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Factors That Enable Cashless Payment Adoption Among the Blue-Collar Workers in Dubai

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Factors That Enable Cashless Payment Adoption Among the Blue-Collar Workers in Dubai

By

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Abstract:

As part of the Smart Dubai 2021 Strategy, Dubai is leveraging a wide range of technologies to enhance the lives of its residents and drive economic development. A key component of this strategy is the shift toward digital payments and a cashless economy (UAE Government Portal, 2021). In 2020, the Dubai Government established the Cashless Dubai Working Group to create an action plan aimed at transforming all payment transactions in the city to cashless platforms. The UAE, including Dubai, has the essential prerequisites for a cashless economy, such as advanced digital infrastructure and government regulations that protect consumer security and privacy. However, the adoption of cashless payments in the UAE remains relatively low compared to other advanced countries like Sweden and South Korea. One significant factor contributing to this lag is the high number of unbanked residents in the UAE, particularly low-income expatriate workers, many of whom are employed in blue-collar jobs in construction and manufacturing. Addressing financial inclusion and promoting cashless payment adoption among this demographic is crucial for Dubai's progress toward a cashless economy.

This study aimed to assess the readiness of blue-collar workers to embrace cashless payments and identify key factors that would encourage their full participation. The research was conducted in the Sonapur, Al Quoz, and Jebel Ali areas of Dubai, where many labor camps are located. Data was collected from 35 blue-collar workers using a semi-structured questionnaire. The findings revealed that most blue-collar workers are unbanked and primarily use cash for transactions. However, they expressed willingness to adopt digital payments if provided with instruments accepted by merchants for their daily transactions. Loyalty programs and discounts were identified as major motivating factors for transitioning from cash to cashless payment methods.

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1. Introduction

1.1 Payment

Money is "what is commonly offered or received for the purchase or sale of goods, services or other things" (Galbraith, 2017, p.6). It is a social convention which effectively facilitates trust among strangers as an integral part of the economic transactions they take part in. A common definition of money is "a current medium of exchange in the form of coins and banknotes collectively" (Arvidsson, 2019, p.3). Money is available in different forms. The notes and coins issued by a Central Bank are the most prominent form of money. The usability and, therefore, value of notes and coins are guaranteed by the Central Bank and are derived from the trust that users have in the monetary policies of the Central Bank. Another form of money is Bank money. In Bank money, first the customer deposit money in a commercial bank. The customer can transfer the deposit balance available in the bank either using paper checks or electronically using wire transfer, Internet payment or bank cards (Selgin, 2023). The transfer is possible in the same or different currency. The need for money was necessitated by devilment in trade, especially cross border trade which calls for an easily exchangeable form of money.

A transaction that involves money is called a payment transaction. It has three key players: the Payer, the Payee, and a regulatory intermediary, such as Central Bank. The Payer is usually a consumer, while the Payee is a merchant. The Payer (consumer) makes a payment to the Payee (merchant) to avail a service or a product. The Central Bank regulates the payment channel and ensures trust in the payment system. Smart Dubai Cashless Framework report (2019) defines cashless payment as transactions made with means other than tangible cash. Traditionally, payment is done using cash but with the introduction of the Internet in the 1990s, electronic or cashless payment using Bank money have begun to evolve.

1.2 Cashless Payment Channels

These days, consumers have multiple channels to make cashless payments. The available channels are Point Of Sale (POS) terminal, direct debit from e-wallet and payment using QR code scan. The consumer chose the channel for each payment occasion based on personal convenience and preference of the merchant providing the service. Smart Dubai Cashless Framework Report (2019) provides definition for each channel. The most common payment channel is the Point Of Sale (POS) terminal. It is an electronic device used to process card payments at retail locations. A POS terminal generally reads the information of a consumer's credit or debit card. There is a steady growth in the POS terminals and bank card issuance in the UAE. The purchase value (PV) of card payment is expected to reach USD113billion in 2024 from USD71Billion in 2020 (Visa Internal data, 2020). However, with the rise of other digital payment channels (e.g., NFC Payments and QR Codes), the

dependency on POS terminals is decreasing. It is expected that QR codes or other future alternatives may become widely adopted (Smart Dubai Cashless Framework Report, 2019).

Direct Debit is another digital payment channel. It refers to electronic transfer of an agreed amount from consumer bank account to the merchant (service provider). The payment is done based upon request from merchant and authorization by the consumer. Direct debits are typically used for recurring payments, such as credit card and utility bills, where the payment amounts vary from one payment to another. The UAE Direct Debit System was established in 2017. In 2018, it processed 13.4 million presented claims, valued at AED57 billion (Smart Dubai Cashless Framework Report, 2019). It is expected that Direct Debit will remain an integral part of the cashless payment systems, especially with the expected development of technological and regulatory infrastructure enhancing the process (Smart Dubai Cashless Framework Report, 2019).

Another payment channel is e-wallet based payment by scanning a QR code from a mobile app. When consumer scan the QRCode, funds are either "pushed" from the consumer to the merchant or "pulled" by the merchant from the consumer. QR stands for Quick Response and it is a type of barcode and store merchant information as a series of pixels. It offers hassle-free customer experience. When the customer scans the QR code at a merchant location using a smart phone, it redirects the customer to the payment page, where the customer can choose to make the payment using mobile payment solutions like Google and Apple Pay or enter payment details. Globally, the acceptance of QR code payment is increasing and in some countries such as China, it has become the dominant payment channel, with 2.2 billion users for WeChat and Ali Pay and account for 90% of all mobile payment transactions (Statista, 2023).

The Fast Payment system is another payment channel which is a real-time and instant fund transfer system, where the beneficiary get access to fund immediately. This service is available round-the-clock. It is built on a central infrastructure, which permit both banks and non-banks to connect and provide additional services to the consumers. The Payment Systems Development Group (PSDG) of the World Bank has played a significant role in the development of Fast Payment system by providing technical assistance and research work. It has supported more than 120 countries in modernising payment services (The World Bank, Project FASTT, 2023). In October 2023, UAE Central launched the instant payment platform called Aani.

1.3 Prevalence of Cashless Payments

With the advancement in technology, specifically in the Fintech sector, there has been a natural evolution of monetary and payment systems, leading to a decrease in use of cash and transition to digital payment methods (Trautwein, 1997). The adoption of digital payments is increasing at an unprecedented rate. It is no more limited to tech-savvy and financially literate section of the population. The lockdown and movement restrictions during COVID-19 have significantly facilitated the ever-increasing adoption of digital payments in the Middle East. Customers started using online purchase and make digital payment for both online and in-store purchases, which

resulted in accelerating cashless payment (Nandan Mer, 2022). Sael Al-Waary, in his article titled “Is 2020 The Beginning for the End for Cash”, (The Banker, London , 2020) states that since the start of the Covid-19 crisis, there has been 10% decrease in the ATM cash withdrawal in Bahrain. Like other parts of the world, the digital payment adoption has increased in the Middle East due to Covid-19. The Covid-19 crisis had accelerated the adoption of digital payments in the Middle East, with 81% of surveyed people preferring to use contactless payment post-Covid-19.

Globally, there is a steady growth in the number of cashless transactions. The noncash payments in the retail transactions have increased at compound annual growth rate (CAGR) of 13% between 2018 and 2021 and this figure is 25% in emerging markets (McKinsey, 2022). Though noncash payment transactions have increased, cash remains as an important medium of exchange, especially for the low-value payments. The increase in noncash payments should decrease the amount of cash in circulation. This has, in fact, been the case for countries such as Sweden, Denmark, the UK, Canada, and South Africa, which have witnessed decrease in the amount of cash in circulation. On the other hand, there has been no reduction in the cash in circulation in other countries. This shows that cash remains as an important method of payment (World Payments Report, 2017).

1.4 Benefits of Cashless Payments

In cashless payments, the transactions are digitally recorded and transparent to all stakeholders. This provides multiple benefits to the three stakeholders in a payment transaction: the Central Bank as the regulator, merchant as the payee, and consumer as the payer. The benefit to the first stakeholder, the Central bank is enhanced transparency. The increase in transparency helps the Government to manage the economy proactively. All cashless payments are easily trackable, which makes it plausible to monitor fund movements. This helps the Government improve tax collection, discourage tax evasion, reduce financial crime, and prevent money laundering (Smart Dubai, 2019). India’s demonetization in 2016 has resulted in increase in tax collection. During 2018-19, two years after the demonetization, India saw 14% increase in corporate tax and 13% increase in personal income tax (Times of India, 2019). With digital payments, Dubai is expected to save USD 500 million due to improved administrative efficiency and increased economic activities (Visa, 2019).

There are multiple benefits to the second stakeholder – the merchant. There is reduction in labor costs involved in cash management like counting, storing, reconciling, and transporting cash to a commercial bank for deposit. This cost is considerable for merchants like supermarkets which house multiple sales counters and involve large amount of cash. The cash management cost ranges between 4.7% to 15.3% to a merchant (Miralles, 2020). Another benefit of cashless payments to the merchant is reduction in time to complete a payment transaction in comparison to cash payments, where a salesperson must count the notes, verify large bank notes for their authenticity, and find change for the balance amount. The card payments especially using contactless cards and

digital bank cards stored in the mobile phone take about 12.5 seconds to complete a transaction (Roubini Thought Lab, 2018). This is three times faster than a cash transaction (Roubini Thought Lab, 2018). This time reduction led to saving of 10 million hours, which translates to saving on USD 104 million, on an average among 100 cities (Roubini Thought Lab, 2018). This time saving helps to reduce queues at the sales counters. Importantly, there is also less chance for cash loss and/or theft in cashless payments. Another important benefit of cashless payments to the merchant is the business insights derived by analyzing the available consumer data. This is because all cashless transactions are digitally stored. By analyzing real-time data, merchants can identify some emerging business patterns and use these insights for strategic planning and decision-making. In Dubai, the benefit to merchants derived from time saving in processing payments and increased sales is estimated at USD 1.5 billion (Roubini Thought Lab, 2018).

Further, the consumers, who are the third stakeholder, also benefit from cashless payments. Digital payments make it easier and safer for people to shop, travel, and manage their budget. Consumers may choose from multiple payment methods, such as debit and credit cards issued by a commercial bank of their preference. Bank cards may come in the form of a plastic card, or its digital alternative stored in a mobile wallet. Alternatively, consumers can also make a payment using their e-wallets by scanning the QR code. The convenience of not having to physically carry cash is another benefit. When a payment is made using a credit card, there is the benefit of fund transfer after a lead period. This provides the convenience of deferred payment to the payer without interest. Buy-Now-Pay-Later (BNPL) is another payment service that provides the deferred payment convenience to consumers. Since cashless transactions are digitally recorded, it helps consumers to track their expenses and better manage their finances.

2. Significance of the Study

The Dubai Government established the Cashless Dubai Working Group in 2020. The mandate given to the working group is to develop an action plan to transform all payment transactions in Dubai to easy-to-use and secure cashless platform. As per the Cashless strategy, Dubai's aim to be one among the first five cashless societies with more than 90% cashless adoption. As per the study by Visa, only 52% of UAE consumers will go cashless by 2024 (Visa Inc, 2022). According to a study by Visa International titled "The UAE eCommerce Landscape, 2019", e-commerce in the UAE does not include all income segments. The low-income category remains largely untapped. Cost effective solution to enable eCommerce in this segment is required to ensure that the growth is responsive to customer demand and for the larger benefit of the economy. Financial inclusion is a key pillar for achieving cashless economy. According to the World Bank, only 72% of the population above the age of 15, holds a debit or credit card in the UAE (World Bank, The Global Findex Database, 2021).

Sael Al-Waary (The Banker, London , 2020) specifies the importance of creating financially inclusive payment solutions to capture the elusive unbanked and underbanked cash-reliant population, who are on the outskirts of the mainstream banking system. This community lacks financial and digital literacy to access digital payment. As per the study by Visa, only 52% of UAE consumers will go cashless by 2024 (Visa Inc, 2022). This is low compared to 98% in Sweden (Aron, 2023). At the current rate, the possibility of achieving the strategic objective is rather low. Hence this study is significant since it focusses on increasing cashless payment among unbanked community and enable financial inclusion.

As per Jeremy Srouji, the UAE payment industry usually consider Sweden and South Korea as models to achieve a cashless future. The current digital payment adoption plan, which is modelled based on Sweden and South Korea, is not appropriate for the UAE. The Sweden population is 100% banked. This contradicts with the UAE, where a substantial part of the population are expat unskilled or semi-skilled workers who work in the construction industry. This segment of the population does not have access to formal banking system and are considered unbanked. A study focused on the UAE, where the socio-economic inequality is high, is required to identify the drivers and challenges for financial inclusion and recommend the optimal solution to achieve a cashless society. (Jeremy Srouji, "Journal of Risk and Financial Management "13; 260). Jeremy Srouji further argues that most of the work on cashless economy is based on theoretical viewpoint or based on the success of advanced countries. There is not much research work conducted to understand the relationship between cash and digital payment in countries where there is high level of financial inequality (UAE's Prepaid and Digital Payments Eco-system, 2019). The current problem is lack of research work done among unbanked community to understand their payment habits, and their aspirations and inhibitions in adopting cashless payment. This research is a solution to the current problem since it focus on the low adoption of cashless payments among the blue-collar workers in Dubai, who are unbanked and how to introduce digital payment among this segment of the society.

3. Research Question

Based on research problem and lack of literature available, the research question is "Are the blue-collar workers in Dubai, ready to adopt digital payment and what are the factors that motivate them to adopt digital payment?"

4. Literature Review

For the purpose of this study, the literature review revolves around four key areas, namely what are the factors that enabled Sweden to achieve the leading role in cashless adoption in the world, what actions are required from the key stakeholders (Government as a regulatory, payment providers, and consumers) to achieve cashless economy, what is the readiness and future of digital payment in the UAE, and what is the role of Wage Protection System (WPS) in achieving cashless economy

4.1 What are the factors that enabled Sweden to become the first cashless society in the world?

In Mar 2023, Sweden became the first country in the world to become a cashless economy (Queensland Government, 2024). In the book "Building a cashless society, The Swedish Route to the Future of Cash Payments", the author Arvidsson, analyses factors that led to this transformation. Arvidsson's analysis can be summarised as below.

Cashless payments started in the 1960s when companies started to pay wages and salaries through bank accounts of employees, and not paying directly with cash (Arvidsson, 2019). The unions agreed to cashless payment on an agreement that banks would make cash withdrawals free of charge. This had multiple benefits like employers saving costs, banks getting new customers, and employee acceptance. All the stakeholders benefitted in this transition and resulted complete change in consumer banking. It laid the foundation for digital payment transactions through bank accounts, which resulted in building the core of the cashless payment system. The payment using card was low in the early stages but grew at a higher speed in the latter parts of the 1990s, the adoption increased at a higher speed and soon became the preferred method for retail payment. In 1993, the number of Point Of Sale (POS) device terminals accepting card payment was 25,000, which increased to 70,000 terminals in 1996 (Arvidsson, 2019). The Central bank implemented digital clearing and settlement system called RIX, which facilitated banks to run electronic payment services.

In the early 2000s, there was a significant increase in the number of robberies reported in Sweden. The number of cases in 2005 was 9398, compared to 8590 in 2004, an increase of 9% in one year (Ran, 2019). The increase in robberies, including inside buses, in banks and merchant premises motivated unions to take actions for reducing cash usage and increasing digital payments in the Swedish society. The Unions started lobbying against the use of cash in places like public transport, banking, and shops to avoid their members and the employees getting exposed to robberies. This movement accelerated cashless payment and reduced the use of cash.

e-commerce is another factor that contributed to the increase in cashless payments in Sweden. e-commerce grew over the years to reach 9% of retail payments by 2017 (e-barometer, 2017). It continued to grow in the subsequent years. In 2020, 84% of Swedish people made online purchases (Eurostat, 2021). This makes Sweden one among the top in Europe for e-commerce adoption. The growth of e-commerce positively impacted on digital payment adoption and reduction in use of cash in the Swedish society. The entry of new players in mobile and Internet payments such as Apple, Google, Paypal, etc. are attracting new generation people and increasing new purchasing behaviours.

The significant shift to cashless payment came in 2012, when Swish, a mobile payment service was launched. It offered services similar to cash such as real-time transactions between consumers. Consumers can make a peer-to-peer payment in 1 or 2 seconds by connecting their mobile phone number to a bank account. It offered a near cash experience for payment occasions such as splitting bill among friends in a restaurant, make peer-peer

money transfer for purchases of gifts, buy small items such as coffee and snacks, or even transferring pocket money to kids. As of 2017, the number of service users reached 6.5 million, which is almost 80% of the population above the age of 15. All these factors facilitated cashless payment in retail sectors and Sweden lead the European countries with 82% of all retail transactions using POS terminals (Arvidsson, Hedman, and Segendorf 2018).

A successful transformation requires the inclusion of all sections of society. There were multiple initiatives in Sweden that enabled financial inclusion. The Situation Stockholm is one such example. It is an organization that works for the empowerment of homeless people in Sweden. The beneficiaries of the program are required to sell magazines to generate revenue and the organization trained the homeless people to use mobile payment and manage all transactions digitally like selling magazines, purchasing magazines, and settling with Situation Stockholm. Another interesting case is the Swedish Church. It is the largest church in Sweden and has 3500 parishes under its management. In 2018, the governing body decided to operate its activities as a cashless church, which means all gifts and donations to Church can only be done electronically (Sundyberg, 2018). The reason behind the decision was to avoid the cumbersome and time-consuming task of handling cash, improve the security of people handling cash and avoid costs related to cash-in-transit services.

The book concludes that all the above-mentioned factors contributed to the cashless transformation in Sweden. It also highlights that there will be a small section of the society like pensioners, who will resist transformation for emotional reasons.

4.2 What actions are required from the key stakeholders; Government as a regulatory, payment providers, and consumers to achieve cashless economy?

The transition to cashless is a process and it requires actions from three key stakeholders: Government as a regulatory, the merchants, and consumers. The Money is a trust and trust comes from the consumers and the merchants. The trust is organically developed, and it is not enforced by the Government regulations. However, Government can support in developing the trust. The consumers should also trust the organizations providing financial services. In the book, Curse of Cash (2017), Rogoff outline a plan for the government to achieve a cashless society using top-down approach. As per the proposed plan, the government must stop issuing large bills and limit currency to coins. The second step is to ensure that all sections of the society are banked and have access to digital payment. This is done by ensuring that salaries and wages are paid through bank account and not paid in cash. This forms the central piece where all other financial and payment services like card, m-payment, and e-payment are built. The third step is to issue regulations and enforce laws to protect the privacy and integrity of people who make payment electronically. Money and payments are built on trust and if people are worried about trust and privacy while making payments, they will stop using the service. The last step is to implement a clearing and settlement system that will settle transactions and make payment to merchants in real-time or in near real-time. For merchants, this will make their cashflow in electronic payments same as the

cash payments (Rogoff, 2017). To encourage innovation in payment services and promote Fintech companies, the Government should introduce laws that mandate banks to securely share customer account information to new payment service providers.

In the UAE, the Central Bank of UAE introduced National Payment Systems Strategy to make payment system universally interoperable and advance transition to a cashless society. As per the strategy, the UAE Central Bank plans introduced Instant Payment Platform in 2023 called Aani to make instant transfer between bank accounts available 24x7 (Al Ethihad Payment, 2023). Dubai created the "Cashless Dubai Working Group" in November 2020, with a mandate to create an action plan to transform all payment transactions in Dubai from cash to cashless platform that offer secure and easy-to-use digital payment service to all segments of the society (Government of Dubai Media Office, 2020). This aligns with the Dubai Smart City strategy.

The merchants should understand the benefit of cashless payment and offer digital payment options to the consumers. According to Rogoff (2017), for successful transformation, the payment service provider should consider providing a POS terminal on a mobile device owned by the merchant. A successful payment solution provider must have many merchants and large number of consumers connected to the payment solutions and provide inter-operability to make payments anywhere, anytime like making payment in China using a card issued from a bank in Germany. It should also provide value add services like merchant-based reporting, geo-location-based advertisements, QR code generated sales, and information management. Rogoff (2017) also identifies some key actions from payment service providers that support the transformation to a cashless society. The actions identified are high diffusion of payment cards among all sections of the community, the introduction of innovative payment solutions, acceptance of electronic payments in small retail shops, develop services that encourage cash-only consumers to adopt cashless payment, and educate people, especially the elderly people, regarding security of using electronic payment services.

4.3 What is the readiness of UAE for digital payment?

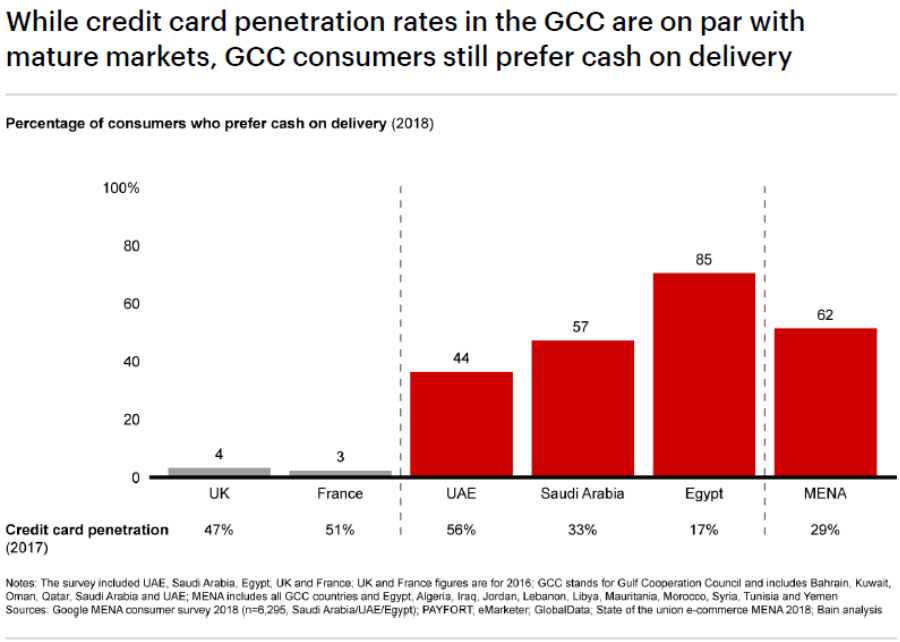
The study by Roubini Thoughtlab on cashless cities, specifies four key pre-requisites for a city to achieve maturity in cashless adoption. They are readiness of infrastructure with access to internet and smart phone, willingness of residents to adopt digital payment, Government regulations to protect security and privacy of consumers, and availability of digital payment products (Roubini Thoughtlab, 2018). The infrastructure refers to availability of internet connectivity, and ownership of smart phones and computers. Reliable internet connectivity is required for merchants to offer Point Of Sale (POS) terminals in retail outlets. The smart phones with internet access enable consumers to make payment from mobile phones. The digital payment products refer to availability of payment channels such as Point Of Sale (POS) terminal, Direct debit, QR code payment and Fast payment system which allow consumers to make payment digitally. The regulations refer to initiatives from Central bank to

regulate digital payment so that consumer security and privacy is protected (Roubini Thoughtlab, 2018). In the below paragraphs, we review the readiness of Dubai with respect to these four key pre-requisites.

Regarding first two pre-requisites, Infrastructure readiness and willingness of residents to adopt new technologies, UAE is considered mature. This is because the UAE government had undertaken multiple initiatives to increase the adoption of digital payments. It is the first country in the Middle East region to establish e-government strategy in 2001 (Telecommunication and Digital Government Regulatory Authority - TDRA, UAE. 2022). The objective of e-government strategy is to digitize government services to foster digitization to enhance efficiency. Currently UAE offers more than 6000 government services online at federal and local government level (The UAE Government Portal, 2022). The UAE is technically advanced and ranks second in the world in terms of internet usage at 99% of the population compared to global average of 62.5% (Telecommunication and Digital Government Regulatory Authority -TDRA UAE, 2022). UAE also ranks first globally in average mobile internet speed at 134Mbps compared to global average of 30Mbps (Telecommunication and Digital Government Regulatory Authority -TDRA UAE, 2022). The UAE has 5G coverage across the country, with free high-speed internet connectivity available in public places, malls and in government organizations which enable consumers to make digital payment with ease.

Regarding the second pre-requisite, which is willingness of residents to adopt new technologies, the UAE has the advantage of being a young country with 56% of population under the age of 35 years (Euromonitor International, 2023). The millennial and Gen-Z population is more adaptable to new technologies than the older generation. This is evident from the adoption of e-commerce in the UAE. It has the highest adoption of e-commerce in the MENA region (Visa, 2019) and ranks 9th globally in annual digital per capita spending (Telecommunication and Digital Government Regulatory Authority -TDRA UAE, 2022). Consumers have accepted digital payments with 84% population making some form of digital transactions (Cashless Framework Report, Smart Dubai, 2020). As per the study “e-commerce in MENA: Opportunity Beyond the Hype” by Bain & Company, the UAE e-commerce market is expected to grow by 31% annually, reaching $9 billion by 2022. The study identifies key issues with payment and recommends a quantum leap in this area to foster healthy long-term growth. Cash On Delivery (COD) is a key issue, since 44% of online shoppers in the UAE prefer COD for online shopping compared to 4% in the UK. With COD, the return rate and failed deliveries are high.

Figure 1. Cash On Delivery (COD)



With reference to the third pre-requisite of regulation for digital payment, the UAE Central Bank issued multiple regulations since 2016 to govern digital payment providers and to ensure security and privacy of consumers. In 2006, the UAE Central bank, issued 'Regulatory Framework for Stored Value and Electronic Payment Systems', aimed at licensing and regulating Stored Value Facilities (SVF) in the UAE. The objective of this regulation was to increase the adoption of digital payments in a secure manner. The regulation covers payment services such as cash-in services (store cash in payment account), cash-out services (withdraw cash from a payment account), retail payments using credit or debit card, Government digital payments, peer-peer payment transactions, and money remittance. This regulation facilitated Fintech companies to provide digital payment services, which was earlier limited to commercial banks. In the year 2018, the UAE Central Bank announced another update to strengthen the security and efficiency of payment services. The update mandated that payment service provider must store the user and transaction data for at least five years from the date of transaction and the data must be stored in the geographical boundaries of the UAE. The consumer details must be maintained as confidential data and made available only to the consumer, the UAE central bank or its nominee or based on the UAE court order. In 2021, the UAE Central Bank issued retail Payment Services and Card Scheme (RPSCS) regulation which specifies the rules and conditions for obtaining license for digital retail payment services in the UAE. The retail payment services include services such as issuing payment account, issuing payment card, merchant acquiring, domestic fund transfer and cross-border fund transfer.

Regarding the fourth pre-requite, availability of digital payment products, Dubai has area of improvement. The mature infrastructure, the regulations from the UAE central bank and a population with high digital adoption have encouraged many entities to enter the UAE payment eco-system. The Amazon's Payfort, India's CCAvenue, China's WeChat have been the new entrants to the UAE market, in addition to the home-grown

initiatives, such as KLIP and NOL. The Point of Sale (POS) terminal are widely deployed in the UAE from leading acquirers such as Mashreq Bank, Abu Dhabi Islamic Bank, RAK Bank, Magneti and Network International. The number of POS terminals in the UAE exceed 250,000 making UAE highest in number of POS terminals per capita (Alptekin, 2021). The POS terminals accept bank cards, both debit and credit cards for payment. However, UAE has significant population who is unbanked and do not have access to the digital payment channels. Financial inclusion is an area that UAE need to improve to achieve cashless society.

4.4 What is the future of digital payment in the UAE?

As per study McKinsey & Company, "The Future of Payments in the Middle East by McKinsey & Company" (2021), the Middle East has a digitally savvy population with smartphone penetration reaching up to 90%. However, digital payment adoption in the region is low with only one third of retail payment conducted digitally. This is due to three main reasons. 1. Under-developed digital payment infrastructure, 2. Large unbanked consumers and merchant segment and 3. Cultural bias towards cash. The new government regulations, entry of global payment providers and Covid-19 pandemic has accelerated adoption of digital payment in the region. In a survey conducted by McKinsey among payment practitioners operating in the Middle East, more than half of the respondents believe that non-cash payment in the region will continue to grow to reach more than 50% above the 2020 levels in the next five years. Even consumer preference for payment is changing with 58% of consumers strongly preferred digital payment compared to 10% who expressed strong preference for cash payment.

The study lists the factors contributing digital payment adoption:

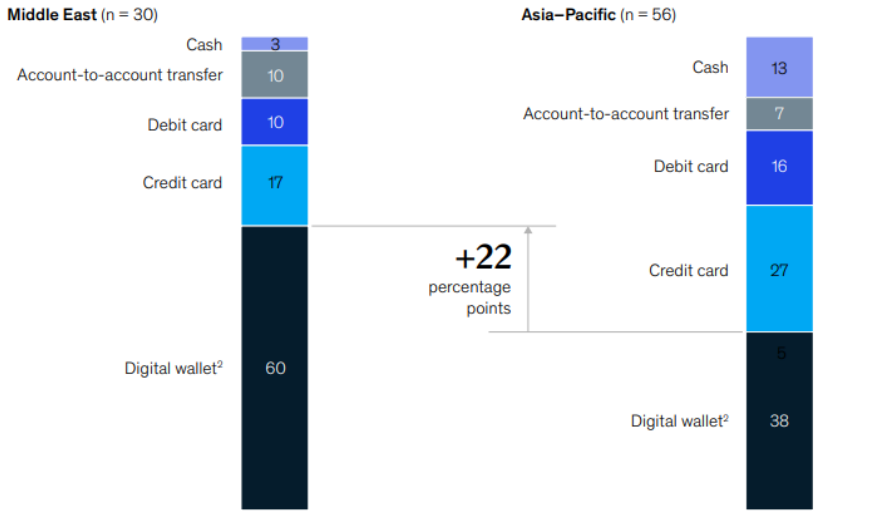
Payment Method: As per the McKiney survey (2021), the payment method preferred by 60% the Middle East consumers is passed-through digital wallets (e-wallet). In comparison to Asia, the preference for digital wallet payment for Middle East consumers is high at 60% while it is only 38% in Asia. Contactless cards and pass-through wallets are preferred in the Middle East over QR-based payment compared to Asia, where QR-based payment is preferred.

Figure 2. Preferred mode of payments

Exhibit 1

Middle East experts say digital wallets will be the most preferred mode of payments; expectations in Asia are more diverse.

Most preferred payment mode in next 5 years,[1] % of survey respondents

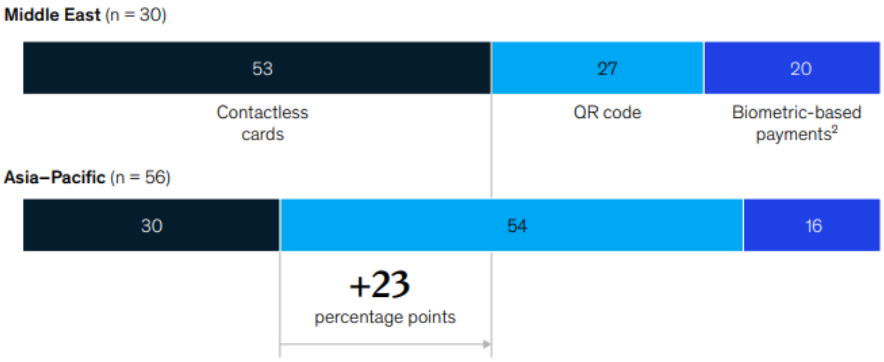


Note: Figures may not sum to 100%, because of rounding.
[1]Question: In the next 5 years in your market, what would be the preferred modes of payment for consumers? Rank from most preferred mode to least preferred.
[2]Including mobile money and pass-through wallets (Apple Pay, Samsung Pay, etc).
Source: McKinsey MEA payments survey and APAC industry survey

Figure 3. Preferred method of payment

Contactless cards are expected to lead payments methods in the Middle East, with QR codes dominant in Asia.

Payment method likely to be market leader in next 5 years,[1] % of survey respondents

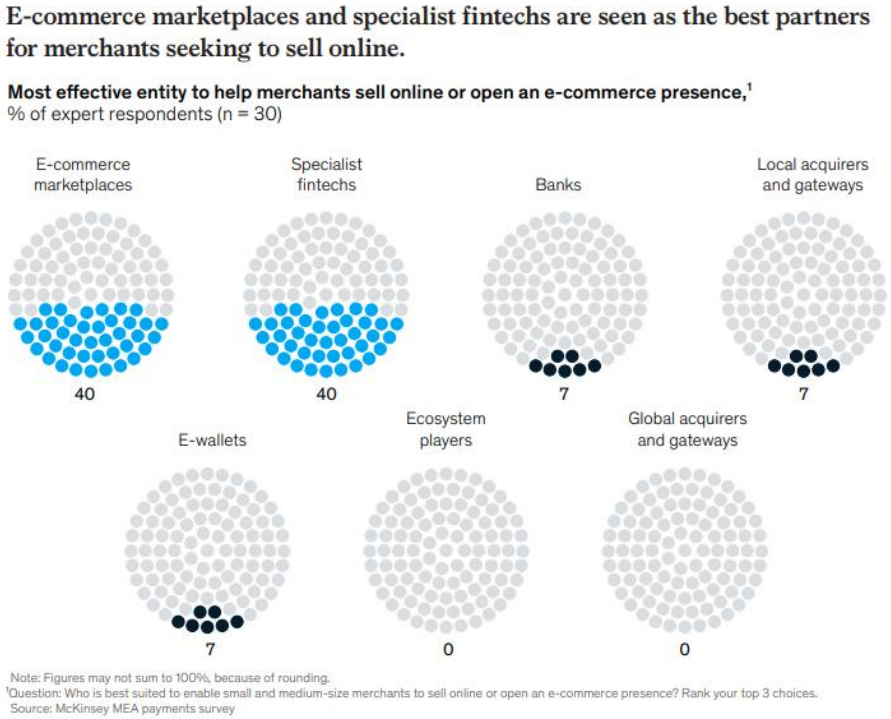


[1]Question: In the next 5 years in your market, which payment method will win the battle between QR codes, contactless cards, and biometric payments?
[2]For example, use of fingerprint to pay.
Source: McKinsey MEA payments survey

Payment Providers: A good number of payment practitioners in the Middle East believe that telecom companies and big tech companies would win the race to capture payment market and poise a big threat to traditional banks. This is because they have broad customer reach and technological power to develop, refine and provide innovative products to suit customer needs. For example, Saudi Arabia STC (Saudi Telecom Company) were able to capture 4.5million active customers in a year by providing international remittance in partnership with Western Union.

Majority of survey respondents believe that Merchants prefer to collaborate with marketplaces and Fintech companies to establish e-commerce presence and online payment than traditional banks. The merchants especially Small and Medium Enterprise segment (SME) look for partners who provide solutions beyond pure payment. The marketplaces and Fintech help SMEs to setup online presence quickly with ease. About 43% of survey respondents believe that more than half of small and medium segment merchants will start selling online in the next five years. Hence SME payment and online acquiring offer good business potential. One challenge faced by merchants is the high Merchant Discount Rate (MDR) charged by acquirers in the region. In the UAE, the average MDR stands at 1.6% which is higher in comparison to European countries. The survey respondents believe that online acquirer who provide value add services such as tiered MDR (MDR based on sales volume), financing for merchants, ease of use and support with merchant onboarding and faster settlement poise a higher chance to win the market.

Figure 4. Suitable partner to enable online e-commerce presence

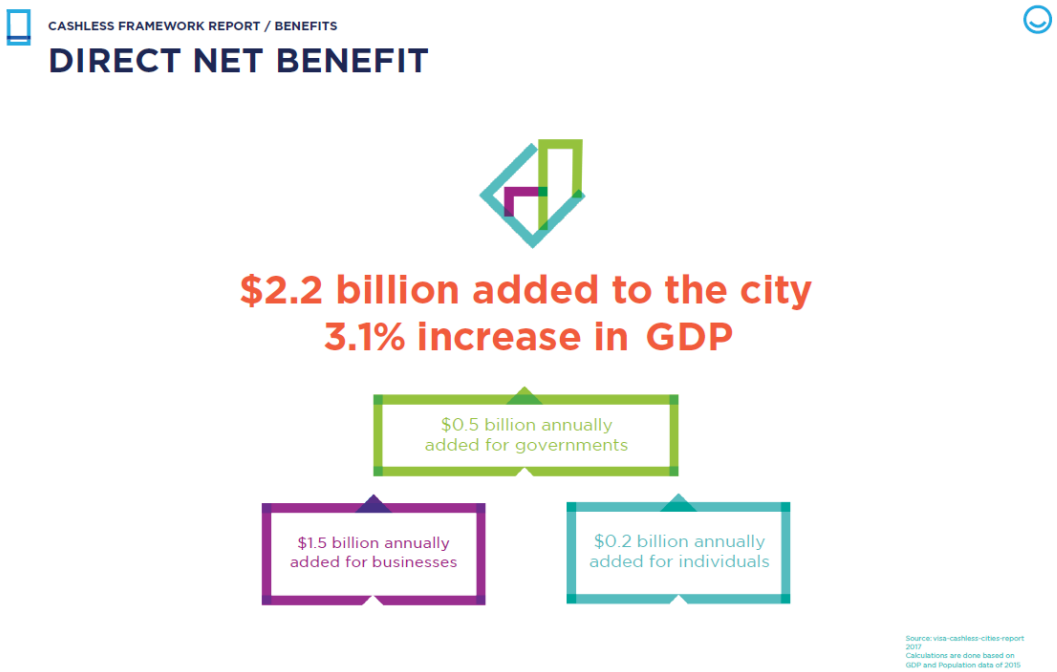


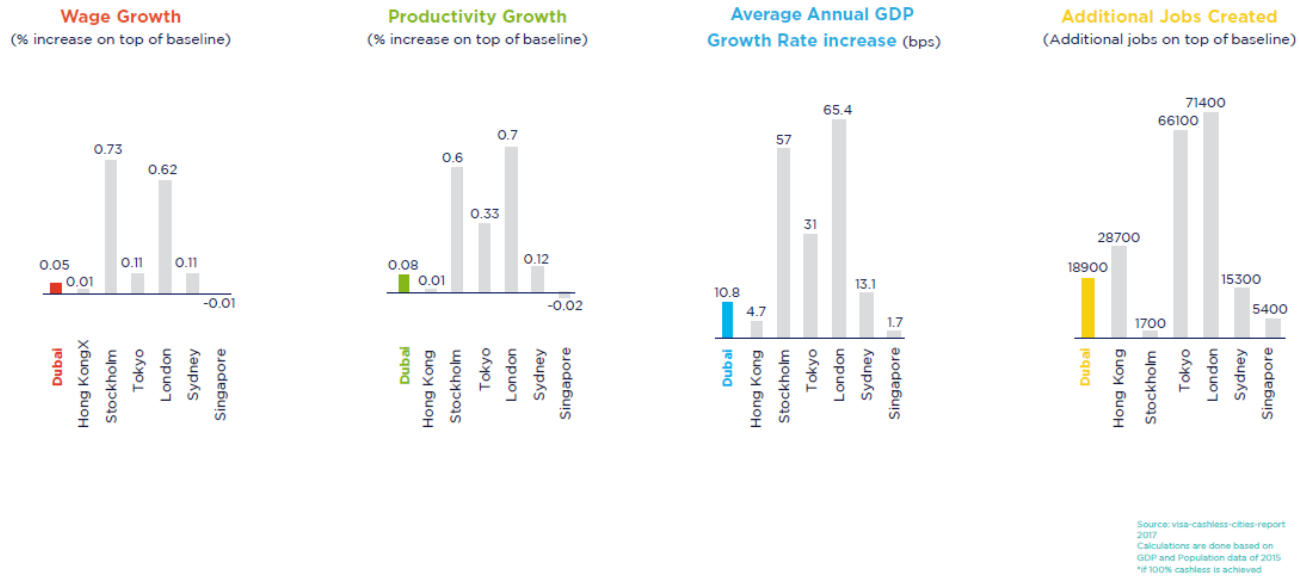
Open Banking: Open banking is a regulatory reform that mandates banks to share customer financial data with other banks and financial institutions with customer's consent. This service decouples savings account balance from payment services. The customers will have choice to select payment solution providers who offer value added services and greater customer experience rather than continuing with banks that offer lesser customer experience. In the UAE, Dubai Financial Services Authority (DFSA) had introduced licenses for offering account information services and payment initiation services.

Cross Border Payment: Saudi Arabia and UAE are two largest remittance corridors in the world with USD78billion remittance in 2020. Two third of the survey respondents believe that bilateral arrangement between countries for real-time settlement and scaling of digital money transfer are key factors for cross-border transactions over the next five years.

The Cashless initiative will bring multiple benefits to Dubai. As per Visa-Cashless-Cities-Report (Roubini Thought Lab ,2018), the direct net benefit to Dubai in 2017 was USD2.2billion with a 3.1% increase in GDP. The Visa report forecast that the benefit goes beyond direct net benefit and will result in an increase in wage growth, productivity growth, annual GDP growth, and the creation of additional jobs. Dubai is expected to have 18900 new jobs, 10.8% growth in GDP, 0.08% productivity growth, and 0.05% wage growth between 2017 and 2032 (Roubini Thought Lab ,2018).

Figure 5. Cashless direct net benefit to the UAE





4.5 What is the role of Wage Protection System (WPS) in achieving cashless economy?

Wage Protection System (WPS) is an electronic system to transfer wages/salary of employees. This system was introduced in the UAE in 2009. The system helps the Ministry of Human Resources and Emiratisation (MOHRE) and the UAE Central bank to oversee that employer make monthly salary to employees in time and as per the agreed contract terms between the employer and the employee. This system was introduced to solve some of the unfair practices by some employers, such as delay in salary payments, not paying full salary as per agreed terms, and using illegal funds. These unfair practices became a social issue resulting in numerous labour disputes and trust breakdown between employee and employer. As per the Ministerial Resolution No. (788) for 2009, all private companies in the UAE and in Jabel Ali Freezone, must register with the WPS. The system helps reducing the number of labour disputes. There have been subsequent ministerial degrees to enhance the WPS regulations such as Decree 739 in 2016, updates in 2019 and Ministerial resolution 43 in 2022. With the implementation of WPS, all salaries are paid digitally and not in cash. This has high influence on Cashless society.

What is the role of WPS in achieving cashless economy?

The WPS has enabled payment of salary and wages digitally to all sections of the population; both banked and unbanked. The unbanked population do not have the payment instrument to make their daily payment digitally. Hence, they withdraw cash from ATMs and use cash for payment. Financial inclusion and providing the unbanked community with suitable digital payment option will enable them to transact digitally without having to withdraw cash.

5. Research Methodology

Designing an appropriate research plan is of utmost importance for conducting the study in a scientific manner. It helps in conducting the research systematically and allows the researchers to achieve the objectives with ease. A research plan starts with a broad assumption and provide steps for collecting data, analysis of data and its interpretation. As per Creswell.J.W & Creswell.J.D (2018, Chapter 1, Page 50), "the nature of research problem, researcher's personal experience and audience of the study determine the selection of research approach." According to Creswell, there are multiple approaches to conduct research; the most common approaches are qualitative, quantitative and mixed method research. Qualitative research analyses participant views, which are expressed in words and data is collected using open-ended questions. On the other hand, quantitative research, analyze numbers, which is collected using closed-ended questions. In this study, a qualitative approach was used to examine the payment occasions of blue-collar workers, their payment experience, pain points and aspirations for better experience. Since this topic is under-researched, it was important to understand the individual experience of the respondents. Qualitative research is employed to explore a concept because little research has been done on it or involve a understudies population sample (Morse, 1991). In this research, the participants views were captured using open-ended questions in a semi-structured questionnaire. The data collected was analysed and interpreted to inductively develop a pattern rather than start with a theory. The general themes are built from particulars captured from participants views. The qualitative research is used for exploring and understanding the individual or group view to a social or human problem, where the data analysis is inductive (Creswell. J.W, Creswell. J.D, 2018).

This study is related to low-income people who are considered blue-collar workers by nature of their work. The population for the study is the migrant workers, who live in the labor camps of Dubai. The study was conducted in three different areas of Dubai; Sonapur, Al Quoz and Jabel Ali. Most blue-collar workers live in these three areas, and it provides good representation of this community. Initially, a sample size of sixty was considered for this study, twenty people from each location. However, after thirty interviews, recurrent themes were observed. We conducted additional five interviews, totaling thirty-five but the subsequent interviews did not reveal new themes. This pattern suggests theoretical saturation, as proposed by Glaser and Strauss (1967, p. 61). The sampling method used is cluster sample. The cluster sample is extensively used in market research. It is cost-effective, requires less travel and resources, and there is less risk of error in the sample within a cluster since low-income people are not homogenous. People from different backgrounds like nationality, age, and economic background participated in the survey. Within each cluster, sampling used is Non-Probability Sampling. This helped in sampling people based on their availability and willingness.

The primary data collection was collected using a semi-structured questionnaire. The variables comprising the questionnaire were identified using the in-depth literature review. The first part collects the demographic data

about the respondent like age, nationality, sex, type work, and salary group. The data regarding owning a smartphone and access to internet was collected using dichotomous questions (Yes, No). Multiple-select, multiple-choice questions was used to identify whether blue-collar workers are banked or unbanked. The payment occasions, the experience during each payment occasion and their aspirations to improve the experience ware captured using open-end questions. The data was collected through in-person, face to face interviews. An interview lasted between 20 to 30 minutes. The participation was voluntary. The participants were given an introduction about the purpose of the survey. Most of the participants were Asians and interviews were conducted in their native language. Conducting the survey in the labour camps, which is the setting of the participant and speaking in their native language helped the participants to express their views freely with comfort.

The Constructivist worldview is considered in this qualitative research. As per Creswell. J.W & Creswell. J.D (2018) , the constructivist worldview has four characteristics, 1. Understand view of the participants, 2. Involve multiple participants, 3. Conduct research in the participant settings and 4, Generate a theory based on participants view. This research qualifies all the four characteristics; 1. Participants views were collected using open ended questions in the semi-structured questionnaire, 2. Involved multiple participants from three different labour camps in Dubai, 3. The information was gathered by talking directly to people (face to face interview) in the participant settings, which is the labour camps of Sonapur, Al Quoz and Jabel Ali in Dubai and 4. The data was collected using open ended question to collect participant's view.

In the process of data analysis, a meticulous review and comparison of the interview notes were undertaken. The approach adopted was open coding, a method crucial for capturing the nuanced meanings behind specific phrases and words. The analysis followed a structured, four-step process, The first step was preparation and organization of data**.** This involved gathering and systematically organizing the interview notes, which had been transcribed from the interviews. These notes were sorted according to the different labour camp locations to facilitate a more organized analysis. The second step was preliminary review of data**.** This involved a comprehensive review of the entire dataset. This allowed for an overarching understanding of the respondents' perspectives and facilitated the development of a conceptual framework. During this phase, a preliminary sketch of ideas was created, common themes in the interview responses were identified, and initial codes were generated. The third step involved a detailed examination of the transcribed notes. This process entailed breaking down sentences into manageable segments, categorizing these segments, and assigning codes to each category. The coding followed the guidelines provided by Rossman and Rallis (2012), with codes emerging organically from the data.

The final step was to synthesize the coded data into coherent themes. This process involved grouping related codes into broader themes and developing detailed descriptions for each theme. Table 1 provides a summary of

the coded responses, illustrating how the data were organized. The analysis revealed three major themes and nine secondary themes. To ensure the robustness of the findings, the data was triangulated by conducting interviews across three distinct locations. This triangulation process, as discussed by Creswell. J.W & Creswell. J.D (2018), served to validate the identified themes and enhance the credibility of the results.

Table 1. Qualitative Coding Process

First-order codes	**Second-order themes**	**Key Themes**
Regularly buy vegetables and groceries	Payment occasion	Payment habit
Often top up mobile data pack		
Monthly renew WiFi subscription, as a group		
Send money home, as soon as salary is received		
Use Public transport to visit friends and go to city center		
Use online shopping, whenever there is offer or to buy items not available in the labour camps		
Use cash for payment	Payment method	
Use NOL Card for public transport		
Receive salary in Wage Protection System (WPS) and withdraw cash from ATM using WPS card		
Receive salary in bank and use bank card for purchase and withdraw cash from ATM		
Frequent grocery outlets for fresh produce	Retail payment experience	
Limited space to store food items in the accommodation		

Most shops only accept cash and have to carry change		Payment experience
Do not have a card linked to salary that is accepted in all retail outlets		
Do not get any loyalty points for the spend		
Depend on mobile data to access the internet while outside their accommodation	Top-up for phone and Internet	
Use shared WiFi in accommodation		
Often visit shops to top up mobile data		
Sometime use Kiosk for top-up and need to have the change in small denomination		
Carry cash to pay for top up		
Not sure of getting best plan for top-up		
Withdraw cash from ATM and visit money exchange for transfer	Money transfer and remittance	
Long queues in the salary week		
Manual form filling is laborious		
Wait anxiously for couple of days to receive confirmation from beneficiary		
Not sure of the best rate and lowest fee		
Seek a solution to check and compare rate and fee before transferring		
Use public transport for persona travel	Public transport payment experience	
NOL card is used to access public transport		
Long queue to top-up NOL card		

Need to small denomination of cash to pay for top-up		
No facility to check NOL balance before accessing public transport		
Use online purchase to avail offers	Online purchase experience	
Use Cash On Delivery (COD) for payment		
High delivery charge		
Minimum order value is a challenge		
Prefer personalized offers, instead of general offers		
Delay in delivery date		
Complex refund process		
Definitely prefer digital payment	Aspirations for better payment experience	Willingness to adopt digital payment
Pre-loaded card to reduce need for cash / exact change		
The card linked to salary account to avoid top-up		
Instant SMS notification with details for transaction		
Nonintrusive security processes		
Deferred payment and installment-based payment options with 0% interest		
Number of loyalty points given should be generous	Motivation to adopt digital payment	
Quickest accrual of points		
Minimum threshold of reward points to build up before redemption		

Easily redeemable from any shops		
Cashback option to redeem points		
Variety choice for redemption		
Personalized offers and discounts, instead of general offers		

6. Findings

6.1 Payment habit

6.1.1 Payment occasions

The blue-collar workers in Dubai live in accommodation provided by their employers, mainly located in the labour camp areas of Sonapur, Al Quoz, and Jabel Ali. These camps serve as residential areas for these workers. According to the survey results, most of the respondents have five common payment occasions. These occasions include making retail purchases, topping up their phone or internet services, sending money back home through remittance services, paying for public transport fares, and making online purchases. These payment occasions are essential for the blue-collar workers as they represent different aspects of their daily life. Retail purchases encompass their daily needs like groceries, personal hygiene products, or clothing. Topping up their phone or internet services allows them to stay connected with their families back home and access the internet for various reasons. Money remittance is crucial for them as they often send a portion of their income to support their families in their home countries. Public transport fares are a necessary expense for these workers as they rely on it for personal travel. Lastly, online purchases include items they cannot access easily in their local areas or items they need for personal or work-related reasons. Overall, these five payment occasions illustrate the common financial transactions of blue-collar workers in Dubai and reflect their basic needs and daily activities.

> *'Even in the mornings before I start my shift, I buy some vegetables and cook and wait for bus to take me to work'*

6.1.2 Payment method

According to the survey results, the primary payment method among blue-collar workers in Dubai is cash. This is mainly because many of these workers do not own a bank card and rely on physical currency for their daily transactions. Most blue-collar workers in Dubai receive their salary through the Wage Protection System (WPS). This system ensures that wages are paid in a fair and regulated manner. Workers typically have a WPS card, which allows them to withdraw their salary from ATMs and make cash transactions. Some workers,

however, do receive their salary directly into a bank account and possess a bank debit card. These individuals have the option to make payments using their bank card at shops that accept such payments. However, the survey indicates that not all small shops and outlets in their neighborhoods accept bank card payments. The prevalence of cash payments among blue-collar workers is primarily attributed to two key factors. Firstly, the majority do not possess a bank card, making cash the only payment option for them. Secondly, the limited acceptance of bank card payments in small shops and outlets further limits their options for non-cash transactions. In conclusion, cash remains the primary payment method among blue-collar workers in Dubai due to the lack of bank cards among many workers and the limited acceptance of bank card payments in smaller establishments.

"I use cash because not all shops accept my WPS (Wage Protection System) card"

6.2 Payment experience, outlining needs gaps and concerns

6.2.1 Retail spend (Grocery, clothing, accessories, etc)

The survey results indicate that blue-collar workers in Dubai frequently visit local grocery outlets near their labor camp accommodation to purchase fresh produce. They do so because they have limited space to store food in their shared living arrangements. These workers prefer to keep their spending to a minimum, and therefore choose local grocery outlets that offer affordable prices. When making payments for their purchases, they primarily use cash. However, a constant concern for them is that the shops might not have enough change available, so they must ensure they carry small denomination bills. Moreover, while some blue-collar workers possess bank cards, not all the shops in their neighborhood accept card payments. As a result, they express the need for a card specifically linked to their salary that can be used in all retail shops. This would enable them to conveniently pay for everyday retail purchases, including groceries, restaurants, and salons.

Additionally, these workers aspire to receive loyalty points for their card usage, which they can easily redeem. Loyalty points act as an added benefit for them and provide a sense of reward for their regular spending. Overall, blue-collar workers in Dubai focus on purchasing fresh produce frequently, make cash payments, and express a desire for a salary-linked card to make everyday retail purchases easier. They also aspire to receive loyalty points for their card usage, adding further value to their shopping experiences.

"I do not like to carry coins"

"I do not always have the right amount in coins"

6.2.2 Top up for phone and internet

The survey reveals that blue-collar workers heavily depend on mobile data to access the internet while outside their accommodation. Within their accommodation, a group of people collectively subscribe to a Wi-Fi service and share the cost among themselves. To load data packs onto their mobile devices, they visit mobile outlets in their neighborhoods and pay in cash. These data packs come in different offerings, with varying costs ranging

from 20 to 100AED. However, they express a dislike for having to visit shops solely to learn about deals and offers on data packs. To top up their mobile balance and make calls or pay bills, sometimes, they use kiosks that accept cash payments. However, they find it inconvenient to carry exact change for these kiosks. Ideally, they would prefer to access deals and offers directly from the mobile network operators, such as Etisalat and Du, and make top-ups online instead of relying on physical visits to retail outlets.

Unfortunately, online payment options are not currently accessible to blue-collar workers as they do not possess bank cards required for such transactions. They aspire to receive data allowances as gifts or rewards from the mobile network operators, in recognition of their frequent top-ups. Overall, the survey highlights the blue-collar workers' reliance on mobile data and their preference for more convenient and accessible methods for topping up their mobile balances, such as online options and offers directly from the network operators. However, the lack of bank cards and limited access to online services currently hinders their ability to utilize these options.

'I would like to have free mobile data…that is something we rely on and have to top up by spending a lot on it'

6.2.3 Money transfer, remittance

Remitting money back home is a common and important activity for blue-collar workers, usually occurring every time they receive their salaries. The majority of employers use the Wage Protection System (WPS) and others use bank accounts to pay salaries. The process of remitting money back home is often laborious and time-consuming for blue-collar workers. On payday, they face long queues at ATMs to withdraw cash using either their WPS card or bank card. They then have to walk to a local remittance outlet where they must fill out forms with the details about the sender and beneficiary. This form-filling process can be frustrating and tedious, as they must manually enter transaction details repeatedly. During salary week, the remittance process becomes even more of a hassle due to the long queues at the remittance outlets. This makes the entire process very time-consuming. After completing the transfer, these workers anxiously wait for a couple of days to receive confirmation from the beneficiary that the payment has been received. The waiting period is often viewed as annoying.

Although blue-collar workers wish to check for the best exchange rates and lowest fees, they often end up using the nearest remittance outlet for convenience. They feel that the nearest exchange outlet may not offer the best exchange rate. They find withdrawing cash and carrying it to exchange houses to be unsafe and inconvenient. In summary, blue-collar workers aspire for a digital payment solution that is directly linked to their salary card. They desire a solution that offers the best exchange rates, lower fees, instant SMS or notifications confirming transactions, and instant rewards such as mobile data, rather than simply participating

in prize draws. These workers seek a more efficient and convenient way to remit money back home without the hassle and frustrations of the traditional process.

"There is no set date for a holiday. When I do get a day off, then half of it is spent in queues in front of ATMs, cashiers"

6.2.4 Public transport service

The blue-collar workers in Dubai have access to transportation provided by their employers for commuting to their workplace. However, for personal travel, they rely on the public transportation system. They use different public transport modes such as bus, metro, tram and marine services. The public transportation system in Dubai is considered convenient, reliable, and dependable in terms of trip time. To pay for their public transport, the workers use a transportation card called "Nol." They top up their Nol cards at machines or at the information desks at stations and make payment using cash. However, the top-up process for the Nol card presents several challenges for these workers. Firstly, they often have to queue up at the machines, especially if not all of them are operational at a given time. This can be time-consuming and inconvenient for them. Additionally, the workers find it inconvenient to carry the exact denominations of cash required for the machine payment. Sometimes, they face difficulties when the machines reject their banknotes, further adding to their frustration. They do not receive any notifications for their Nol card balance, which can be embarrassing for them when they reach the metro gates with insufficient funds.

In light of these challenges, the blue-collar workers express a desire for online top-up services through the Nol app. They aspire to have features such as receiving payment notifications, the ability to check their card balance online, and the convenience of topping up their Nol cards digitally. Overall, blue-collar workers in Dubai seek an improved top-up experience for their Nol cards, including the convenience of online services, payment notifications, online balance checks, and online top-up facilities. These enhancements would provide them with a more seamless and hassle-free experience when using public transportation.

'I hate to wait in the line to top-up my Nol card especially during weekends'

6.2.5 Online purchases

The survey results suggest that blue-collar workers often utilize online platforms for their purchases, particularly to avail attractive discounts. Cash-On-Delivery (COD) is their preferred payment method. They enjoy the convenience of selecting products and services without needing to physically go to shops. However, they find certain restrictions imposed by some online shops to be annoying. These restrictions include minimum order values and delivery charges. Additionally, they express frustration with generic offers that are not specific to their needs or preferences. Some workers have had unpleasant experiences with online shopping, such as delivery dates exceeding the promised date or receiving products that do not match the item ordered. They find the refund process to be burdensome and challenging. To enhance their online shopping

experience, blue-collar workers desire services that charge lower delivery fees, provide next-day delivery, and offer extended warranties. They also prefer to see personalized offers and discounts that cater to their specific interests and needs. Furthermore, they value a hassle-free returns policy that makes the process easier and more convenient. The blue-collar workers seek a more tailored and convenient online shopping experience. They aspire for better customer service, personalized offers, lower delivery fees, faster delivery times, and a smoother refund process. These improvements would contribute to their satisfaction and confidence when using online platforms for their purchases.

"I do not like having to pay delivery charges"

"I do not like having to meet minimum order value for free delivery"

6.3 Willingness to adopt digital payment

As mentioned in section 4.3, there are four key pre-requisites for a city to achieve maturity in cashless adoption (Roubini Thoughtlab, 2018). They are 1. The Government regulations to protect security and privacy of consumers, 2. Infrastructure readiness, which is access to internet and smart phone, 3. Availability of digital payment products, and 3. Willingness of residents to adopt new technologies. As elaborated in Section 4.3, the UAE meets the first three pre-requisites. Regarding the fourth prerequisite, the survey delved into the readiness of blue-collar workers to embrace digital payment methods. Blue-collar workers express a clear inclination towards adopting digital payments due to their ability to address current payment challenges, offer better payment experience and provide enticing benefits such as discounts and loyalty points. One of the primary advantages they highlight is the convenience of not needing to carry physical change or worry about safeguarding cash.

'I dream of being able to swipe a card like I see others around me with better jobs. It will feel like I have also tasted the life of successful people, I see in Dubai'

6.3.1 Aspirations for better payment experience

In their ideal scenario, blue-collar workers envision a payment card directly linked to their salaries, universally accepted across all retail outlets in the vicinity of their labour camps. They emphasize the importance of receiving SMS notifications for each transaction, which would enable them to effectively monitor their digital payment activities and maintain financial oversight. Security concerns are paramount for these workers, who seek robust yet unobtrusive security measures for their payment cards to safeguard against potential risks. Moreover, blue-collar workers express a strong desire for financial services tailored to their specific needs, such as deferred payment options and instalment-based payment plans with zero interest. These services are seen as essential tools for effectively managing their finances and improving their financial well-being.

"I do not find tailored or useful advice to budget my spends"

6.3.2 Motivation to adopt digital payment

Blue-collar workers find that loyalty points and discounts serve as significant motivational factors to encourage the adoption of digital payments. They seek generous points for every digital transaction they make, and these points should be easily redeemable. The outlets that accept redemption in their living quarters or labour camps are crucial. Their preference is to redeem earned points for topping up data packs or purchasing groceries. They are less inclined towards loyalty programs that impose restrictions, such as minimum points required for redemption or limited redemption options at specific stores. Additionally, they appreciate having a cashback option for their accumulated points. To effectively engage the blue-collar workers, loyalty programs like Esaad from Dubai Police and Fazaa should be tailored specifically to their requirements. These programs should be designed to incentivize and facilitate the shift towards digital payment habits, addressing their unique requirements and enhancing financial inclusion

"I do not feel the number of points given are generous enough"

"I want to have greater choice in how I can spend / redeem my points"

7. Discussion of Findings

The Dubai Government recognized the importance of transitioning to a cashless society and established the Cashless Dubai Working Group in 2020. Their aim is to position Dubai as one of the first five cashless societies worldwide, with a target of achieving over 90% cashless adoption. But the current adoption rate of cashless payments in the UAE remains relatively low compared to advanced countries like Sweden and South Korea. According to a study by Visa Inc, only 52% of UAE consumers are projected to go cashless by 2024 (Visa Inc, 2022). This is significantly lower than the 98% cashless adoption rate in Sweden (Aron, 2023). One of the main contributing factors to the low cashless adoption rate in the UAE is the high number of unbanked residents, particularly low-income expatriate workers who are often employed in blue-collar jobs in sectors such as construction and manufacturing. Addressing financial inclusion and promoting cashless payment methods among this demographic is crucial for Dubai to make progress towards a cashless economy.

However, there is limited research available regarding the relationship between cash and digital payments in countries with a high level of financial inequality, such as the UAE (UAE's Prepaid and Digital Payments Eco-system, 2019). Additionally, there is a lack of research specifically focused on the payment habits, aspirations, and motivations of the unbanked community in adopting cashless payment methods. This study fills that gap by targeting blue-collar workers and aiming to understand their payment occasions, pain points, and aspirations for digital payment adoption.

The study identifies five key payment occasions for blue-collar workers: retail purchases, topping up phone or internet services, sending money back home through remittance services, paying for public transport fares, and making online purchases. The majority of these workers do not have a bank account and receive their salary

through the Wage Protection System (WPS). Even among those who have a bank account, many do not have access to financial services, including credit cards. This is consistent with previous studies by Sael Al-Waary (The Banker, London, 2020) and McKinsey & Company, and Mckinsey & Company (2021), which highlight the existence of a significant portion of the UAE population who are unbanked or underbanked and are on the outskirts of the mainstream banking system.

The study also identifies that the primary payment method among blue-collar workers in Dubai is cash. The prevalence of cash payments among blue-collar workers is primarily attributed to two key factors. Firstly, the majority do not possess a bank card, making cash the only payment option for them. Secondly, the limited acceptance of bank card payments in retail outlets further limits their options for non-cash transactions. This aligns with study Visa, which state that only 52% of UAE consumers will go cashless by 2024 (Visa Inc, 2022).

The study uncovers the pain points experienced by blue-collar workers during their payment occasions and their aspirations for a better payment experience. For retail purchases, they often struggle with carrying small denominations of cash and ensuring the availability of change. For telecom top-ups, they visit retail outlets to reload their mobile balances and data packs, but they aspire to receive offers directly from telecom providers, which is currently not possible for them. When remitting money back to their home countries, they find the process time-consuming and frustrating, involving waiting in queues, manually filling out forms, and waiting for confirmation from the beneficiary. They are also unsure if they are getting the best exchange rate from the exchange house. For public transport, although they use NOL cards for payment, they face challenges with waiting in queues to top up their cards and needing to carry change for kiosks. Lastly, for online purchases, blue-collar workers rely on Cash-on-Delivery (COD) as they do not have a card to make digital payments. The identification of payment habits and pain points of blue-collar workers during their payment occasions are very significant since there is not much research work conducted to understand the relationship between cash and digital payment in countries where there is high level of financial inequality (UAE's Prepaid and Digital Payments Eco-system, 2019).

Understanding the payment habits and pain points of blue-collar workers is crucial, especially considering the lack of research conducted to address the relationship between cash and digital payments in countries with high levels of financial inequality. The study reveals that these workers are willing to adopt digital payment methods if they address their current challenges and offer a better payment experience that eliminates the need to carry physical change or cash. They aspire for a digital payment card linked to their salary that is accepted in all retail outlets in the vicinity of their labour camps. Payment security is important to them, and they desire to receive SMS notifications for each transaction to help them maintain financial oversight. A key motivating factor for them to adopt digital payments is the availability of loyalty points and discounts, which they can redeem for their regular payment occasions such as grocery purchases and mobile top-ups.

Overall, this study provides valuable insights into the payment habits, pain points, and aspirations of blue-collar workers in Dubai. By understanding their unique needs and motivations, decision-makers can develop tailored solutions to foster financial inclusion and achieve the cashless. Some of the financial services that will provide compelling reason for blue-collar workers to adopt digital payment are:

7.1 Remittance to home country at comparatively lower rate**:** Remittance is a key priority for the expat population in the UAE. According to UAE Foreign Exchange and Remittance Group, annual report (2022), 88% of the UAE population are expats. They are the main source of income and financial support for their families back in home country. Money remittance to the home country is a regular task for expat population in the UAE. The UAE is the second largest market in the world for outbound remittance. In 2021, exchange companies in the UAE handled AED147.8 billion in outward remittances that adds up to more than 5% of the total global outward remittances (Central Bank of the UAE Financial Stability Report, 2021). The traditional banking model for cross-border transactions, charges significant tolls as money passes through several banking jurisdictions. Cutting out payment intermediaries and interoperability between payment networks are two key drivers needed to unlock the prospects for seamless, truly global, and cost-efficient cross-border payments.

7.2 Buy Now Pay Later (BNPL): BNPL is becoming a popular trend in the UAE, especially with continued expansion of e-commerce. BNPL offer the capability to make instalment payments when purchasing an item online with no interest. The customer can purchase items and pay in instalments over a shorter duration of time. This makes the service attractive, especially for millennials and Gen Z clients who seek financial empowerment. 10% of online consumers in the UAE availed BNPL services in 2020 and is estimated to increase to 30% by 2026 (Sadaqat.R 2022). The accruing consumer credit is estimated to be over USD 2 billion. For retailers, BNPL increases sales, support customer retention, and lowers basket abandonment without risk. BNPL providers pay retailers upfront and lend money to customers. The providers take on all the program's administrative costs and credit risk. BPNL also provides vast amount of data that retailers can use to offer products to target customers based on their need and increase customer loyalty.

7.3 Mobile Payment and peer-peer transfer**:** The digital wallets offer security and convenience to customers. The adoption of digital wallets for payment is increasing in the UAE, especially for online payment. Between 2014 and 2019, digital payments increased by an average of 9% annually. According to the 2022 Global Digital Shopping Index by PYMNTS and Cybersource, 30.3% of SMB consumers in the UAE are using digital wallets to pay online, while only 4.8% are paying in-store using digital wallets. This trend is expected to continue. The Future of Payments in the Middle East report by McKinsey showed that 60% of people participated in the survey from the Middle East believe that paying through digital wallets will be the most preferred method within the next five years.

P2P transfers are instant electronic transfer from one person to another through a digital medium. It is the most popular subset of instant payments and witnessed the fastest growth both regionally and globally. According to a study by Balyuk.T, Williams.E. (2021, P.1), “These technologies are thought to improve welfare, especially among the many who live “pay check to pay check”, for whom payment delays can be extremely costly. As the economy becomes increasingly digitalised, policymakers argue that increasing access to digital payments, specifically, is critical to prevent further exclusion of those who are already only marginally integrated in the formal economy.

Using mobile phones for transfer have significantly gained the trust of the customers in the UAE. The New Payments Index 2022 study by Mastercard showed that 55% of respondents feel safe when using mobile apps for money transfers. Providing a mobile transfer service for the unbanked segment, where they can send money directly to a bank account or mobile wallet, or through peer-to-peer (P2P) transfers using phone numbers, QR codes, or SMS will support cashless adoption. The P2P payment model is expected to expand into buy goods. Person-to-Merchant (P2M) and Merchant-to-Merchant (M2M) payments are expected to record a higher volume of transactions than P2P payments and will be the focus of future development.

7.4 Omnichannel Payment System: The Omnichannel system offers consumers same quality of interaction across multiple channels, both online and offline, and offers a seamless and cohesive customer journey underpinned by consumer convenience. The system offers accurate exchange of information, where the consumer can instantaneously switch between channels without interruption to the quality and consistency of service. Wider adoption of payment methods that integrate online and offline payments such as P2P (wallets), Tap on Phone, Pay-by-link, soft POS, virtual cards and BNPL are expected to accelerate demand for omnichannel payments.

7.5 Robo-advisors: The newer Fintech companies offer Robo-advisory service, which is an automated platform that uses Artificial Intelligence (AI) to analyse user’s profile and build, manage a comprehensive portfolio that meets user’s goals, and risk profile. The low fees, ease of access, transparency and customization features makes this service appealng to customers. In the UAE, market potential of this service is USD 1.59 billion and it is estimated to reach an annual amount of USD 3.68 billion by 2027 (Foreign Exchange and Remittance Group Annual Report, 2022).

8. Conclusion

In line with its commitment to achieving a cashless society, the Dubai Government established the Cashless Dubai Working Group in 2020. The ambitious goal of this strategy is for Dubai to be among the first five cashless societies globally, with a target of over 90% cashless adoption. However, the current adoption rate of cashless payments in the UAE is relatively low compared to advanced countries like Sweden and South Korea.

Given the unique demographics and challenges in the UAE, the current digital payment adoption plan, which is modelled after Sweden and South Korea, is not appropriate and needs to be reconsidered. Unlike Sweden, where 100% of the population is banked, the UAE has a substantial expatriate population, particularly unskilled or semi-skilled workers in the construction industry, who do not have access to the formal banking system and are considered unbanked. In order to identify the drivers and challenges for financial inclusion and recommend the optimal solution for achieving a cashless society in the UAE, a study focused on this particular segment of the population is necessary. This study specifically targets blue-collar workers who are unbanked or underbanked.

The significance of this study lies in its objective to gain a comprehensive understanding of the payment behaviors of blue-collar workers and to identify their challenges and aspirations related to the adoption of cashless payment methods. By conducting research on migrant workers residing in labor accommodations in Du ai, the study unveils critical insights into their current financial practices. One notable finding is that a significant majority of these migrant workers do not possess bank cards, highlighting the need for targeted financial solutions that cater to the unbanked and underbanked population. The study analyzes the payment occasions of blue-collar workers and identifies five key scenarios in which they commonly make payments: retail purchases, topping up phone or internet services, remitting money to their home country through exchange houses, paying for public transport fares, and making online purchases. Currently, the primary payment method for these workers is cash. They face numerous challenges during these payment occasions and aspire for a better payment experience. Some of the key pain points identified include the need to carry small denominations of cash and ensure they have enough change for retail purchases, the inconvenience of waiting in queues and manually filling out forms to remit money, the inability to directly avail offers from telecom providers, and the reliance on cash for online purchases instead of utilizing online payment methods.

Despite the prevalent use of cash, the research highlights a willingness among blue-collar workers to adopt digital payment methods, provided that these solutions address their existing pain points and offer clear benefits. The study emphasizes that for digital payment methods to be embraced by these workers, they must alleviate the difficulties faced in cash transactions and offer tangible advantages. Additionally, the study identifies several motivating factors that could encourage the adoption of digital payment among blue-collar workers, such as the provision of loyalty points, discounts, and special offers. These incentives are seen as compelling reasons that could drive workers to transition from cash to digital payment methods. The study emphasizes the need for digital payment solutions specifically tailored to address the specific challenges faced by blue-collar workers and highlights the importance of incorporating attractive benefits and incentives to facilitate their adoption of such technologies. These workers also seek loyalty points and discounts for payment transactions and envision access to financial services that can improve their overall financial management.

9. Theoretical And Managerial Implications

This study offers significant theoretical and managerial implications to enable financial inclusion and achieve cashless strategic objective for Dubai. This study acknowledges the previous research conducted on the payment habits and digital payment adoption in the Middle East and the UAE. However, it highlights the lack of attention given to the specific needs and behaviours of blue-collar workers who are often unbanked and reside in the outskirts of the formal banking system. By focusing on this population, the study fills a significant gap in the existing literature and provides valuable insights into the unique payment occasions and preferences of blue-collar workers.

From a managerial perspective, the study's findings offer crucial insights to decision-makers in Dubai. It emphasizes the importance of implementing digital payment solutions that address the pain points of blue-collar workers and provide them with access to financial services. Collaborating with private companies, the government can work towards implementing such solutions, which should go beyond basic payment capabilities. Some of the service proposed are improved customer experience, features such as online peer-to-peer fund transfer, remittance services at favourable exchange rates and low transaction fees, Buy Now Pay Later options, an omni-channel payment system for convenience, and Robo-advisors to provide financial planning assistance. Bringing these services to blue-collar workers not only empowers them to manage their finances more effectively but also opens up economic opportunities and improves their overall quality of life.

Overall, by bridging the gap in literature and providing practical recommendations, this study offers significant theoretical and managerial implications for enabling financial inclusion and achieving the cashless strategic objective in Dubai. Through the implementation of targeted digital payment solutions, the city can ensure that even the most underserved segments of the population have access to the benefits of a cashless economy.

10. Limitations of the Study

Research is exposed to limitations arising due to the various constraints taking place in the surroundings. This study has been conducted with a systematic framework but the limitations arising from it are, firstly this study focus only on low-income blue-collar workers. It does not focus on the merchants and payment service providers. Since the payment eco-system also involve merchants and payment service providers, further research is needed to evaluate how prepared merchants and payment service providers are to cater to low-income individuals. Future studies should also explore the readiness of merchants in the labour camps, who are serving blue-collar workers, to adopt digital payments.

Additionally, the study is conducted among the blue-collar workers. There are other population segments in Dubai who are unbanked and underbanked. The domestic workers, the housewives, and the pink-collar workers who are low salaried office workers are some of the other population segments that are either unbanked or

under-banked. Further research is needed to examine the payment occasions and challenges of these segments to promote a comprehensive financial inclusion in Dubai.

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Table 2: Literature Review Summary

Topic	Details	References
What are the factors that enabled Sweden to become the first cashless society in the world?	Sweden is leading the world in cashless transaction. It started in 1960s when companies started to pay salaries and wages through bank accounts of employees. The card payment became prominent in 1990s with the introduction of Point Of Sales (POS) in retail outlets and implementation of digital clearing and settlement system called RIX by Central Bank. This step facilitated creating bank accounts for all Swedish population and bring them under formal banking system. In the 2000s, there was increase in robberies in Sweden. This made Unions lobbying against the use of cash in places like public transport, banking, and shops to avoid their members and the employees getting exposed to robberies. This reduced usage of cash and increased digital payment. Introduction of e-commerce, initiatives such as "situation Stockholm" and Swedish church accepting only cashless donation in 2018 further accelerated	Arvidsson (2019); e-barometer (2017); Eurostat (2021); Arvidsson, et al (2018); Ran (2017) Sundyberg (2018).

	adoption of digital payment among all sections of the society.	
What actions are required from the key stakeholders; Government as a regulatory, payment providers, and consumers to achieve cashless economy?	The transition to cashless is a process and it requires actions from three key stakeholders: Government as a regulatory, payment service providers, and consumers. The Government should stop issuing large notes and issue only coins. The Government should also implement solutions to ensure that all sections of the society are banked and have access to digital payment. Additionally, the Government should also issue regulations to protect the privacy and integrity of people who make digital payment. The Government should also implement an instant payment platform to interconnect merchants with banks. The payment service provider should provide Point Of Sale (POS) devices to merchants and interconnect large number of merchants and consumers to make digital payment anywhere, at anytime. They should also provide value-add services to merchants and consumers to increase adoption. The consumers should understand the benefit and convenience of digital payment and switch from cash to digital payment.	Rogoff (2017); Al Etihad Payments (2023); Government of Dubai Media Office (2020).
What is the readiness of UAE for digital payment?	There are four key pre-requisites for a city to achieve maturity in cashless adoption. The four prerequisites are readiness of infrastructure with access to internet and smart phone, willingness of residents to adopt digital payment, Government regulations to	Roubini Thoughtlab, (2018). Telecommunication and Digital Government Regulatory

	protect security and privacy of consumers, and availability of digital payment products. The UAE is mature in the first three pre-requisites. However, with the fourth pre-requisite, UAE has area of improvement. This is because the UAE has significant population who is unbanked and do not have access to the digital payment channels. Financial inclusion is an area that UAE need to improve to achieve cashless society.	Authority -TDRA, UAE (2022); The UAE Government Portal (2022); Visa (2019); Cashless Framework Report, Smart Dubai (2020) Bain & Company (2022); Alptekin (2021).
What is the future of digital payment in the UAE?	As per the study conducted by Chan, J. et all for McKinsey & Company, digital payment is continue to grow in the Middle East. Some of the key findings of the study are The Middle East consumers prefer payment using e-wallet and contactless cards over QRcode payment The telecom companies and big technology companies are poised to win the race to capture payment market and stance a big threat to traditional banks. The merchants prefer to collaborate with marketplaces and Fintech companies to establish e-commerce presence and online payment than traditional banks Cross-border payments and open banking regulatory reforms are two major catalyst to increase digital payment adoption in the region As per the Visa-Cashless-Cities-Report by Roubini Thought Lab, the cashless economy bring multiple benefits to the UAE. It will have direct benefit (USD2.2 billion in in 2017) and expected additional indirect benefits such as creation of new jobs, 10.8%	Chan, J. Dayal,V. Denecker,O. Jain,Y. (2021). Roubini Thought Lab. (2018).

	growth in GDP, 0.08% productivity growth, and 0.05% wage growth between 2017 and 2032	
What is the role of Wage Protection System (WPS) in achieving cashless economy?	Wage Protection System (WPS) is an electronic system to transfer wages/salary of employees. It was introduced by UAE ministry of Human Resources and Emiratisation (MOHRE) and the Central bank in 2009 to oversee that employer make monthly salary to employees in time and as per the agreed contract terms. The WPS has enabled payment of salary and wages digitally to all sections of the population; both banked and unbanked which provide the foundation to achieve cashes economy.	Financial stability report by Central Bank of the UAE (2021).

Table 3: Summary of Findings

Key Theme	**Summary of Findings**	**Blue-Collar Worker Quote**
Payment habit	There are five key payment occasions for the blue-collar workers. The occasions are making retail purchases, top up their phone or internet services, sending money back home through exchange houses, paying for public transport fares, and making online purchases	'Even in the mornings before I start my shift, I buy some vegetables and cook and wait for bus to take me to work' "I use cash because not all shops accept my WPS (Wage Protection System) card"
Payment experience	The study reveals the pain-points of blue-collar workers during their payment occasions and their aspirations for better experience. For retail purchase, they have to carrying small denominations of cash and ensure availability of change. This is a constant concern. For telecom top-up, they visit retail outlets to top-up mobile	"I do not always have the right amount in coins" "There is no set date for a holiday. When I do get a day off, then half of it is spent in queues in front of ATMs, cashiers"

	balance and load data packs. Thy dislike visiting shops, instead aspire to receive offers directly from telecom providers. They are not able to use telecom provider services since they do not have a card for making online payment. On pay week, the blue-collar workers visit the exchange house to remit money back to their home countries. They find the remittance process time consuming and tedious. They find waiting in the queue in the exchange house, manual form filling and waiting for a couple of days to receive confirmation from beneficiary frustrating. They are also unsure, if the exchange house is offering them the best exchange rate. For public transport, they use NOL card to make payment, but waiting in the queue to top-up NOL card and carrying change to top-up in kiosks is a constant concern. For online purchase, blue-collar workers use Cash-On-Delivery (COD), since majority do not have a card to make digital payment.	'I hate to wait in the line to top-up my Nol card especially during weekends' "I do not like having to meet minimum order value for free delivery" 'I would like to have free mobile data…that is something we rely on and have to top up by spending a lot on it'
Willingness to adopt digital payment	The study confirms that the blue-collar workers are willing to adopt digital payment since it addresses their current payment challenges and offer better payment experience. They aspire for a digital payment solution that is linked to their salary, which is accepted in all retail outlets in the vicinity of labour camps. The digital payment solution should offer	'I dream of being able to swipe a card like I see others around me with better jobs. It will feel like I have also tasted the life of successful people, I see in Dubai'

	loyalty points that can be redeemed for retail purchase and mobile top-up, provide discounts, send SMS notification to track payment transaction and offer financial services such as peer-peer transfer and online payment.	"I do not find tailored or useful advice to budget my spends" "I do not feel the number of points given are generous enough" "I want to have greater choice in how I can spend / redeem my points"