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# **Enterprise Digital Payment Trends Survey Post Covid-19 Situation**

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#### Abstract.

**Purpose:** This research article presents the results of a survey on digital payment transactions using mobile Fintech applications. The target users are from the tenant or seller side. The research locations were conducted in two of the biggest malls in Palembang, namely Palembang Square (PS) and Palembang Trade Center (PTC).

**Methods:** The research method applied is a survey involving online questionnaires using Google Forms. The survey was carried out for five months. The survey will begin from the end of September 2022 until February 2023.

**Result:** The observed Fintech mobile applications are OVO and ShopeePay. The research collected data on 105 Small and Medium Enterprises (SMEs) tenants. The results show that the Fintech ShopeePay application (62%) is used more than OVO (38%). SME business actors are dominated by women (57%) compared to men (43%). These tenants are mainly in the Gen Z category (73%). Meanwhile, many of the business types of tenants are engaged in the culinary sector (42%). Most tenants' monthly turnover range is 0-5 million (Rupiah) (38%). But there are 2% who have a turnover of more than 25 million (Rupiah).

**Novelty:** This research enriches the survey on using the Fintech platform from the side of tenants who open their businesses in modern shopping places after COVID-19.

Keywords: COVID-19, Digital payments, Fintech, OVO, ShopeePay Received March 2023 / Revised March 2023 / Accepted April 2023

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#### INTRODUCTION

Information and Communication Technology (ICT) has positioned itself as a hub for various human activities. The advancement of internet technology, in particular, has changed various modes of activity to be faster, reach a global area, and are rich in astonishing new features. The Internet is one of the latest trends in IT that forms the backbone of many modern businesses. With the Internet, many transactions can be made in paperless, electronic-based, and real-time modes. A study at the beginning of 2023 showed predictions of internet users in Indonesia in 2028, reaching 269.09 million people [1]. This illustrates how important and massive Internet use is now and in the future. At the beginning of 2023 in Indonesia, there were at least 212.9 million internet users, with internet penetration reaching 77.0 percent [2].

Advances in long-distance wireless communication information technology that increasingly involve mobile devices further accelerate the growth of e-commerce [3]. Digital economic opportunities in Indonesia are increasingly open with several information technologies (IT) based applications [4], [5]. The global system has been configured through information and cellular technology towards a digital system, including the digital economy and its payment technology through mobile applications and social media [6]. Recently IT applications have penetrated the world of finance [7] through various services. Financial transactions that were previously carried out manually involving physical money have shifted to digital payment systems [8]. Electronic payment (E-Payment) mode can be done by swipe, tap, or scan. E-Payment modes are mushrooming when many startups have sprung up in Indonesia that combined their services with digital payments.

Digital payments are increasingly rife using Financial Technology (Fintech) [9]. Most of the Fintech applications are created and designed to use mobile applications. Indonesia has the largest economy in ASEAN, which cannot be separated from the use of Fintech in the current digital era. A study (Figure 1) describes an increase in digital payment penetration in Indonesia in 2017 of 26.48% to 69.72 in 2023 and

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will jump to 86.47% in 2027 [10]. Currently, there are so many E-Payment or Fintech services in Indonesia. Among several mobile payment applications in Indonesia, OVO and ShopeePay [11]–[13] occupy the top positions in a study with predictions for the number of users in 2020-2025. The focus of this research is on the Fintech OVO and ShopeePay applications.

The data shown in Figure 1 provides information that OVO and ShopeePay will dominate mobile payments in Indonesia. The bar chart in Figure 1 sequentially depicts the number of mobile wallet payment users: 1) OVO, 2) ShopeePay, 3) LinkAja, 4) GoPay, and 5) DANA. This information triggered this research with the main focus on surveys of OVO and ShopeePay.

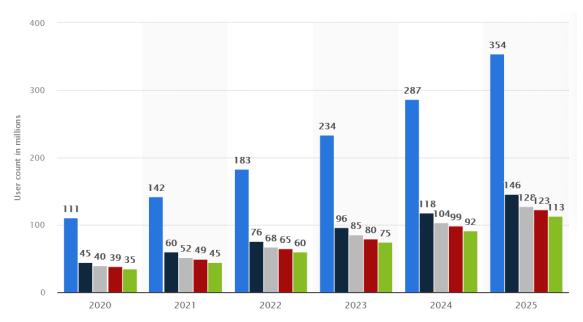


Figure 1. Indonesian mobile payment app users 2020 – 2025 [11]

Since the millennial era, the world has experienced an extraordinary event that has become a global pandemic in the health sector, popularly known as COVID-19 [14], [15]. The virus that spreads very quickly has claimed many lives and disrupted the health of millions worldwide. After a vaccine was found and administered to most of humanity, the COVID-19 pandemic gradually subsided. During the pandemic, transactions usually carried out face-to-face turned into distance transactions facilitated by several payment technologies. Post-pandemic digital payments and currency will be important in various transactions [16]. Changes in the mode of financial transactions also affect changes in market behavior [17], such as online transport payments [18], zakat collection [19], and tenants' acceptance of digital payments [3]. The COVID-19 pandemic accelerated the process of reducing the use of cash [20].

Several previous studies have been reviewed as a reference in this study, including 1) The COVID-19 pandemic has provided several lessons on how digitalization plays a role in the sustainable development of micro and small businesses. A framework has been developed to support digital transformation post-COVID-19 for sustainable of MSEs development. Their findings [21] explain that digital payments, and mobile money, are important for digital transformation priorities; 2) Sharia Fintech services in Indonesia and social media use. [6] provides an overview of Islamic Fintech in Indonesia and its use of social media, and 3) The influence of familiarity and personal innovativeness on the acceptance of Fintech lending services [22]. This study examines the level of acceptance of Fintech in Indonesia based on Familiarity and Personal Innovativeness. This research also produces a guide for improving Fintech Lending Companies in Indonesia; 4) The Development of Digital Payment Systems in Indonesia. This article reviews the E-Wallets of Go-Pay and OVO. They predict even though COVID-19 is over; e-wallets will become a payment trend in carrying out daily business transactions. [23], and 5) Digital Transformation of Zakat Collection through Marketplace and Fintech in the Pandemic Era [19], and 6) During the COVID-19 Pandemic, a lot of behavior changed, including E-Commerce payment transactions that needed to be analyzed from a user experience standpoint [18].

Among these studies, no one has reviewed the use of digital payments in SMEs using the specific payment application used by tenants such as ShopeePay and OVO in Mall. Furthermore, this article will review the results of a survey on using the Fintech OVO and ShopeePay mobile applications by SMEs at leading malls in Palembang. The next section is research methods, followed by results and discussion, and closes with conclusions and suggestions.

#### **METHODS**

The research used a survey approach involving online questionnaires for SME tenant business people in post-COVID-19 Malls in Palembang. The research method section consists of 5 (five) sub-sections: 1) Research Respondents, 2) Data Collection Methods, 3) Research Objects, 4) Research Locations and Period, and 5) Descriptive Analysis.

The total number of respondents involved in the study amounted to 105 people. They are OVO and ShopeePay mobile Fintech Application Users. Respondents whose opinions were consulted consisted of Business Owners/Tenants, Tenant Employees, and Customers. The respondents involved are respondents who are transacting using Fintech applications in the two largest malls in Palembang, namely: 1) Palembang Square (PS) and 2) Palembang Trade Center (PTC).

A study requires some data to be processed. The data can be collected both primary and secondary. Primary data is data obtained directly through online questionnaires using Google Forms. The Google Forms [24] application is a worksheet in the form of a template that can be used individually or in groups to get information from its users. At the same time, primary data is supporting data obtained indirectly through the results of reports or statistics that have been published. Thus, the comparison of OVO and ShopeePay criteria can be shown in Table 1.

Table 1. Comparison of OVO and ShopeePay

T		
Criteria -	Fintech	
	ovo	ShopeePay
Country	Indonesia	Singapore
Mobile OS	App Store & Google Play	App Store & Google Play
Founded	September 25, 2017	August 8, 2018
Group	Grab (Transportation)	Shopee (E-Commerce)
PayLater	No	Yes

The business world has also undergone significant changes. With the digital economy, e-commerce trends are progressing very rapidly. Fintech is the adoption of advances in information technology in the financial services industry. In the Fintech era, all financial activities are digitized using internet-based transaction modes and can be accessed by websites or smart devices known as smartphones. Financial Technology [25] is the use of technology in the financial system that creates new products, services, technology, or business models and can impact monetary stability, financial system stability or efficiency, smoothness, security, and reliability of the payment system. The object of research in this study is mobile digital payment applications in the form of Fintech OVO and ShopeePay (Table 1). OVO is a smart application allowing you to collect points everywhere. The Lippo Group founded the OVO platform (PT Visionet Internasional) in 2017 [26]. OVO is a mobile application that focuses on Fintech services. OVO is very popular after becoming a digital payment service for Grab.

Currently, OVO does not only serve payments in the Grab application but is commonly used to pay for various transactions, both online and offline. ShopeePay is an electronic money service feature that can be used as a payment method online on the Shopee app, offline on ShopeePay Merchants, and keeps a refund that can be used to pay next order [27]. ShopeePay is an electronic money service from PT. AirPay International is a Shopee affiliate company. Currently, the number of users and market share for the e-wallet brand ShopeePay has the largest number in Indonesia [28]. ShopeePay is used as an alternative payment method on Shopee and to collect refunds. Features that can be used in ShopeePay are adding balances, paying transactions at Shopee, and withdrawing funds from ShopeePay [29].

The research was conducted in the Capital City of South Sumatra Province, Palembang Metropolitan City. The Palembang city is the oldest city in Indonesia (based on Kedukan Bukit Inscription in Old Malay was

written in the Pallawa script dated April 23, 682) and was once the Capital of the Distinguished Maritime Kingdom at its time, namely the Sriwijaya Kingdom [30]. Along with the times, the city of Palembang, divided by the Musi River [31], has become one of the metropolitan cities in Indonesia with several developments in all fields. Progress in Palembang has made more and more malls become modern business centers, including their digital transaction activities. Among the thriving malls growing in Palembang, two malls are quite large and are the choice of shopping for the people of Palembang. The two malls are Palembang Square (PS) and Palembang Trade Center (PTC). Palembang Square (PS) is a modern shopping center complex located at Jalan Darat 45 (Lorok Pakjo) and was founded in 2004. Currently, PS is part of the Lippo Group. Apart from the 4-story mall, the PS complex consists of PSx, Siloam Hospital, Aryaduta Hotel, and other businesses and offices. Palembang Trade Center (PTC) is a modern shopping center complex on Jalan R. Sukamto (Ilir Timur II) operated by PT. Pandawalima Halim Together. The PTC complex is also adjacent to the Novotel Hotel, Lotte Mart, and other businesses and offices.

### RESULT AND DISCUSSION

The results and discussion section will present the research results accompanied by a narrative discussion according to the topic of this research. The results and discussion sections are grouped into five subsections, namely: 1) Respondents' Gender, 2) Respondents' Generation, 3) Tenants' Business Types, 4) Tenants' Fintech Platforms, and 5) Tenants' Turnover.

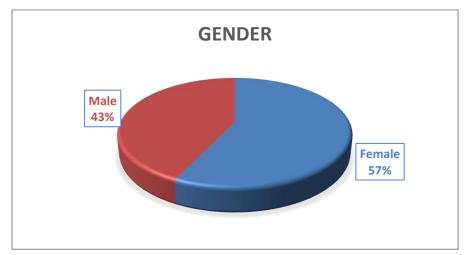


Figure 2. Respondent gender

Figure 2 represents the total number of respondents involved in the study amounted to 105 people. They are OVO and ShopeePay mobile Fintech Application Users. Respondents whose opinions were consulted consisted of Business Owners/Tenants, Tenant Employees, and Customers. The respondents involved are respondents who are transacting using Fintech applications in the two largest malls in Palembang, namely: 1) Palembang Square (PS) and 2) Palembang Trade Center (PTC). Based on the survey results, most respondents were female or 57%, while the respondents were male, only 43%. This shows that most mall tenants or tenant workers are women.

The generation of business people in the mall was dominated by Generation Z (1997 - 2012) at 73%, followed by Generation Millennials or Y (1981 - 1996) at 14%, then Generations Baby Boomers (1946 - 1964) and X (1965 - 1980) at both 6%, while Generation Alpha (2013-2025) was only 1% (Figure 3).

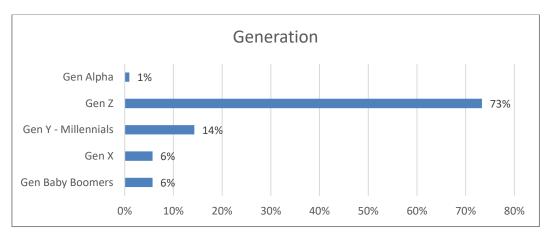


Figure 3. Respondent generation

In general, six types of businesses often use digital payments in malls (Figure 4). Based on the survey results, most of the respondents are engaged in the following business fields: 1) 'Culinary' is the most business field at 42%, 2) 'Other' business fields or those who do not want to be disclosed by owners/employees occupy the second position at 28%, 3) The 'fashion' business sector occupies the third position with 13%, 4) Electronics 9%, 5) Retail 7%, and finally 6) Entertainment 2%.

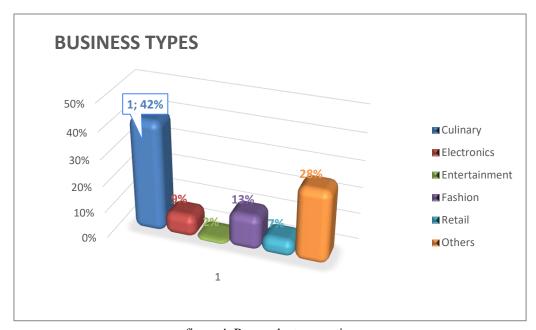


figure 4. Respondent generation

Modern shopping places, such as large malls in metropolitan cities, tend to be rife with using or involving Fintech as an alternative payment. The survey (Figure 5) shows that 38% of tenants use OVO as the main Fintech payment, while 62% use ShopeePay.

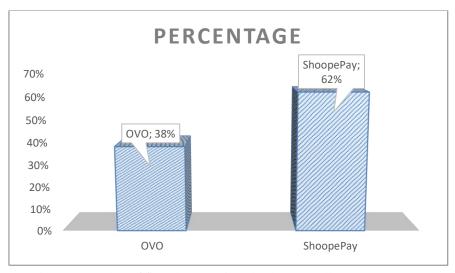


Figure 5. Number of fintech usages in Palembang's malls post COVID-19

This research also asks about the turnover range of each of these tenants. The survey results show that the highest monthly turnover range is above 25 million (rupiah), equal to 2%. At the same time, the range of tenant turnover that has the most is 0 - 5 million (rupiah), amounting to 38%, followed by a turnover of around 10 - 15 million per month, which amounted to 19%. Furthermore, the turnover of 0 - 10 million and 5 - 10 million amounted to 13% each, tenants with a turnover of 15 - 25 million amounted to 8%, tenants with a turnover of 15 - 20 million amounted to 6%, while tenants with a turnover of 20 - 25 million were only 1%. The fintech turnover range post-COVID-19 can be seen in Figure 6.

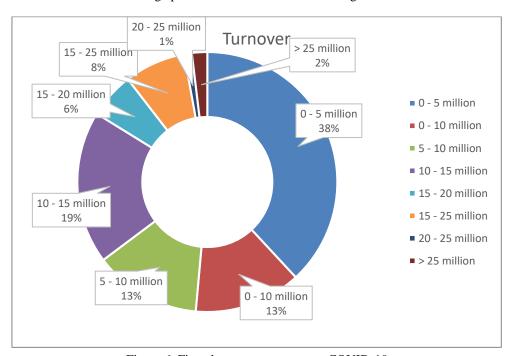


Figure 6. Fintech turnover range post COVID-19

#### CONCLUSION

Based on the results of the research that has been described in the sections above, several conclusions are obtained as follows: 1) Business actors, both tenant owners and tenant employees, are dominated by women, 2) they come from the Z generation group, 3) The culinary business sector dominates their business types, 4) More business actors use the Fintech ShopeePay platform, and 5) The range of business turnover of have the most turnover in the range of 0-35 million. For further studies, the authors are interested in

conducting research involving other Fintech platforms, additional modern shopping areas, and different types of businesses.

## REFERENCES

- [1] H. Nurhayati-Wolff, "Number of internet users in Indonesia 2017-2028 Internet usage in Indonesia Number of internet users in Indonesia from 2017 to 2022 with forecasts until," 2023.
- [2] S. Kemp, "Digital 2023: Global Overview Report," 2023.
- [3] D. K. Putri and L. A. Abdillah, "Tenant ShopeePay Fintech Application Acceptance Analysis Using TAM," *Sink. J. dan Penelit. Tek. Inform.*, vol. 8, no. 1, pp. 487–495, 2023, doi: 10.33395/sinkron.v8i1.12099.
- [4] Y. W. Hidayat *et al.*, "Designing Palembang's Typical Culinary Information Systems Based on Website and Social Media," *Sist. J. Sist. Inf.*, vol. 9, no. 2, pp. 343–351, 2020, doi: 10.32520/stmsi.v9i2.817.
- [5] A. A. Nurdin, G. N. Salmi, K. Sentosa, A. R. Wijayanti, and A. Prasetya, "Utilization of Business Intelligence in Sales Information Systems," *J. Inf. Syst. Explor. Res.*, vol. 1, no. 1, pp. 39–48, 2022, doi: 10.52465/joiser.v1i1.101.
- [6] L. A. Abdillah, Y. I. Mukti, D. Puspita, and Suhartini, "Indonesian Sharia Fintech Services and Social Media Usage," *Bull. Soc. Informatics Theory Appl.*, vol. 5, no. 2, pp. 97–106, 2021, doi: 10.31763/businta.v5i2.456.
- [7] M. R. H. Anggara, M. R. Davie, M. Margani, M. Ayu, and M. Aulia, "The Presence of Commercial Banks in Metaverse's Financial Ecosystem: Opportunities and Risks," *J. Cent. Bank. Law Institutions*, vol. 1, no. 3, pp. 405–430, 2022.
- [8] L. A. Abdillah, "Financial Technology (FinTech)," in *Tren Teknologi Masa Depan (Future Technology Trends)*, Medan: Yayasan Kita Menulis, 2020.
- [9] M. A. Muslim *et al.*, "New model combination meta-learner to improve accuracy prediction P2P lending with stacking ensemble learning \*," *Intell. Syst. with Appl.*, vol. 18, no. December 2022, p. 200204, 2023, doi: 10.1016/j.iswa.2023.200204.
- [10] Statista Research Department, "Penetration rate of digital payments market in Indonesia 2017-2027 Penetration rate of digital payments market in Indonesia from 2017 to 2021, with forecasts to 2027 Source Release date Region Survey time period," 2022.
- [11] R. de Best, "Users of various mobile payment apps in Indonesia in 2020, with forecasts to 2025," 2023.
- [12] S. R. Hidayah and C. E. Putri, "Factors affecting interest in utilization and use of online shop (study on shopee customers)," *J. Soft Comput. Explor.*, vol. 2, no. 2, 2021, doi: 10.52465/joscex.v2i2.45.
- [13] R. Naufalia, C. Lateefa, and D. Yassar, "Usefulness factors to predict the continuance intention using mobile payment, case study: GO-Pay, OVO, Dana," *J. Soft Comput. Explor.*, vol. 2, no. 2, 2021, doi: 10.52465/joscex.v2i2.50.
- [14] L. A. Abdillah, "Stigma Terhadap Orang Positif COVID-19," in *Pandemik COVID-19: Antara Persoalan dan Refleksi di Indonesia*, Medan: Yayasan Kita Menulis, 2020.
- [15] R. Jayapermana, A. Aradea, and N. I. Kurniati, "Implementation of Stacking Ensemble Classifier for Multi-class Classification of COVID-19 Vaccines Topics on Twitter," *Sci. J. Informatics*, vol. 9, no. 1, pp. 8–15, 2022, doi: 10.15294/sji.v9i1.31648.
- [16] R. De', N. Pandey, and A. Pal, "Impact of digital surge during Covid-19 pandemic: A viewpoint on research and practice," *Int. J. Inf. Learn. Technol.*, no. 55, pp. 1–6, 2020.
- [17] P. P. Sugarda and M. R. Wicaksono, "Enhancing The Competitiveness of Indonesia's Financial Services Sector in The Digital Era Through Open Banking Lessons Learned from The UK's Experience," *J. Cent. Bank. Law Institutions*, vol. 2, no. 1, pp. 153–178, 2023.
- [18] L. A. Abdillah, "FinTech E-Commerce Payment Application User Experience Analysis during COVID-19 Pandemic," *Sci. J. Informatics*, vol. 7, no. 2, pp. 265–278, 2020, doi: 10.15294/sji.v7i2.26056.
- [19] L. A. Abdillah, "Digital Transformation of Zakat Collection through Marketplace and Fintech in Pandemic Era," in *Fifth Int. Conf. Zakat (ICONZ2021)*, 2021.
- [20] E. Carletti, S. Claessens, A. Fatás, and X. Vives, *The Bank Business Model on the Post-Covid-19 World*. London: Centre for Economic Policy Research, 2020.
- [21] C. Bai, M. Quayson, and J. Sarkis, "COVID-19 pandemic digitization lessons for sustainable development of micro-and small- enterprises," *Sustain. Prod. Consum.*, vol. 27, pp. 1989–2001, 2021, doi: 10.1016/j.spc.2021.04.035.
- [22] Y. Wirani, Randi, M. S. Romadhon, and Suhendi, "The influence of familiarity and personal

- innovativeness on the acceptance of fintech lending services: A perspective from Indonesian borrowers," *Regist. J. Ilm. Teknol. Sist. Inf.*, vol. 8, no. 1, pp. 81–93, 2022, doi: 10.26594/register.v8i1.2327.
- [23] R. Widjojo, "The Development of Digital Payment Systems in Indonesia: a Review of Go-Pay and Ovo E-Wallets," *Econ. Altern.*, vol. 26, no. 3, pp. 384–395, 2020, doi: 10.37075/ea.2020.3.03.
- [24] E. Nurmahmudah and R. Nuryuniarti, "Google forms utilization for student satisfaction survey towards quality of service at Universitas Muhammadiyah Tasikmalaya," *J. Phys. Conf. Ser.*, vol. 1477, no. 2, 2020, doi: 10.1088/1742-6596/1477/2/022003.
- [25] Bank Indonesia, "Peraturan Bank Indonesia Nomor 19/12/PBI/2017 tentang Penyelenggaraan Teknologi Finansial," *Bank Indonesia*, 2017.
- [26] N. Yucha, S. Setiawan, N. Muttaqiin, R. Ekasari, and K. F. Mauladi, "Digital payment system analysis of buying decision in Indonesia," *J. Asian Financ. Econ. Bus.*, vol. 7, no. 10, pp. 323–328, 2020.
- [27] B. L. Handoko, I. G. M. Karmawan, and L. Meliana, "Factors Influenced User Interest in Payment Transaction of ShopeePay Digital Wallet Application," in 2022 4th Int. Conf. Cybern. Intell. Syst. (ICORIS), 2022, pp. 1–6.
- [28] A. N. Desnissanty and D. Sari, "Analisis Faktor-Faktor Yang Mempengaruhi Perilaku Penggunaan Shopeepay Dengan Technology Acceptance Model (TAM)," vol. 8, no. 3, 2021.
- [29] L. Anthony and H. Sama, "Studi Kualitatif Mengenai Faktor Penerimaan Aplikasi E-Commerce Shopee Dan Fintech Shopeepay Bagi Masyarakat Senior," vol. 1, no. 1, pp. 678–686, 2021.
- [30] R. A. Saputro, "The utilization of colonial historical sites in the city of Palembang as a learning resource based on outdoor learning," *Britain Int. Linguist. Arts Educ. J.*, vol. 3, no. 2, pp. 121–127, 2021
- [31] R. Syabani and L. A. Abdillah, "Sistem Informasi Geografis Wisata Kawasan Sungai Musi Palembang," in *Fourth Bina Darma Conf. Ser. Comput. Sci. (BDCCS2022)*, 2022, pp. 197–205.