

Revolutionizing Digital Payments and Transforming Global Economies: A Drive Promoting Cashless Market Scenarios

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Abstract: Before the onset of the current pandemic, digital payments had started setting an apparent passage for continued payment flow growth across the globe and the pandemic further expedited this process. The primary developments navigating this evolution were: acceleration in digital technology, smartphone revolution and data connectivity which steered the rapidly augmenting volume of connected and digitally active consumers, and the thriving e-commerce markets fortifying the demand for digital solutions. This competitive landscape was simultaneously gearing up, with the admission of robust unique players comprising of telecommunications enterprises, fintech firms and other digital marketing conglomerates amplifying their fresh endeavors and inventions. Research Question: There is a worldwide smartphone revolution, digital transformations with the introduction of 5G connected with refinements in artificial intelligence (AI) algorithms, quantum computing and blockchain technology and the evolution of Fintech corporations. Is a Cashless economy the new reality? How is the emergence of a Cashless Economy impacting businesses? What is the anticipated future index? These and much more would be attempted to be addressed in the course of the research paper.

Keywords: Cashless Economy, Fintech Services, 4Digital Transformation, Anticipated Future Index, Artificial Intelligence

1. Introduction

The significant objective of a cashless economy is to develop an economic ecosystem where transactions are entered into without the material exchange of cash. This digital modification creates multiple advantages such as restraining the circulation of illegal funds, facilitating administrations to track marketing activities more effectively and equipping people with the comfort of performing monetary marketing activities anytime and anywhere.

A significant factor contributing to the emergence of cashless economies on a global scale is the changing lifestyles and

evolving preferences of the consumers, as cashless transactions offer convenience, speed, and accessibility. Cashless payments act as economic propellers and mitigate several challenges of the traditional economy. Consumers receive unparalleled convenience as by just tapping or swiping their cards or smartphone contactless payments are being made, transactions are concluded, thereby eliminating the necessity of carrying tangible currency.

Cashless transactions have shorter processing and wait times. Consumers are able to monitor their spending and manage their finances more efficiently with digital transactions as they leave an electronic trail.

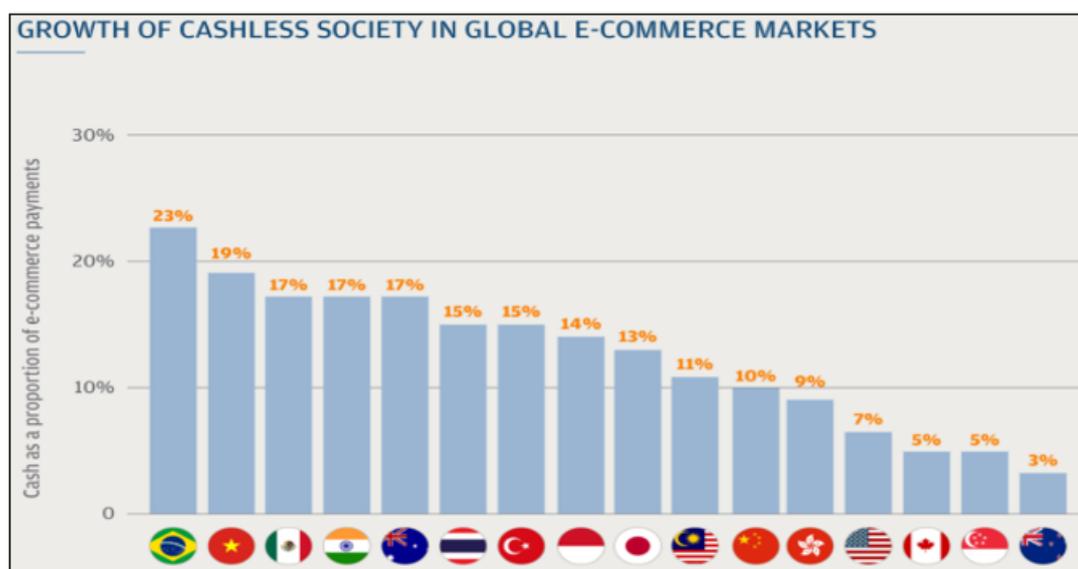


Exhibit 1: Trends in the expansion of cashless economies across the globe in 2020

Source: Digital technology and local culture influence global noncash payment growth, J. P. Morgan

The quick digitization of the global economy over the previous decade has been fueled by the development of smartphones, as in the year 2016, there were 3.67 billion smartphone subscriptions and five years later in 2020 - 2021 this value doubled and by 2026, it is estimated that 91% of the world population will possess a smartphone. ¹ Refer to Exhibit 2 which explains this concept diagrammatically.

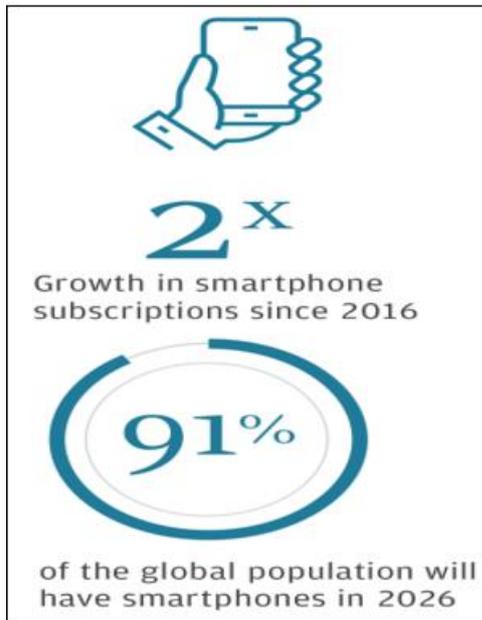


Exhibit 2: The smartphone revolution

Source: Payments are eating the world, J. P. Morgan

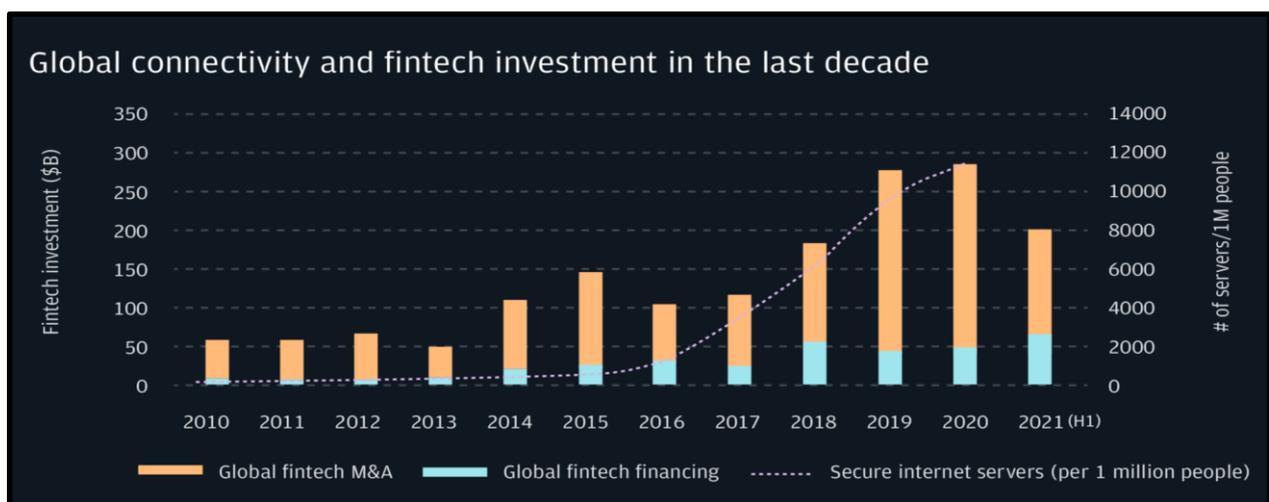
Furthermore, the availability of a rapid, adaptable and a roaming internet facility has connected individuals from different backgrounds across the globe, putting together communication in a simple, safe, scalable and economical manner. This process has assisted both consumers and sellers

by facilitating digital marketplace access for everyone and such communication has sparked the foundation of e-commerce and led to an incredible development of financial services.

The term Fintech refers to the usage of technical skills to provide easier, quicker and superior monetary services. Over the years investment in financial services has grown rapidly and the Fintech industry has developed at a quick rate. As per the FT Partners, it is estimated that more than US\$1.5 trillion of fintech investment and merger and acquisition activity was conducted between 2010 and 2020. ² Also, it is anticipated that by 2025 across - the - board adoption and frequent usage of digital financial services could boost the GDP of all the developing nations by approximately 6%, or \$3.7 trillion, building 95 million fresh employment opportunities. ³

Due to the current pandemic in the year 2020, Fintech investments rose even as GDP decreased worldwide. Fintech firms proposing online and mobile solutions underwent historically high adoption rates and drastically revved their transition from the boundary to the mainstream. For example, in Europe, Fintech adoption and its use rose by around 72% in 2020, and in the U. S., it increased by around 39%. ⁴ The Fintech industry globally is thriving and is fighting with functional obstacles created by the current pandemic primarily in nearly every facet of our private and work lives. Whether it's stimulating digital or contactless trades, or permitting e-commerce marketplaces to operate superior services to their clients and vendors, payments are the adhesive that keeps the online business world together. Exhibit 3 depicts the rising trend of global mergers and acquisitions and investments in the Fintech industry and secures internet servers from 2010 to 2021 (H1).

Exhibit 3: Rising fintech industry



Source: FT Partners, DocSend, & World Bank

¹ Statista. 'Mobile internet usage worldwide - statistics & facts.' <https://www.statista.com/topics/779/mobile-internet/>

² FT Partners Research, July 2021 <https://ftpartners.docsend.com/view/igaby8kcxzv3bqu7>

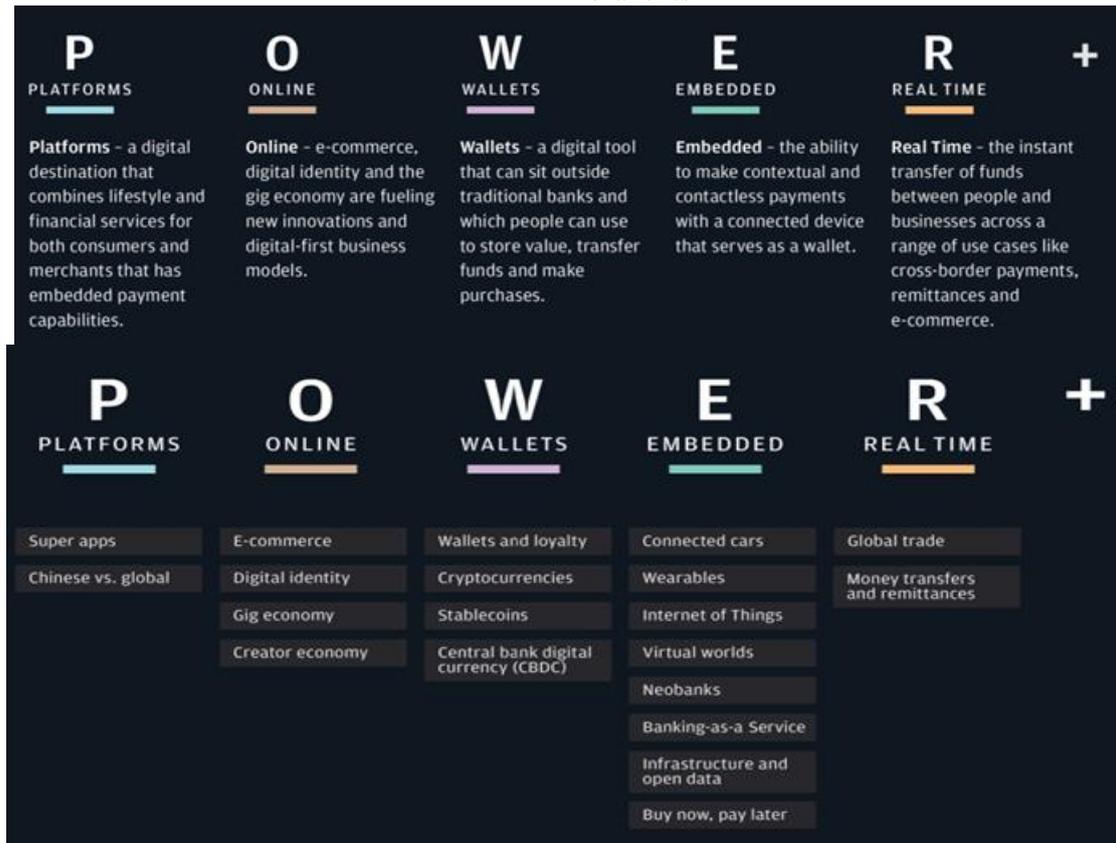
³ Dignited, March 2021. <https://www.dignited.com/79861/african-tech-unicorns-heres-a-look-at-all-six-of-them>

⁴ Finextra, Feb 2021. 'The state of FinTech: a recap of 2020 and a glimpse into 2021.' <https://www.finextra.com/blogposting/19849/the-state-of-fintech-a-recap-of-2020-and-a-glimpse-into-2021>

In the coming years, digital transformations are likely to witness fresh foundational modifications with the introduction of 5G connected with refinements in Artificial Intelligence (AI) Algorithms, Quantum Computing and Blockchain Technology. This revolutionary advancement and creation would facilitate fresh technologies to thrive, comprising next - gen conversational AI, the Internet of Things (IoT), connected cars, and scalable augmented and virtual reality. As these unique technical skills are put forward into markets, they would have a deep effect on how humans live, work and consume, hence changing the course of value collections and investment allotments and recontouring economies.

The research paper runs through five significant concepts namely - Platforms, Online, Wallets, Embedded and Real - Time (POWER), which were responsible for roughly US\$54 trillion of the \$240 trillion in global payment flows in 2020.⁵ Also, the integration of valued - added services (+) would fetch these payment flows to life for buyers and sellers.⁶ Within these five significant concepts of the POWER+ framework, J. P. Morgan has specified 20 smaller concepts and value - added services, which are discussed further in this paper. Exhibit 4 depicts these five significant concepts of the POWER+ framework along with their sub - branches.

Exhibit 4: The POWER+ framework and its sub – branches



Source: Payments are eating the world, J. P. Morgan

2. Factors Responsible for Global Digital Payments Flow

2.1 Platforms

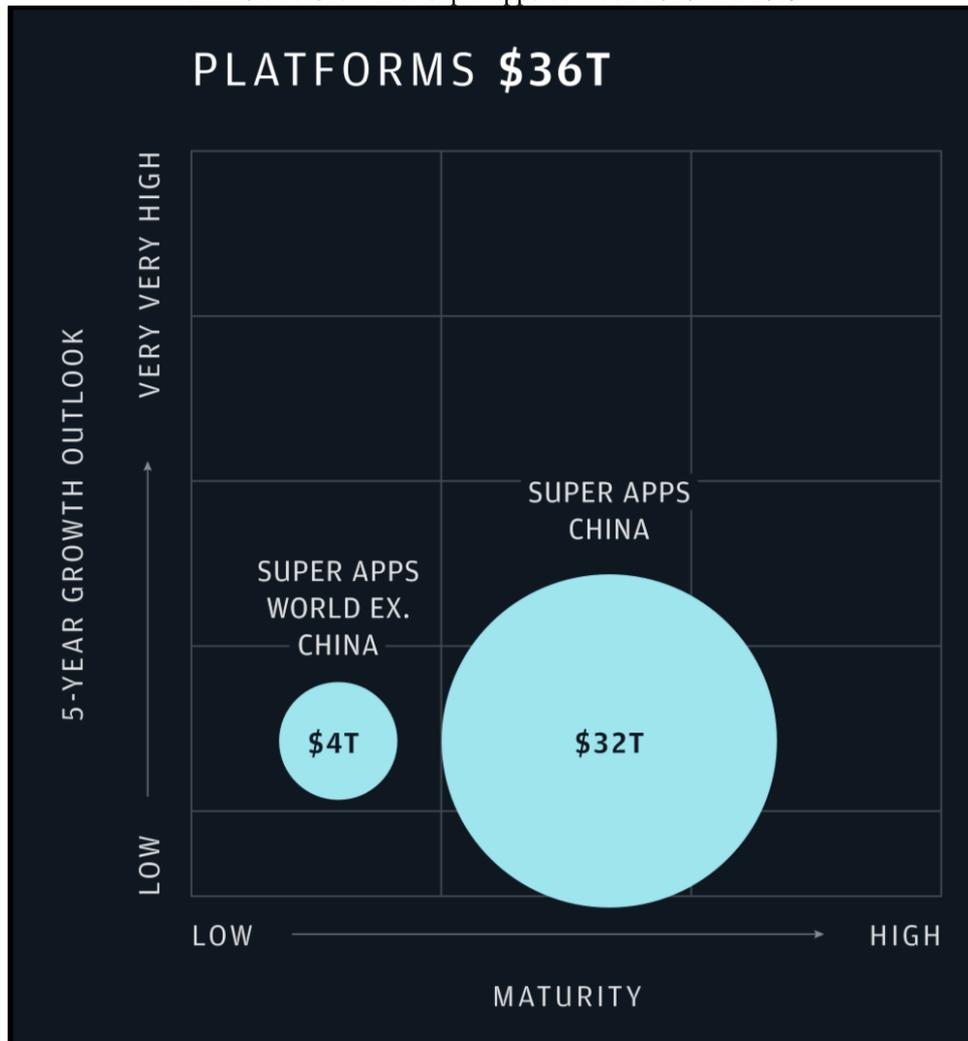
As technology advances digital platforms, ecosystems and marketplaces persist in disrupting conventional industries and

further unite their strength and modify themselves into super apps. According to J. P. Morgan reports over the last ten years worldwide payment magnitudes for these entities have boosted to US\$36 trillion, developing them into massive disruptors to both conventional retail prototypes and multinational banking and financial systems. Refer to Exhibit 5 for further inputs.

⁵ Credit Suisse, January 2020. ‘Payments, Processors, & Fintech If Software Is Eating the World...Payments Is Taking a Bite.’ <https://research-doc.credit-suisse.com/docView?language=ENG&format=PDF&sourceid=cspl>

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⁶ J.P. Morgan proprietary research and analysis, as of October 2021. <https://www.jpmorgan.com/content/dam/jpm/treasury-services/documents/jpm-payments-are-eating-the-world.pdf>

Exhibit 5: Growth of super apps between 2010 and 2019



Source: Payments are eating the world, J. P. Morgan

Super apps are terminus platforms for buyers and sellers, which include a wide variety of lifestyle and monetary services, with embedded payment functionality so that potential clients can generate a transaction smoothly without any friction for shoppers, who can access and make payments for a combination of diverse commodities with a simple swipe of a finger and merchants can receive payments smoothly.

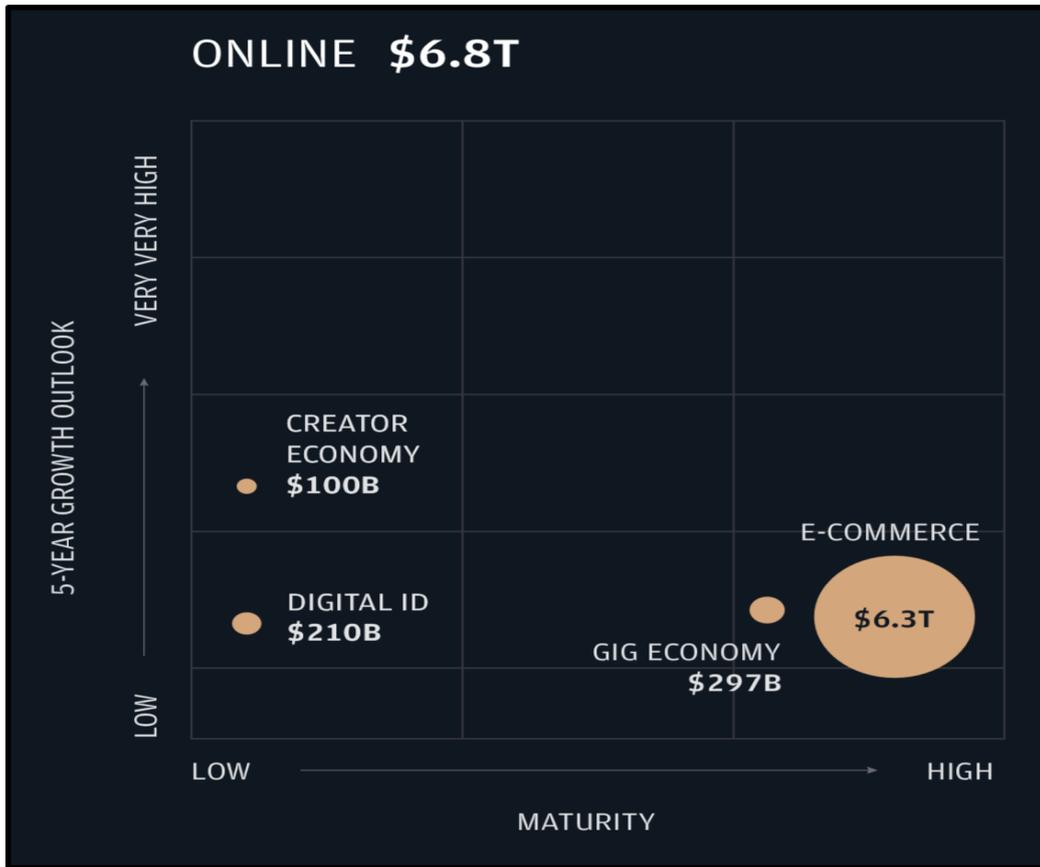
For merchants, tying up with a super app indicates that the merchant does not need to invest in essential infrastructure for digital consumer investment. The merchants can take advantage of the super app scale, customer understanding and disbandment of the app, which hosts and facilitates marketing activities for merchants. Nevertheless, this comprises unavoidable threats namely, the particular super app platform can understand buyer trends, behavior and employ databases to formulate merchandise; resulting in direct competition with the vendors, cannibalizing their business in favor of the super

app platform's business. Also, the fee that super apps take from vendors to use the app can be lofty.

2.2 Online

Advancing digital technology has led online platforms to be developing constantly with fresh inventions leading to unique Omni channel business models. A few of the pivotal themes nowadays contouring online payments are the continuous advancement of e-commerce, the thriving demand for digital identity responses and how online platforms are essentially altering the arrangement of the labor workforce specifically for the gig and creator economy. Exhibit 6 depicts the estimated expansion in these sub-branches of online as of 2019.

Exhibit 6: Anticipated growth in the sub-branches of online as of 2019



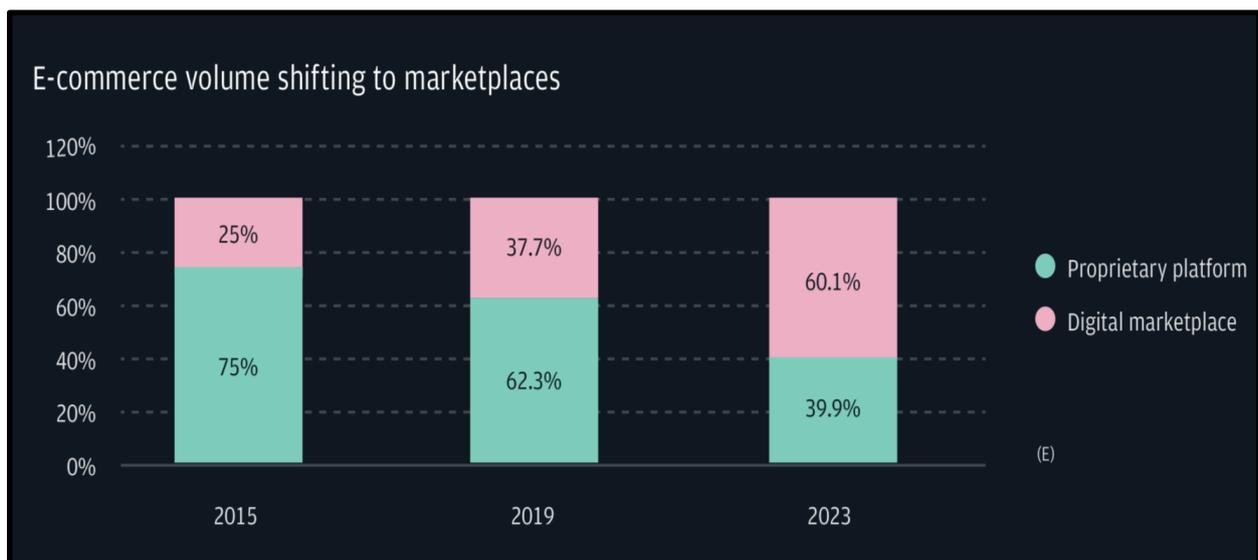
Source: Payments are eating the world, J. P. Morgan

E - commerce

As per the Boston Consulting Group, more than US\$5 trillion yearly worldwide retail sales have moved from offline to online due to the current pandemic, and this transition is probable to be permanent.⁷ Also, business - to - business e - commerce is accumulating a stake of total e - commerce magnitudes, with Forrester predicting a CAGR of 10% for business - to - business e - commerce between 2020 and 2025.⁸

Earlier to the spread of the pandemic, e - commerce was already changing course from proprietary websites towards online marketplaces which are favorably potent to boost sales volume and are vertically integrated. Exhibit 7 depicts the rise in digital marketplaces and the reduced share of proprietary platforms from 2015 to 2023.

Exhibit 7: Trends in e - commerce from 2015 to 2023 [estimated (E)]



Source: Payments are eating the world, J. P. Morgan

⁷ BCG, August 2020. 'How Retailers Can Capture \$5 Trillion of Shifting Demand.' <https://www.bcg.com/en-gb/publications/2020/demand-centric-growth-compass-for-retailers>

⁸ Forrester, January 2019. 'US B2B eCommerce Will Hit \$1.8 Trillion By 2023.' <https://www.forrester.com/report/US-B2B-eCommerce-Will-Hit-12-Trillion-By-2021/RES136173>

Digital Identity

Due to the revving transition to online shopping, digital identity solutions are emerging as essential unique value navigators. Digital identifications facilitate a precise and safe manner of realizing an online buyer and are essential to creating faith between transacting shoppers, their gadgets and businesses. Furthermore, digital identity is evaluated at a US\$210 billion market which is thriving at 19% CAGR with more than 3, 000 firms using technologies like AI and biometrics.⁹

A rational consumer’s viewpoint is a ubiquitous digital identity verification service which can be utilized smoothly across both private and public services. The digital identity ecosystem has multiple pertinent stakeholders comprising public administrations, financial institutions like banks, nongovernmental organizations (NGOs), healthcare businesses and prominent tech companies.

Gig Economy

As per Mastercard, the gig economy can be defined as interim, adjustable employment opportunities brokered by online platforms and fulfilled by independent contractors or freelancers. The gig economy was estimated to reach almost US\$300 billion in gross transaction volumes in 2020 and is projected to prosper to US\$455 billion by 2023.¹⁰

The Fintech industry has been a game - changer for gig employees’ needs. Such employees have a different set of economic demands and circumstances which conventional financial products are not capable of delivering. Fintech firms are striding to replenish these gaps for the gig economy workers, which are listed here:

- Demand to get a salary fast
- Assisting in raising the low levels of savings
- Stabilizing uneven income trends
- Putting together revenue spread across different platforms

Creator Economy

This particular economy can be defined as where self - employed people like - social media influencers or bloggers, and even small to medium business firms directly monetize their ingenious content through online platforms. In 2021, this economy was valued at nearly US\$100 billion and is thriving rapidly. It is already around 33% of the extent of the gig economy and more than 50 million Americans now believe themselves to be creators. Also, more than 2 million of these creators earned six - figure revenues in the year 2020, indicating the evolution of a fresh creator middle - class society. Furthermore, it is calculated that sponsored creators will have a collective wealth of US\$15 billion by 2022.¹¹ Exhibit 8 illustrates the functioning line of a creator economy.

Exhibit 8: Creator economy operational angle



Source: creatoreconomy. So

2.3 Wallets

In the current economy, there are numerous forms of finances. These comprise the following - conventional fiat currency which means cash or commercial bank deposits, cryptocurrencies, stablecoins, tokens, central bank digital

currencies (CBDCs) and narrow money like Starbucks or Amazon rewards. However, now digital money is evolving to be significant and is grasping a rising stake in global market trades and cash is reducing from a 40% stake ten years ago to

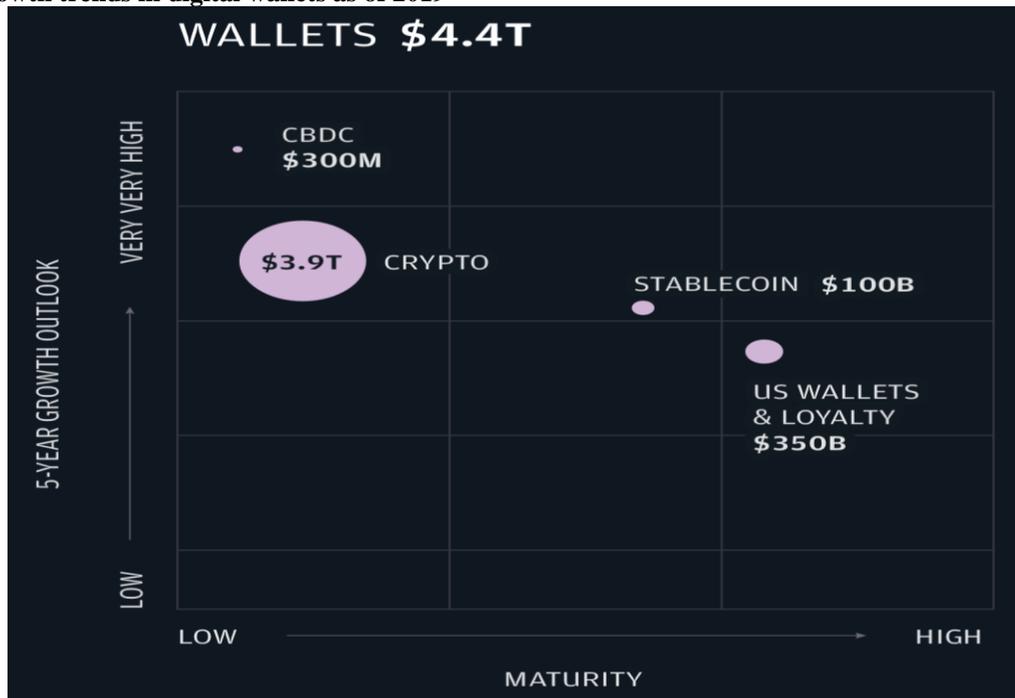
⁹ Liminal. ‘2021 Digital Identity Landscape v.2.0.’ <https://liminal.co/digital-landscape/>

¹⁰ Mastercard, May 2019. ‘The Global Gig Economy: Capitalizing on a ~ \$500B Opportunity.’ <https://newsroom.mastercard.com/wp-content/uploads/2019/05/Gig-Economy-White-Paper-May-2019.pdf>

¹¹ Forbes, September 2020. ‘50 million join the ‘Creator Economy’ thanks to platforms.’ <https://www.forbes.com/sites/mattklein/2020/09/23/50m-join-the-creator-economy-as-new-platforms-emerge-to-help-anyone-produce-content--money/?sh=65e244463165>

a 26% stake in 2020. ¹² Exhibit 9 depicts the growth in different forms of digital finances as of 2019 with cryptocurrencies leading the market trends.

Exhibit 9: Growth trends in digital wallets as of 2019



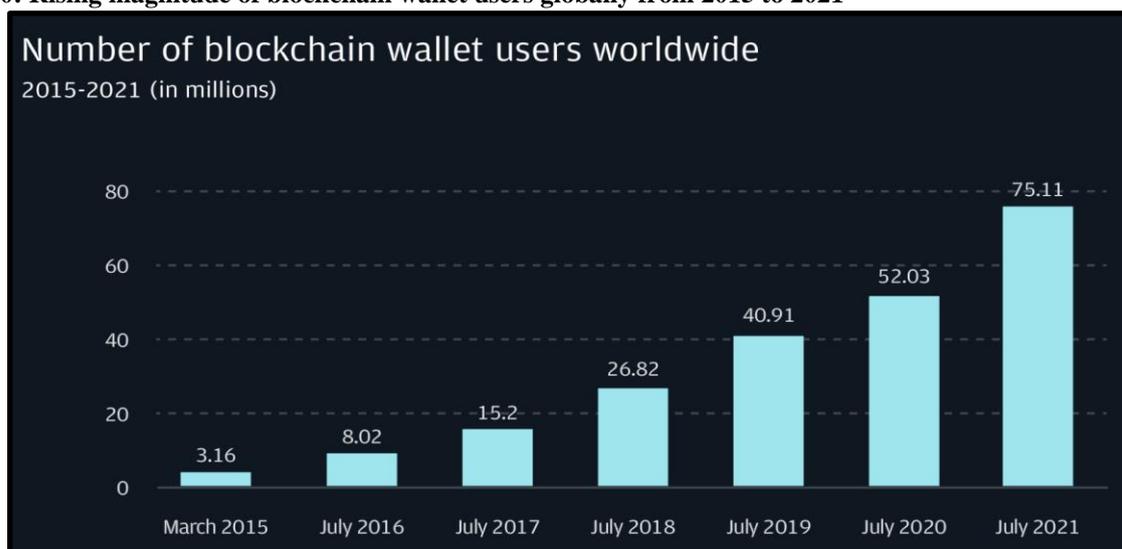
Source: Payments are eating the world, J. P. Morgan

Cryptocurrencies

The growth of cryptocurrencies has led to the notion of the value being accumulated principally in a bank account being altered with time. Blockchain technology is so extraordinarily special as in this technology there is no centralized ledger or intermediary. Rather, the value is reserved in decentralized networks, which by their layout build a firm ledger of

transactions. From 2015 to 2021 there were estimated to be more than 75 million blockchain wallet users worldwide, an expansion of 23 times since 2015. ¹³ Exhibit 10 graphically highlights the rising magnitude of blockchain wallet users globally from 2015 to 2021, with the maximum growth in the pandemic period from 2020 to 2021.

Exhibit 10: Rising magnitude of blockchain wallet users globally from 2015 to 2021



Source: Blockchain 2021

¹² Suerf, May 2021. ‘Digital Disruption: The Inevitable Rise of CBDC.’ <https://www.suerf.org/publications/suerf-policy-notes-and-briefs/digital-disruption-the-inevitable-rise-of-cbdc/>

¹³ Financesonline.com. ‘Number of Blockchain Wallet Users 2021/2022: Breakdowns, Timelines, and Predictions.’ <https://financesonline.com/number-of-blockchain-wallet-users/>

Stablecoins

Stablecoins are cryptocurrencies that are pegged to other investments like cash, bank deposits or tangible items such as steel, gold, silver, etc. The concept of stablecoins was introduced in 2015, and as per Bitstamp it took five years for stablecoins to attain a supply of US\$6 billion, but in 2020 due to the pandemic, it took only four months in the year 2020 to twice that supply to US\$12 billion.¹⁴ Currently, there are stablecoins evaluated at greater than US\$100 billion in circulation globally.¹⁵ Exhibit 11 explains this concept diagrammatically.

Exhibit 11: Growth trends of stablecoins

Source: Payments are eating the world, J. P. Morgan

Central Bank Digital Currency (CBDC)

With the accelerated expansion of digital currencies due to private networks, central banks globally are reacting by issuing their digital currencies to preserve the autonomy of the financial system.¹⁶ China became the foremost nation to establish its own Central Bank Digital Currency (CBDC) in 2020. As per the Atlantic Council Geoeconomics Center's CBDC tracker, as of 2019, 81 nations that are characterized as greater than 90% of international GDP are now investigating some form of a CBDC. Exhibit 12 illustrates this concept.

Exhibit 13: Growth trends different payment modes via embedded strategies as of 2019**Exhibit 12: Central Bank Digital Currency (CBDC) as of 2019**

Source: Payments are eating the world, J. P. Morgan

2.4 Embedded

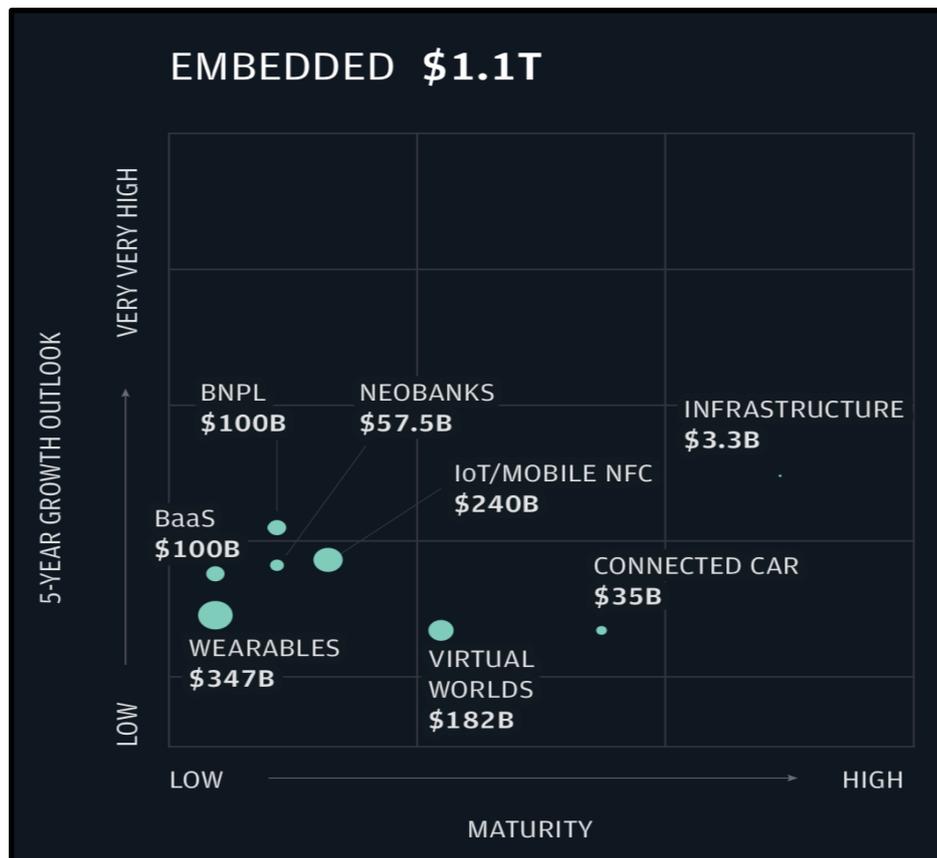
Embedded payments imply the struggle - free manner in which customers can conduct contextual and contactless monetary transactions anytime and anywhere via connected gadgets that facilitate wallet functions like connected cars, wearable technology etc. Embedded solutions create a fresh tier of comfort and swiftness to the payment procedure and are a pivotal aspect of the invisible banking notion. In this strategy, monetary services are smoothly embedded into everyday actions and have evolved to be so automated and frictionless.¹⁷ Exhibit 13 depicts the growth of different payment modes via embedded strategies as of 2019; with wearables securing the highest usage.

¹⁴ Bitcoin.com, July 2020. 'Stablecoin Supply Doubles to 12 Billion Following a 50% Cryptocurrency Market Price Drop.' <https://news.bitcoin.com/stablecoin-supply-doubles-to-12-billion-following-a-50-cryptocurrency-market-price-drop/>

¹⁵ Statista, September 2021. 'Market capitalization of stablecoins from January 2017 to August 8, 2021.' <https://www.statista.com/statistics/1255835/stablecoinmarket-capitalization/>

¹⁶ Bitcoin.com, July 2021. '81 Countries Are Now Exploring Central Bank Digital Currencies — 5 CBDCs Fully Launched.' <https://news.bitcoin.com/81-countries-central-bank-digital-currencies-5-cbdcs-fully-launched/>

¹⁷ American Banker. 'The rise of the invisible bank.' <https://www.americanbanker.com/news/the-rise-of-the-invisible-bank>



Source: Payments are eating the world, J. P. Morgan

Connected Cars

Rising - up software firms are ruling the way to monetizing car data. By developing a standardized API layer, they are eradicating the possible difficulties of database - sharing between groups. Besides, these software firms are making a consumer’s approval to share a car database more in detail and trust by utilizing smart contracts.

It has been anticipated that by 2030 around 95% of fresh automobiles sold worldwide will be connected as compared to approximately 50% estimated in 2019. The contemporary automobile has the computing ability of 20 PCs, features about 100 million lines of code, and processes 25 gigabytes of data every 60 minutes. The database gleaned from an automobile can contain everything from navigating patterns to online dealings and buys via the in - car digital presentation. This value pool is foreseen to reach US\$450 billion by 2030.¹⁸

Wearables Technologies

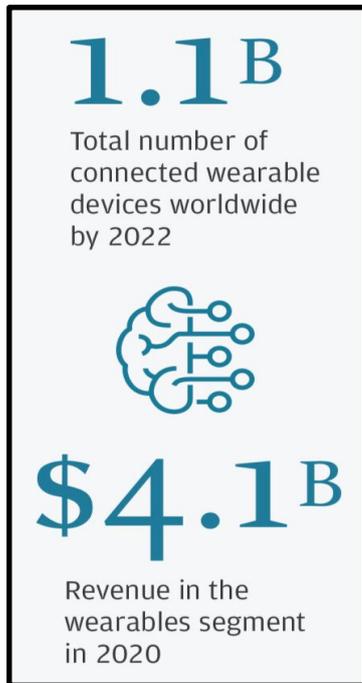
Wearable technologies can be defined as a critical medium for contactless payments through a variety of electronic gadgets that can be utilized as accessories, embedded in clothes and can even be implanted in the user’s body. These gadgets are hands - free devices and are powered by microprocessors that can transmit and obtain data using the internet.

It has been estimated that the volume of connected wearable gadgets globally is foreseen to rise by more than 1.1 billion in 2022.¹⁹ The ability to pay for purchases with an easy flick of the wrist is quicker and more efficient rather than spending cash on purchases by tapping a credit card or using cellular phone payment apps. The earnings in the global wearables sector reached US\$4.1 billion in 2020 and the mean earnings per user is estimated to be US\$83.99.²⁰ Refer to Exhibit 14.

Exhibit 14: Rising share of wearable technologies

¹⁸ McKinsey, February 2021. ‘Unlocking the life-cycle value from connected-car data.’ <https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/unlocking-the-full-life-cycle-value-from-connected-car-data>

¹⁹ eMarketer/Statista. <https://www.16best.net/wearable-technology-statistics/>.
²⁰ eMarketer/Statista. <https://www.16best.net/wearable-technology-statistics/>.

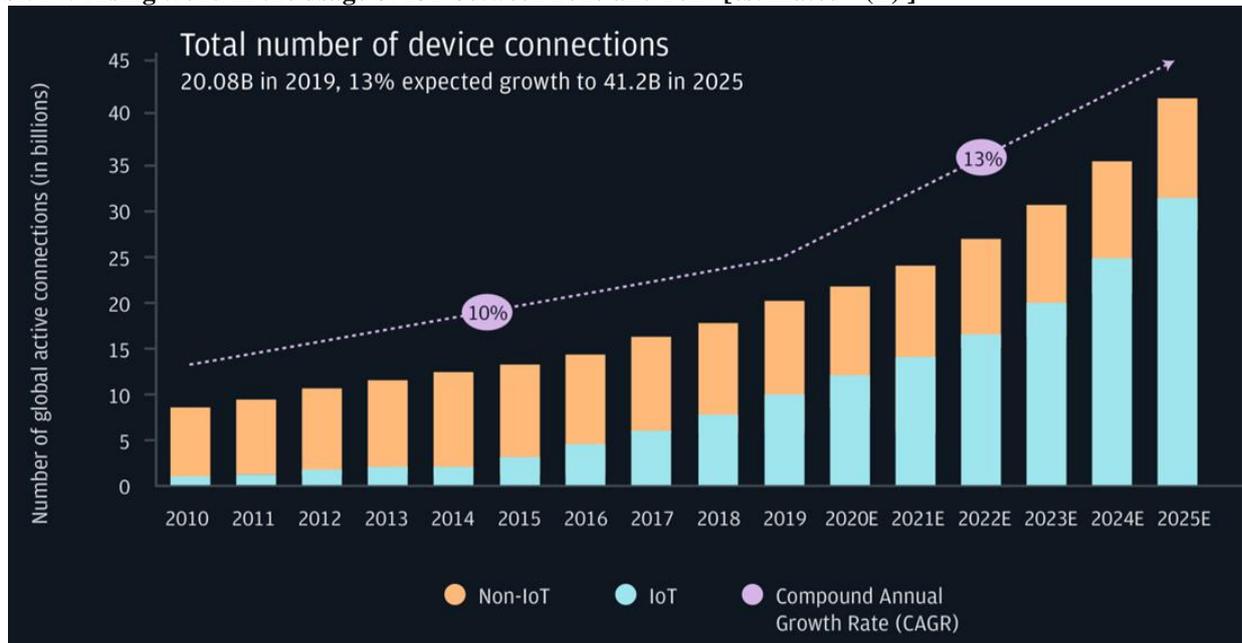


Source: Payments are eating the world, J. P. Morgan

Internet of Things

The Internet of Things (IoT) is the network of physical devices, industrial assets and consumer merchandise that can share databases, transmit and communicate through the internet. Currently, connected devices used are greater in number as compared to traditional smartphones and laptops and this proposes a considerable opportunity for traders that adopt IoT payment platforms. Effectively, these enable buyers to manipulate their surrounding ecosystem by incorporating automobiles, devices or wearable gadgets as a technique to make payments. For instance, a connected automobile’s mouthpiece would allow a prospective buyer to order and pay for the food as the shopper waits in the queue at the drive - thru. Refer to Exhibit 15 to study the growing tendency in the usage of IoT between 2010 and 2025 (E) at a CAGR from 10% in 2014 - 15 to 13% in 2022 - 23.

Exhibit 15: Rising trend in the usage of IoT between 2010 and 2025 [estimated - (E)]



Source: IoT Analytics - Cellular IoT and LPWA Connectivity Market Tracker 2010 - 2025

Virtual Worlds

This concept is related to gaming, augmented reality and virtual reality, where a computer - simulated prototype world (a replica of an actual desirable world) is created and users communicate with each other through their virtual versions of themselves, named avatars. When incorporated with augmented reality and virtual reality, these virtual worlds evolve to be interactive “third spaces” beyond the job and domestic boundaries where individuals spend time and create marketing for subscription - based services, which are paid for through the embedded system. Furthermore, as per Ark

Research, it is estimated that the earnings in these virtual spaces will reach US\$390 billion by 2025.²¹

Neobanks

The concept of digital - only banks that function without physical branches is called neobanks and currently, there are about more than 200 neobanks worldwide that have together secured billions of dollars in funding commerce transactions to attain crucial mass.²² Nonetheless, the profitability of these neobanks remains unattainable for many such banks, as a majority of neobanks earn money from debit card interchange fees and the present interest rate scenarios do not make this

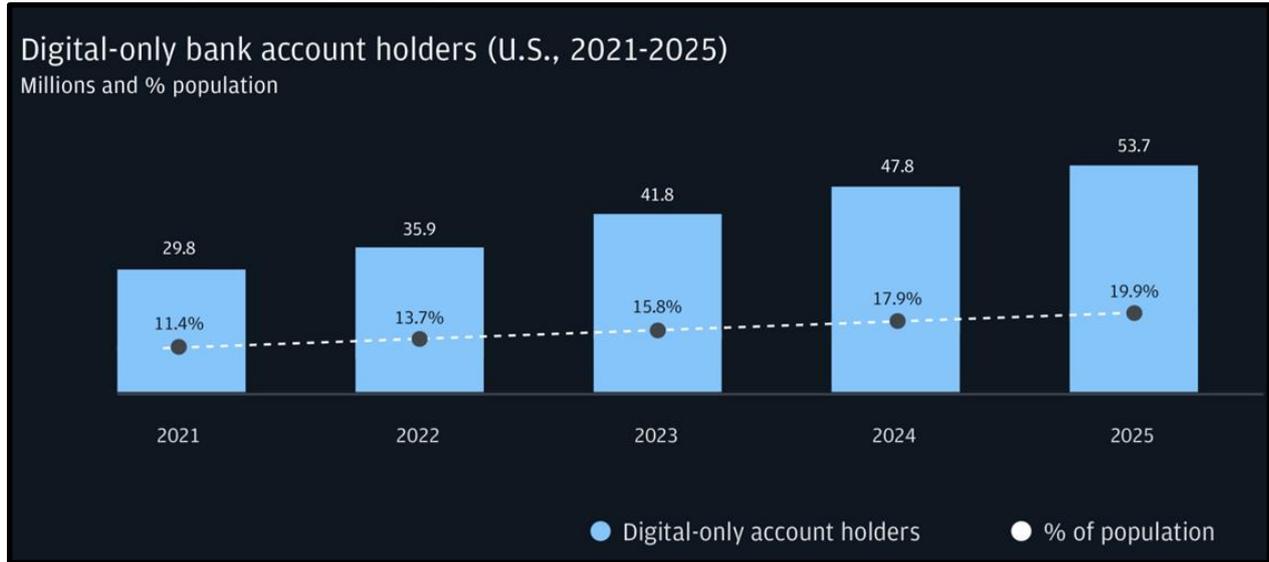
²¹ Ark Invest, 2021. ‘Big Ideas 2021.’ https://research.ark-invest.com/hubfs/1_Download_Files_ARK-Invest/White_Papers/ARK-Invest_BigIdeas_2021.pdf

²² The Financial Brand, October 2021. ‘Neobank Tracker: The World’s Biggest Database of Digital-Only Banks.’ <https://thefinancialbrand.com/neobank-tracker>

an attainable long - term strategy. However, now neobanks are changing the course of their preferences to streamline their cost layout. Post the pandemic - induced reduction, digital bank account openings in the United States are

anticipated to prosper to 47.8 million by 2024, embodying 17.9% of the American population.²³ Refer to Exhibit 16 which depicts the rising trend of digital - only bank account holders in the U. S. between 2021 and 2025.

Exhibit 16: Growing trend of digital - only bank account holders in the U. S. between 2021 and 2025



Source: eMarketer

Banking - as - a - Service (BaaS)

Application programming interfaces (APIs) imply that any software firm can add payments and banking products and services directly to its clients under its self - brand. Putting in these payment products is not only a supplementary income stream, but it has become prominent to software firms’ trademark and profitability. It is estimated that embedded finance enabled by BaaS could be valued at about US\$3.6 trillion by 2030.²⁴

Currently, BaaS offerings incorporate bank accounts, branded cards and payment solutions, but soon over time would include lending, investing and other fintech derivatives. Some of these services are hyper - niche, for example, Uber’s Visa debit card, which is developed particularly for its drivers, proposes no fees, instant pay, and overdraft safety and provides highly positive targeted rewards and bonuses.

Buy Now, Pay Later (BNPL)

For potential customers, the BNPL facility always seems to be attractive and for vendors and marketplaces, BNPL is a method to boost sales conversions and expand cart size. For payment firms and banks, BNPL is a fresh source of marketing flows and a chance to enhance interest revenue, bypassing conventional networks.

For example, refer to Exhibit 17 which depicts the U. S. BNPL users by different generations as a percentage of digital buyers in every group; for the period between 2018 and 2025. Millennials and Gen Z (generation Z) BNPL users are depicting a steady rise as compared to other customer groups which means that these consumer groups are urging for more adjustable, inclusive and transparent routes to pay instead of the conventional interest - bearing alternatives. Also, it is anticipated that the BNPL sector could achieve more than US\$1 trillion in yearly gross merchandise volume by 2025.²⁵

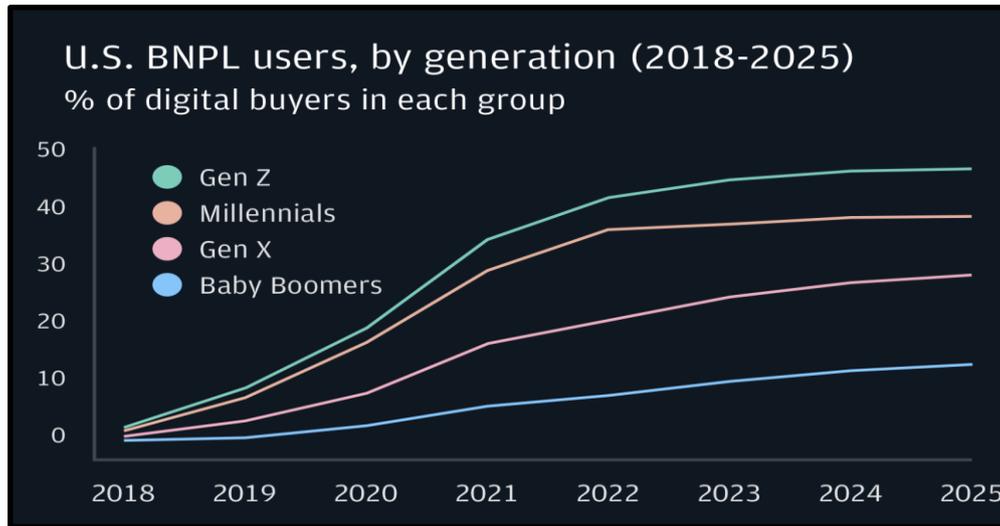
Exhibit 17: The different categories of users of BNPL in the U. S. between 2018 and 2025

²³ InsiderIntelligence.com, August 2021. ‘What neobanks are, how they work and the top neobanks in the US & world in 2021.’ <https://www.insiderintelligence.com/insights/neobanks-explained-list/>

²⁴ Simon Torrance Analysis, August 2020. ‘Embedded Finance: a game-changing opportunity for incumbents.’

<https://www.linkedin.com/pulse/embedded-finance-game-changing-opportunity-incumbents-simon-torrance>

²⁵ CBInsights, March 2021. ‘Disrupting The \$8T Payment Card Business: The Outlook On ‘BuyNow, Pay Later.’’ <https://www.cbinsights.com/research/report/buy-now-pay-later-outlook/>



Source: eMarketer

2.5 Real - Time

Real - time includes - businesses putting together cross - border payments, employees dispatching remittances to their nations, or e - commerce shoppers desiring to conduct instant transactions. This demand for real - time payment capabilities is evolving. Although there is extensive work to be accomplished before the reality of instant payments can be realized; considerable headway towards this objective is expected to be put together in the future decade.

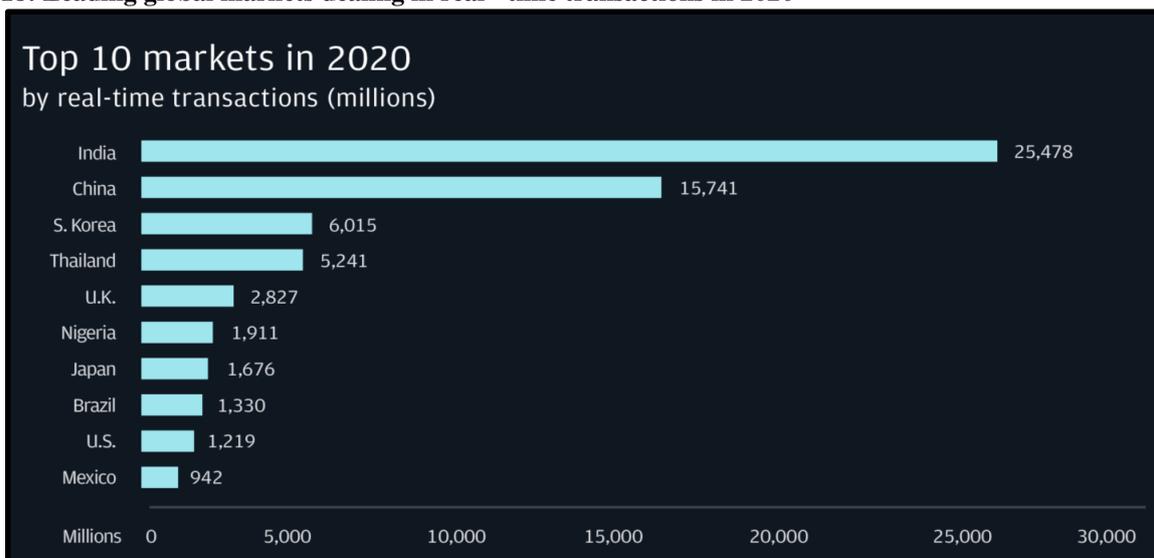
Global Trade

Post the pandemic, the digitization of trade finance is essential to nurture economic recovery. Banks and Fintech’s function in delivering the crucial financing required for businesses. Before the pandemic came in, multiple nations worldwide were making headway towards developing centralized real -

time payment infrastructures. However, the pandemic has inflated digital adoption at an accelerating rate.

For instance, India established itself as the international leader in real - time payments when it introduced the Immediate Payment System (IMPS) and Unified Payment Interface (UPI) and experienced record transaction volumes in 2020. These include rapid individual - to - individual transfers and vendor payments to requests to pay, utility bills like water and electricity expenses, gifts and donations, school and tutorial fees and related expenses, direct and indirect taxation, different types of subscriptions, toll way bills and shopping. Refer to Exhibit 18 which depicts India among the global leaders dealing in real - time transactions in 2020. Furthermore, Exhibit 18 depicts the rising trends in real - time transactions from 2019 onwards and global trade is a main constituent for this rise.

Exhibit 18: Leading global markets dealing in real - time transactions in 2020



Source: ACI Worldwide: Prime Time for Real - time

Exhibit 19: Growth in real - time transactions from 2019 onwards



Source: Payments are eating the world, J. P. Morgan

Money Transfer and Remittances

Enabling digital cross - border payments changes the international remittances procedure. As per Credit Suisse's evaluation, in 2020 the market for remittances was estimated at US\$700 billion and is anticipated to rise at around 4% CAGR.²⁶ This sector is again evolving to be competitive as fresh entrants are endeavoring to leverage technology to slash fee structures, along with making the procedure quicker and more suitable.

Pros And Cons of a Cashless Economy

The pros of a cashless economy are listed here:

- 1) **Ease of convenience:** The ability to conduct cashless transactions is one of the greatest stimuli to go digital. Hence, there is no requirement to keep loads of cash, credit and debit cards or queue up for ATM withdrawals. Also, while traveling, it is a secure and simple alternative for making payments.
- 2) **Comfort of tracking transactions:** In digital economy all marketing and financial transactions are documented, hence it is very easy for consumers to maintain a track of their spending and plan future budgets, improve financial management and business development. Furthermore, this facility reduces the hoarding of black money or illegal cash and also assists in filing income tax returns and if required explains the scrutiny of income to government sources.

- 3) **Enhanced cross - border marketing transactions and reduced remittance costs:** Digital financial payments have assisted in diminishing the expense of cross - border transactions. A survey conducted by the World Bank in 2021 indicated that transmitting US\$200 via mobile payments is more economical (around 3%) as compared to other resources like via a bank (around 10.4%), a post office (around 8.3%), or money transfer operator (around 5.2%). Similarly, cost reductions imply remittances sent digitally. Hence, cashless global transactions enhance global trade.
- 4) **Chances of lesser risk of theft:** It is almost impossible to get back cash if it is stolen. However, if cards are stolen it is possible to block the cards or mobile wallets, to prevent theft. Utilizing a biometric ID is very crucial as it is extremely tough to duplicate which makes it an extremely secure choice.
- 5) **Make exact payments:** Digital financial transactions assist in making the precise amount of payments without worrying about the change. It will assist merchants to stop encouraging buyers to take on credit.
- 6) **Leading to economic growth:** According to the World Bank, the international digital economy currently contributes 15% of the international GDP and the expansion of the digital economy over the last decade is 2.5 times as compared to the physical economy and it is forecasted that by 2030 the digital economy would contribute to around 30% of international GDP and providing 30 million jobs. Hence, with the sensational

²⁶ Credit Suisse, January 2020. 'Payments, Processors, & FinTech If Software Is Eating the World...Payments Is Taking a Bite.'

<https://research-doc.credit-suisse.com/docView?language=ENG&format=PDF&sourceid=csp>

[usresearchcp&document_id=1082106811&serialid=9ItaQaLeKMYkTfzB0rHonfefWNL6W5uABHoXHk5EVRA%3D](https://www.researchcp.com/document_id=1082106811&serialid=9ItaQaLeKMYkTfzB0rHonfefWNL6W5uABHoXHk5EVRA%3D)

expansion prospect of the digital economy, a nation will be able to develop its economy faster.

The cons of a cashless economy are listed here:

- 1) **Identity thievery and database violations:** The transition from cash payment to a cashless economy has decreased physical crimes, but has led to the development of certain new crimes related to cybersecurity. Cybercriminals are experienced at robbing the identities of individuals to attain access to their money and there are opportunities of developing higher risks of online fraud and hacking of accounts. The infrastructure supporting cashless transactions, comprising payment systems, networks and digital platforms, is susceptible to cyber - attacks. Upheavals or compromises of these techniques can lead to service outages, monetary losses or disclosure of sensitive data. According to stats gathered by AAG - IT, a cybersecurity firm in the UK, around 236.1 million ransom ware attacks were registered in 2022 and 20% of emails were exposed to cybercrime annually. Nevertheless, the effect of cybersecurity issues would nearly be 1% of the international GDP which is lost to cybercrime yearly.
- 2) **Loss of privacy and anonymity:** In digital economies where financial transactions are tracked and documented electronically, monetary actions become more traceable. Furthermore, the ability of administrations and private firms to acquire access to individuals' and businesses' digital transactions suggests they can efficiently scrutinize and track financial activities and can utilize the

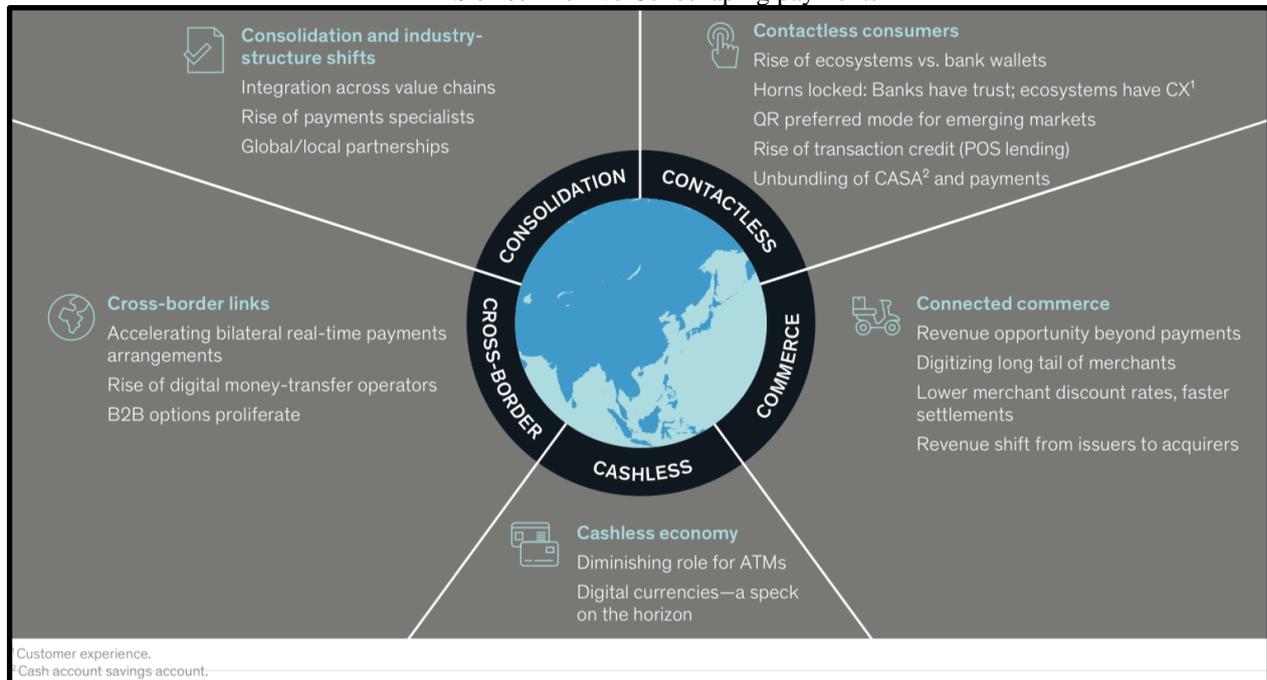
information for their purposes, hence leading to a loss of privacy.

- 3) **Technology adaptation issues:** For individuals who are not technically savvy it may be extremely hard for them to adopt cashless strategies. Also, in developing nations in rural areas, data connection is low and internet facilities are not available. For example, as per Internet Live Stats, it was estimated that India had a low internet penetration of 74.8% in 2020 and merely 81.3% of total cell phone users possessed a smartphone in 2019.
- 4) **Inducing spend thriftiness:** While there is no refuting the comfort of card or cellular phone wallet marketing transactions, it could open a spending snag for susceptible people. As per behavioral finance theorists, the distress of giving away cash is felt more greatly if individuals are utilizing physical cash instead of digital currency. Hence, using cash instead of cards or cellular phone wallets behaves as a natural barrier for those individuals who would find it harder to regulate their expenses.

Future Index

The Five Cs illustrated in Exhibit 20 are likely to shape the future of the global payments sector. Several efforts will be mandated by players across the ecosystem, comprising conventional banks and financial services corporations, recent fintech challengers and established businesses in adjoining sectors namely big tech and telecommunications seeking avenues for proliferation.

Exhibit 20: The five Cs reshaping payments



Source: McKinsey analysis

An absolute transition along with digital payments and platforms in the market's strategy to e - commerce is definitely to occur. While elements of this transition will flow organically, space is abundant for myriad performers to impact the related outcome. The cashless revolution has apparent essences for the unbanked populations in emerging markets, for example, producing likely societal problems as

well as developing roadways for resourceful performers to provide beneficial solutions.

Nonetheless, this scenario is likely to imply that trillion - dollar prospects are at stake. The probable query is how these digital payment flows will be spread out benefiting the global economy as a whole.

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