet transactions before covid-19 based on e-wallet apps used
- **H7:** There is significant difference in the growth of e-wallet transactions before covid-19 based on e-wallet apps used

Descriptives Before covid-19

					95% Confidence Interval for Mean			
	N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound	Minimum	Maximum
1	139	1.5856	.62999	.05344	1.4800	1.6913	1.00	3.60
2	24	1.5833	.90969	.18569	1.1992	1.9675	1.00	4.00
3	27	1.7333	.73170	.14082	1.4439	2.0228	1.00	4.00
4	2	2.8000	1.69706	1.20000	-12.4474	18.0474	1.60	4.00
5	1	2.6000	.	.	.	.	2.60	2.60
6	3	1.0667	.11547	.06667	.7798	1.3535	1.00	1.20
7	9	1.3111	.62539	.20846	.8304	1.7918	1.00	2.60
Total	205	1.6020	.69930	.04884	1.5057	1.6982	1.00	4.00

ANOVA

		df	Mean Square	F	Sig.
Between Groups	5.999	6	1.000	2.111	.054
Within Groups	93.760	198	.474		
Total	99.759	204			

Interpretation

The results in the anova table shows $F=2.111$ and $p=0.054$ ($p>0.05$) since p value is equal to 0.05 there is significant difference in in the growth of e-wallet transactions before covid19 based on e-wallet apps used

Anova Test Analysis 5

1. **AIM:** To examine the growth of e-wallet transactions after covid-19 based on e-wallet apps used
2. **H8:** There is significant difference in the growth of e-wallet transactions after covid-19 based on e-wallet apps used

Descriptives								
After covid-19								
N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum	
				Lower Bound	Upper Bound			
1	139	1.7511	.69359	.05883	1.6348	1.8674	1.00	3.60
2	24	1.6333	.77721	.15865	1.3051	1.9615	1.00	3.60
3	27	1.8889	.75515	.14533	1.5902	2.1876	1.00	4.00
4	2	2.8000	1.69706	1.20000	-12.4474	18.0474	1.60	4.00
5	1	2.8000	.	.	.	.	2.80	2.80
6	3	1.0667	.11547	.06667	.7798	1.3535	1.00	1.20
7	9	1.1778	.53333	.17778	.7678	1.5877	1.00	2.60
Total	205	1.7356	.73013	.05099	1.6351	1.8362	1.00	4.00

ANOVA

After covid-19	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8.460	6	1.410	2.784	.013
Within Groups	100.290	198	.507		
Total	108.750	204			

Interpretation

The results in the anova table shows $F=2.784$ and $p=0.013$ ($p<0.05$) since p value is less than 0.05 there is significant difference in the growth of e-wallet transactions after covid-19 based on e-wallet apps used

Findings

T Test Analysis

- There is no significant difference in factors influencing e-wallet usage based on covid-19 pandemic at $t=0.874$ and $p=0.383$ where $p>0.05$
- There is no significant difference in factors influencing e-wallet usage based on Gender at $t=-1.316$ and $p=0.190$ where $p>0.05$

Anova Test Analysis

- There is no significant difference in consumer perception based on usage of e-wallet app at $F=1.060$ and $p=0.388$ where $p>0.05$
- There is significant difference in the growth of e-wallet transactions before covid-19 based on e-wallet apps used at $F=2.111$ and $p=0.054$ where $p<0.05$
- There is significant difference in the growth of e-wallet transactions after covid-19 based on e-wallet apps used at $F=2.784$ and $p=0.013$ where $p<0.05$
- There is no significant difference in the factors influencing e-wallet usage based on age at $F=2.201$ and $p=0.089$ where $p>0.05$
- There is no significant difference in the factors influencing e-wallet usage based household income/month at $F=1.184$ and $p=0.317$ where $p>0.05$

Linear Regression Analysis

There is significant relationship between growth of e-wallet transactions before covid-19 pandemic and growth of e-wallet transactions after covid-19 pandemic at $p=0.000$ $p<0.05$, $R=0.768$, $R^2=0.589$ and ANOVA table shows the F value as 291.069

Recommendation

1. Enhance Data Security and Transparency

- Implement industry-leading encryption standards and multi-factor authentication.
- Conduct regular security audits and penetration testing.
- Clearly communicate data privacy practices and user rights in a user-friendly language.
- Offer options for users to control their data and manage privacy settings.

2. Foster User Education and Inclusivity

- Partner with governments and NGOs to develop educational programs for different demographics (rural communities, older adults) focusing on e-wallet benefits and security features.
- Design e-wallet apps with a simple and intuitive interface, available in multiple languages.
- Offer customer support channels accessible through various means (phone, online chat, in-person workshops) to address user queries and concerns.

3. Promote Collaboration and Public Trust

- Encourage collaboration between e-wallet providers, banks, and regulatory bodies to establish clear and consistent security standards.
- Support government initiatives for promoting digital literacy and financial inclusion.
- Partner with trusted institutions and influencers to build public trust in e-wallets.

4. Invest in Continuous Cybersecurity

- Allocate resources for ongoing cybersecurity research and development to stay ahead of evolving threats.
- Implement machine learning and AI-powered security solutions to detect and prevent fraudulent activities.
- Foster a culture of cyber awareness within the organization, with regular training for employees.

5. Leverage Incentives and Rewards

- Offer attractive cashback, discounts, and loyalty programs to encourage e-wallet adoption.
- Partner with merchants to provide exclusive deals and promotions for e-wallet transactions.
- Develop gamification elements within e-wallet apps to increase user engagement and loyalty.

Conclusion

In summary, this study has shed important light on how Instagram marketing affects consumers' intentions to make purchases. By means of an extensive examination of diverse elements, such as content tactics, engagement figures, influencer partnerships, and demographic data, we have acquired a more profound comprehension of the processes influencing customer conduct on this well-known social media network.

References

1. Undale, S., Kulkarni, A., & Patil, H. (2020). Perceived eWallet security: impact of COVID-19 pandemic. Vilakshan-XIMB Journal of Management.
2. Jain, A., Sarupria, A., & Kothari, A. (2020). The Impact of COVID-19 on E-wallet's Payments in Indian Economy. International Journal of Creative Research Thoughts, 2447-2454.
3. Revathy, C., & Balaji, P. (2020). Determinants of Behavioural Intention on E-Wallet Usage: An Empirical Examination in Amid of Covid-19 Lockdown Period. International Journal of Management (IJM), 11(6).

4. Khoa, B. T. (2020, October). The role of Mobile Skillfulness and User Innovation toward Electronic Wallet Acceptance in the Digital Transformation Era. In 2020 International Conference on Information Technology Systems and Innovation (ICITSI) (pp. 30-37). IEEE.
5. Al-Omoush, K. S., Simón-Moya, V., & Sendra-García, J. (2020). The impact of social capital and collaborative knowledge creation on e-business proactiveness and organizational agility in responding to the COVID-19 crisis. *Journal of Innovation & Knowledge*, 5(4), 279-288.
6. Rantung, H. M., Tumbuan, A. J., & Gunawan, E. M. (2020). The Determinants Influencing Behaviorial Intention To Use E-Wallet During Covid-19 Pandemic In Manado. *Jurnal EMBA: Jurnal Riset Ekonomi, Manajemen, Bisnis dan Akuntansi*, 8(4).
7. Gelb, A., & Mukherjee, A. (2020). Digital Technology in Social Assistance Transfers for COVID-19 Relief: Lessons from Selected Cases. CGD Policy Paper, 181. Yang, M., Mamun, A. A., Mohiuddin, M., Nawir, N. C., & Zainol, N. R. (2021). Cashless Transactions: A Study on Intention and Adoption of eWallets. *Sustainability*, 13(2), 831.
8. George, A., & Sunny, P. (2021). Developing a Research Model for Mobile Wallet Adoption and Usage. *IIM Kozhikode Society & Management Review*, 10(1), 82-98.
9. Allam, Z. (2020). The forceful reevaluation of cash-based transactions by COVID-19 and its opportunities to transition to cashless systems in digital urban networks. *Surveying the Covid-19 Pandemic and its Implications*, 107.
10. Trisnowati, Y., Muditomo, A., Manalu, E. P., & Adriana, D. (2020, August). The COVID-19 pandemic's impact on Indonesia's electronic retail payment transactions. In 2020 International Conference on Information Management and Technology (ICIMTech) (pp. 504-509). IEEE.