

# How Direct Carrier Billing Can Help Merchants' & Operators' Revenues Grow

CHALLENGES & OPPORTUNITIES IN RAPIDLY  
CHANGING GLOBAL DIGITAL ECOSYSTEMS

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# Introduction

This report provides insights into the “Direct Carrier Billing” (DCB) field, highlighting the market trends and dynamics. It also compiles various data and evaluations from multiple market research companies that conducted research in the DCB area.

Today, mobile operators expand their payment capabilities to new digital and non-digital services to accelerate their mission to empower underserved regions’ digital economies. It’s also exciting for me to take the helm as the Group CEO of TPAY following Gaston Aussem’s decision to move into a board member role.

Born in Cairo, Egypt, in 2014, TPAY Mobile has made it easy for consumers across the Middle East, Türkiye, and Africa (META) to pay for digital services using their mobile number as the core. The company’s simple but transformative technology has enabled more than 18.6 million monthly active users across 31 countries in the region to make 1.6 billion monthly transactions on its platform.

We change the META region for the better by delivering cross-border micropayments at scale and significantly improving financial inclusion in the region. And it is this ability to enhance financial inclusion that appeals to me as a fintech innovator and mobile technology veteran. I wholeheartedly support the company’s mission of empowering digital economies.

At TPAY, our market experts have been working intensively on the industry’s significant shifts with various mobility players. Thanks to their efforts, in this crucial white paper, we take you on a journey of inspiration – but also tangible actions. This report provides a thorough analysis of the direct carrier

billing market with its trends, opportunities, and potentials, as well as challenges and risks posed for merchants and operators. Presently, DCB is mainly used for online purchases of digital content such as apps, games, and media. However, the biggest potential of direct carrier billing goes beyond digital content into the vast realm of physical goods.

Read the report and get on this exciting ride with us to grasp all the potential and make that change– we look forward to driving that change together with you!



**Işık Uman**  
CEO, TPAY Mobile



# 01

## DCB IN A NUTSHELL

### What is Direct Carrier Billing?

Direct carrier billing (DCB - alternatively referred to as Mobile Billing, Direct Operator Billing) is an online mobile payment method that permits consumers (having a subscription or pre-paid plan with a telecom operator) to make purchases directly charged to their cellular phone bill or pre-paid SIM card. DCB provides an optimised payment experience on mobile, tablet, laptop, and desktop. This alternative remote payment method allows customers to pay for digital or non-digital goods, products, services, and content with their mobile devices, anywhere.

### A Driver of the Financial Inclusion

A total of 5,18 billion people, almost 64,6% of the world's population, were registered as internet users at the start of Q2 2023. The vast majority of the world's internet users – 95% – use a mobile phone to go online at least some of the time. It is also a fact that more than two-thirds of the world's population now uses mobile phones. And the latest research figures indicate that smartphones today account for almost 4 in 5 of the mobile phones in use around the world today.<sup>1</sup>

In contrast to those figures, the latest available data -as of August 2022- for 147 countries reveals that less than 20% of the world's population owns a credit card. That means if you don't develop an alternative payment solution for the masses, reliance on cash will continue, and 80% of the world's population won't be shopping online.

On the other hand, Merchant Machine's investigation shows that 4 of the world's top 5 countries reliant on cash are not surprisingly in the Middle East, Türkiye, and Africa (META) region.<sup>2</sup> According to their analysis, Morocco is leading the way regarding cash reliance. 74% of all payments in Morocco are cash-based, with 71% of the population not having a bank account and only 0.2% owning a credit card, indicating that most Moroccan citizens still rely on physical cash for their transactions.

Fellow African countries Egypt and Kenya follow in second and third after Morocco. 60% of all payments in Egypt are cash-based, and 67% of the population doesn't own a bank account, whereas in Kenya, only 40% of payments are cash-based, and less than half the population is unbanked.

Number 4 is also an African country, Nigeria, whose population has low internet access (36%) and credit card use (3%).

Interestingly, 84% of the Moroccan population has access to the internet, so this preference for cash is likely not due to any internet issues. This number is 72 % in Egypt.

In such drastic contrast, Norway is closest to a completely cashless society. Cash accounts for only 2% of all payments in Norway, and 100% of its population own a bank account, with 71% also owning a credit card. It has some of Europe's highest card use per capita rates. Nevertheless, the majority of Norwegians prefer digital wallet use over global card schemes.<sup>3</sup>

1 <https://datareportal.com/global-digital-overview>

2 <https://merchantmachine.co.uk/the-countries-most-reliant-on-cash-in-2022/>

3 <https://www.adyen.com/payment-methods-guides/europe/norway>

**By leveraging the strength of the telco channel, DCB allows digital services providers to create not only higher conversion rates but also various opportunities to access the unbanked population.**

Digital wallets are essential tools contributing to decreased cash use, allowing users to make cashless payments via a portable device such as a mobile phone or a smartwatch. And this is where the direct carrier billing (DCB) also comes into the equation. Because it is another alternative payment method that does not require a credit card or a bank account, and this is especially important for cash-reliant countries.

DCB has already been a natural alternative to pay for content and services in the most digitally developed countries. This attractive payment option continues to gain ground, especially in the underbanked countries.

We do witness that mobile payment has already become a significant enabler of financial inclusion in Sub-Saharan Africa, both as a driver of account ownership and as a way for mobile payment, saving, and borrowing. World Bank's recent Global Findex Database (based on surveys conducted in 123 countries) on financial inclusion and digital payments supports that fact.<sup>4</sup>

Let us also remember that not just the financial inclusion of the unbanked population but also the changing consumption patterns and habits imposed by mobility help consolidate the digital economy at an unpredictably fast pace. As a combined result, something is changing in the global landscape: Users are now setting the pace of digital transformation as online businesses outperform expectations.

## How Does DCB Work for the Merchant?

The emergence of this payment concept can be traced back to 20 years ago when consumers used it to purchase background wallpapers, ringtones and icons on their mobile phones. Today, however, DCB services are much more extensive in their usability and compatible with almost any digital service provider type. This payment collection method is perfect for digital service providers -which include over-the-top (OTT) media providers, mobile games, and apps— as it is simple, secure and fast.

DCB uses consumers' mobile bills (pre-paid credit or post-paid monthly bills) as the means to pay for digital content or services. So, the cost is added to the consumer's mobile bill instead of the credit card balance. From the consumer perspective, the main benefit of DCB is its convenience.

The benefits of DCB for merchants are apparent too. By leveraging the strength of the telco channel, DCB allows digital services providers to create higher conversion rates and grasp the opportunity to access the unbanked population in emerging growth markets. (In the following sections, we shall also examine how ample that opportunity is.) In a nutshell, in the fast-growing digital services ecosystem, DCB gives merchants the ability to capture a more significant proportion of the massive revenues generated there. There's a vast range of services that the consumer can purchase by DCB, from streaming subscriptions to digital games, and mobile app extensions. And the list of channels where these transactions occur expands beyond smartphones and now includes computers, smart TVs, and even gaming consoles.

We also see that the DCB market is not limited to digital services; e-ticketing and physical products are also on the list. Therefore, it is in the best interest of online retail merchants to accelerate their partnership with DCB payment aggregators if they are keen to expand their customer base, even on the international level. Rather than making separate DCB arrangements with individual operators, merchants looking to scale quickly should partner with a DCB solution provider with regional or global capabilities.

## Does DCB Cannibalize Operator Revenues?

DCB is generally offered by telcos who act as intermediaries between content providers and consumers, taking a percentage of the transaction as a fee. Because it gives telecom operators a chance to grasp new revenue streams. This is good news for many operators facing a decline in ARPU and B2B revenues.

<sup>4</sup> <https://www.worldbank.org/en/publication/globalindex>

But, in some cases, operators may be hesitant to launch DCB. One of the worst reasons for an operator not to launch DCB as a product is fear of cannibalization, i.e., the fear of a loss in revenues from existing products caused by the introduction of DCB. This fear is based on the perception that mobile subscribers often have a limited budget to spend on their phones. Operators think that offering DCB for third-party services cannibalizes their revenues from traditional voice, SMS and data services.

However, market cannibalization is not the case here. Many case study reports have shown that launching app store DCB would not cannibalize the operator's revenues. Quite the contrary, it will yield an increase in revenues after launching DCB with the mobile app stores. A detailed analysis by Bango and Proximus on "app store carrier billing" showed that subscribers do not have fixed mobile wallet sizes. They spend additional money on app store content and in-app purchases.<sup>5</sup>

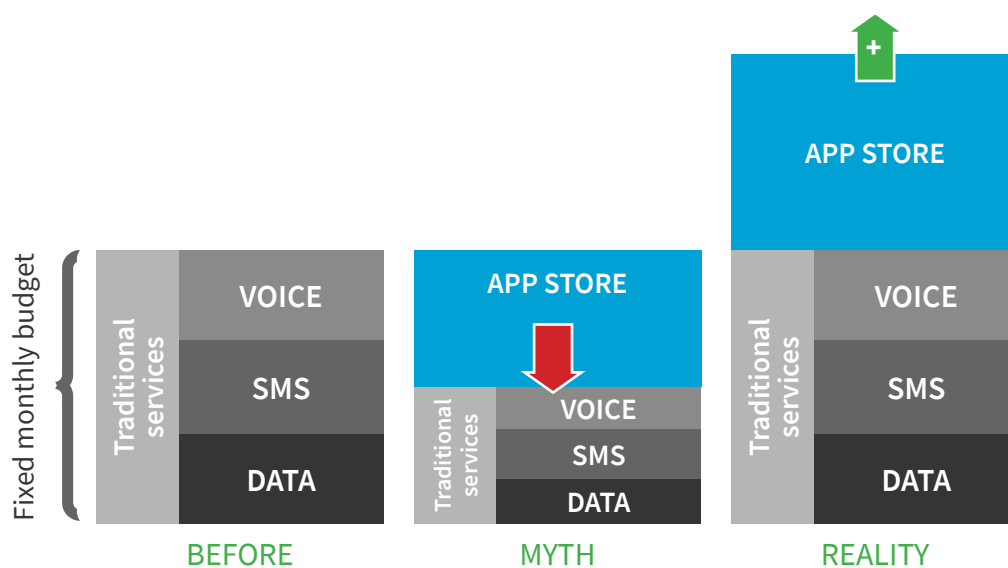
The Proximus data shows that there is no reduction in high-margin first-party services, simply the addition of incremental margin from additional payments for third-party services. Although some operators have hesitated to partner with DCB solution providers because of the required revenue-sharing, DCB is viewed as a "tighter-margin" payment option for telcos. Yes, margins are tighter, but operators will soon discover how app store carrier billing becomes a crucial part of their business and presents a massive future growth opportunity to offset conventional losses.

In addition, this report's findings indicate a positive impact on the pre-paid subscribers' behaviour from those using app store DCB. Customers of DCB are more engaged in their operator relationship and spend more than other customers on operator services, including voice, SMS and data.

In a nutshell, partnering with solution providers and offering DCB payment do not just give operators greater access to the digital media and app ecosystem, but they provide a whole suite of other ancillary benefits as well. As shown by many sources, mobile operators have all the advantages to elevate DCB and become major fintech companies as long as they protect DCB with the right cybersecurity solutions.

In some countries like Saudi Arabia and Nigeria, operators offer some services (like Netflix, for example) through carrier billing as an option. However, they have no carrier billing infrastructure to support purchases from app stores like Google Play and Apple Store. In fact, extending their DCB infrastructure to cover third-party store purchases will help the operators further increase their revenues. Research shows that subscribers who use DCB for third-party app stores are likely to be the highest spenders and most active users of mobile services. Therefore, operators eager to embrace more revenues from their (particularly pre-paid) subscriber base should have a complete DCB infrastructure and look after this cohort of subscribers to ensure they are free to use carrier billing for games and other entertainment purchases.

## Comparing usage between pre-paid subscribers that paid in Google Play with DCB to pre-paid subscribers that did not use DCB in Google Play



Source: "App store carrier billing: Transforming subscriber behaviour," Bango – Proximus Report, 2020.

## TPAY's direct carrier billing (DCB) service does not rely on banking infrastructure to complete a transaction. It only requires the user to enter their phone number to pay.

Once again, as traditional revenue, including texts and minutes, has been declining over time, one of the best practices for mobile network operators (MNOs) is to concentrate on identifying and leveraging new sources of revenue. Because the carrier billing potential for the operators is enormous, and market research supports that.

A new study from Juniper Research, a specialist market research company in identifying and appraising high-growth market sectors within the digital ecosystem, found that operator-billed revenue from carrier billing spend will reach \$13.8 billion by 2027. This is almost a 50% rise from \$9.3 billion in 2023.<sup>6</sup>

This rise is accelerated by MNOs' use of super bundling, which attracts new customers and revenue streams. Super bundling combines multiple content subscriptions (such as digital gaming, music, news, video, etc.) into one bill.

Juniper Research report author Michael Greenwood said: "The introduction of super bundling allows MNOs to monetise third-party subscription services, creating a more profitable model, and lowering the risk of subscriber churn, by tying users more deeply within the MNOs' ecosystem."<sup>7</sup>

### Where Does TPAY Mobile Fit In?

All these actors (merchants, telecom operators and customers) in the DCB ecosystem typically need a facilitator called "payment aggregators" in the payment process. TPAY, as the leading DCB payment provider in the META region, plays a vital role in smoothly connecting mainly digital service providers, through its DCB platform, with mobile network operators' billing, authenticating and reporting capabilities. Supporting merchants to offer DCB helps them acquire new customers and convert them into loyal, paying customers.

TPAY's DCB platform works like a seamless global payment collection method thanks to the standardised technical APIs. TPAY actually does sit in the middle and translate messages between the merchant and the telecom operator so that they can communicate.

DCB is a platform frequently used for digital content purchases such as mobile apps, games, music downloads, video content, and movies. But as we have already underlined, it can also be used for physical goods and



services. Depending on the type of good, service, or content offered, merchants can enable DCB payment via various channels such as the web, mobile app, sms and USSD. DCB supports both one-time payment and recurrent subscriptions. Accessible to any smartphone owner having a pre-paid or post-paid account with a mobile operator, TPAY's DCB solution does not rely on banking infrastructure to complete a transaction. It only requires the user to enter their phone number to pay. There is no need to share details such as name, card number, home address, etc. In the end, the amount due is simply added to the monthly subscriber's mobile phone bill issued by the carrier, or deducted from his/her credit balance. Extending the reach of the merchants from the digital goods and services into the physical world, TPAY's DCB platform has already been adopted by numerous industry leaders such as Digital Virgo, Tencent, MBC Group, Iyzico, etc.

<sup>6</sup> <https://www.juniperresearch.com/researchstore/operators-providers/carrier-billing-research-report>

<sup>7</sup> [https://www.juniperresearch.com/press/operator-billed-revenue-from-carrier-billing-2027?utm\\_source=juniper\\_pr&utm\\_campaign=pr2\\_carrierbill\\_providers\\_operators\\_jul23&utm\\_medium=email](https://www.juniperresearch.com/press/operator-billed-revenue-from-carrier-billing-2027?utm_source=juniper_pr&utm_campaign=pr2_carrierbill_providers_operators_jul23&utm_medium=email)



TPAY's simple but transformative technology also drives financial inclusion and access throughout The META – a region where many are unbanked, so credit and debit cards are not a realistic prospect. TPAY allows users to make purchases by charging payments to their mobile phone carrier bill or deducting them from their credit balance. This process is facilitated through a single API integration that enables local and global merchants to reach and accept payments from more than 700 million potential customers across the Middle East, Türkiye and Africa without needing a traditional bank account. Operators can connect their subscribers to thousands of leading digital service providers through TPAY's mobile payments platform.

This is how it works for website-based transactions: Upon purchase, the consumer chooses “Mobile Payment” among the payment options on the merchant’s website/app. Merchant starts the payment process by calling the “TPAY Common Payment Page.” The consumer is expected to enter their mobile number. TPAY sends an SMS message with a verification code to the consumer’s mobile phone. The consumer confirms the transaction by entering the code on the payment page and presses “Proceed.” Upon confirmation, TPAY initiates the billing process through its integration with the mobile operator. After verifying the user, the mobile operator charges them accordingly and notifies TPAY of the result of the payment transaction. Then TPAY notifies the merchant, and the payment process is completed. The merchant starts the delivery process.

Since TPAY has deep integrations with 44 network operators in 20 countries for approximately 1,000 merchants, it can automatically verify legitimate users and ask their carrier to charge their phone bill without

the user having to register the details of their account. Consumers don't have to take additional steps to use DCB as a payment method. TPAY's behind-the-scenes intermediary role enables the merchants to charge the users to their telco bill. Handling the technical, operational and regulatory issues of payment collection, TPAY takes the burden off the merchants while letting them concentrate on their core businesses.

*“TPAY is bridging the gap by removing the complexity and enabling merchants to grow further in Türkiye & MEA. We simplify the technical, contractual and commercial conditions so that merchants can focus on their business and promote their products and services while we take care of the checkout process and financial flows,”* says Işık Uman, the CEO of TPAY Mobile.

While DCB is often used in markets with low credit/debit card ownership, TPAY also focuses on developed markets, where expanding the customer base for digital content to consumers unwilling or unable to pay by credit/debit card is critical. TPAY's business is well established, with 1.6 billion monthly transactions and 18.6 million monthly user base.

TPAY has signed up major merchants in key digital content categories, e.g., Google for app stores, MBC Group for media, and Tencent and Riot Games for online gaming.

TPAY's management team has many years of experience across the payments industry. Uman adds: *“The strength of TPAY is first and foremost in its people. We bring together the most brilliant brains who work relentlessly to simplify our merchants' lives. On top of that, we have the largest network in the region, allowing us to provide access to more than 700 million consumers.”*



# 02 GLOBAL DCB MARKET

## M-commerce Revolution

Simply put, mobile commerce (m-commerce) is the use of a smartphone or other handheld wireless devices like tablets and cell phones to conduct commercial transactions online. The high penetration of smartphones around the globe has given rise to users attaching more emphasis on mobile-based payments and transactions. They have a positive effect on m-commerce market growth.

Due to the extensive move toward smartphones, customers increasingly use mobile phones or tablets for online monetary transactions.

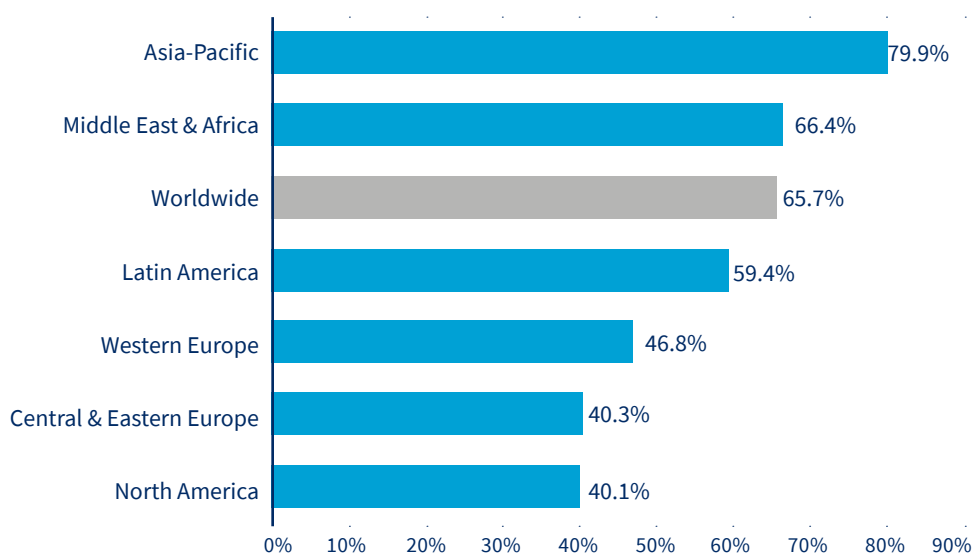
Insider Intelligence forecasts m-commerce sales to hit \$534.8 billion in 2024.<sup>8</sup> 2030 seems more promising. Polaris Market Research predicts global m-commerce market size is going to hit \$1,9 trillion in 2030 and is expected to grow at a CAGR of 27.0% during the forecast period of 2022-2030.<sup>9</sup>

A major contributor to the m-commerce revolution is the adoption of smartphones for online shopping. As of the last quarter of 2022, smartphones accounted for nearly 74% of global online retail website visits, according to the Statista report published on Feb 23, 2023.<sup>10</sup>

In comparison, tablets are apparently lagging in recent years. Eight years ago, m-commerce was almost evenly split between tablets and smartphones. Because many customers found it difficult to check out on the smaller screen of smartphones. As a result, conversion rates fell. But now, it is all history. Mobile technology is so advanced today that smartphones have become consumers' preferred shopping channel. According to Insider Intelligence, as of January 2023, smartphones account for 87.2% of m-commerce sales; m-commerce trends are synonymous with smartphone trends.<sup>11</sup>

As of January 2022, mobile commerce accounted for nearly two-thirds (65.7%) of all global e-commerce retail sales. According to a Statista research report, published by Stephanie Chevalier on Dec 21, 2022, the Asia-Pacific region exceeded this proportion with 79.9%. The second on the list was the Middle East & Africa, where mobile sales represented about 66.4 of every 100 digital sales. As can be seen in this graph, the use of mobile devices for online shopping was more prevalent in regions of the global south.<sup>12</sup>

### Retail m-commerce as percentage of total retail e-commerce sales worldwide in 2022, by region



Source: Statista, 2023

<sup>8</sup> <https://www.insiderintelligence.com/insights/mobile-commerce-shopping-trends-stats/>

<sup>9</sup> <https://www.polarismarketresearch.com/industry-analysis/m-commerce-market>

<sup>10</sup> <https://www.statista.com/statistics/568684/e-commerce-website-visit-and-orders-by-device/>

<sup>11</sup> <https://www.insiderintelligence.com/insights/mobile-commerce-shopping-trends-stats/>

<sup>12</sup> <https://www.statista.com/statistics/806323/mobile-commerce-share-total-worldwide-region/>



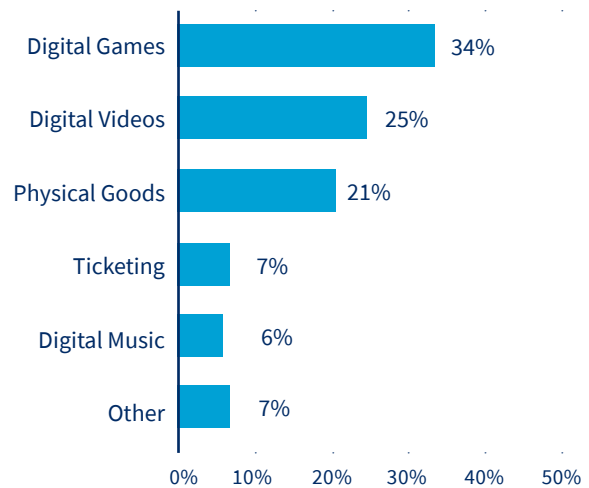
M-commerce's steady rise has led more retailers to launch mobile-specific experiences to maximize convenience for shoppers. For example, Walmart launched a "Text to Shop" feature in December 2022 to make it easier for shoppers to order via mobile. Walmart customers can now shop as easily and quickly as mobile texting.

## Global DCB Market Size and Growth

DCB is currently a tiny size of a vast m-commerce pie. But it is on the rise. All market research studies indicate that global DCB revenue is exploding as big digital media brands hook up to the operators. According to a recent report published in April 2023 by Juniper Research with the title "Carrier Billing: Regional Analysis, Key Verticals & Market Forecasts (2023-2027)," carrier billing expenditure will reach \$122 billion globally by 2027, rising from \$70 billion in 2023.<sup>13</sup> This means a growth of 74% in 4 years (2023-2027). The main reason behind this growth is that there are high investments in R&D activities backed by smartphone penetration. Also, the affordability of smartphones will reinforce the growing popularity of digital content platforms. However, revenue will not come from digital goods and services only. The digital (goods and) services opportunity is becoming saturated in some markets. However, there is still much to play for in the physical goods and real-life services. Therefore, this growth of 74% is said to be driven by carrier billing expanding beyond digital content and into physical goods and ticketing. That is why TPAY Türkiye (Payguru) is consolidating its position in the real-life applications of DCB.

According to the Juniper study, the top sectors using DCB in the years ahead will be as follows:<sup>14</sup>

## Top Sectors Using DCB in 2027



Source: Juniper Research, 2023

## Share of DCB Market by Region

According to Market Research Future (MRFR), a global market research company, Asia-Pacific is the largest DCB market region. Due to the increased internet penetration, it registers the highest CAGR for the forecast period. The Asia-Pacific region includes countries such as China, Japan, South Korea, India, and Indonesia, as well as others.<sup>15</sup>

The Asia-Pacific region has a high level of mobile phone penetration, with a large number of consumers using their mobile devices for various activities, including shopping, entertainment, and communication. This leads to a significant increase in demand for DCB services in the region.

The DCB market in Asia-Pacific is expected to continue dominating the global market in the coming years, driven by factors such as the increasing adoption of smartphones.

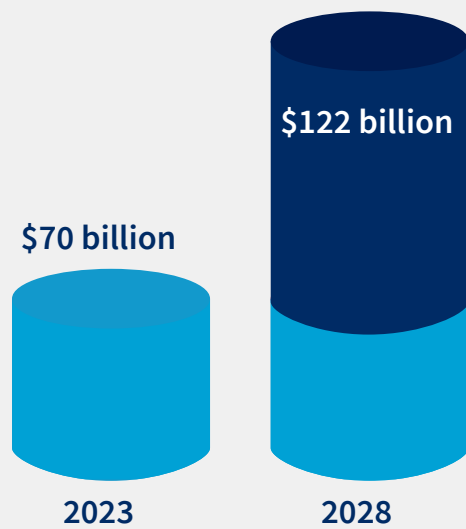
<sup>13</sup> <https://www.juniperresearch.com/researchstore/operators-providers/carrier-billing-research-report>

<sup>14</sup> [https://www.juniperresearch.com/researchstore/operators-providers/carrier-billing-research-report?utm\\_source=juniper\\_pr&utm\\_campaign=newcampaign\\_13&utm\\_medium=email](https://www.juniperresearch.com/researchstore/operators-providers/carrier-billing-research-report?utm_source=juniper_pr&utm_campaign=newcampaign_13&utm_medium=email)

<sup>15</sup> <https://www.einpresswire.com/article/629670774/direct-carrier-billing-dcb-market-anticipated-to-reach-usd-89-6-billion-at-a-14-20-cagr-by-2030>

## Global Carrier Billing Spend

Market forecast grow at 80%



Source: Juniper Research, 2023

Figures show that North America and Europe collectively contribute nearly half of the global DCB platform market. These regions seem to continue to flourish in their position owing to the rise in demand for trending digital content.

The MEA is the fastest-growing region regarding mobile connections, with a large percentage of the population owning smartphones. DCB has become more common for consumers to rely on mobile payments rather than credit or debit cards. This presents a clear opportunity for merchants to explore DCB as a payment method to achieve higher conversion rates.

### Analysis of DCB Market in MEA

The use of alternative payment tools has continuously been steadily on the rise in the MEA region. The 2022 Digital Payments Index report, published by Mastercard, showed how digital payments are developing in the MENA region at an accelerated pace. The best indicator is the fact that 85% of the respondents state that they have used at least one emerging payment method in the past twelve months, while 19% of the consumers admit to using less cash in the past twelve months. Also, 64% of MENA consumers (in contrast to 61% globally) increased the use of at least one emerging digital payment option, including DCB. As credit card ownership is not widespread in these countries, with only a small percentage of the population owning a credit card, alternative payment options come along with convenient and reliable alternatives.

DCB is one of the most potent alternatives among digital payment options. In 2021, analysts from Evina, experts in DCB protection, and Telecoming, experts in DCB implementation, developed the first Direct Carrier Billing (DCB) Index, created to measure the development of this market in MEA.<sup>16</sup> The rating aimed to provide market players with a comprehensive overview of the current state of the DCB business and its overall potential. The two companies renewed the research in 2022. And the 2022 report based on new findings was published on 28 December 2022 with the title “DCB Index 2022: Insights into the Direct Carrier Billing Market in the Middle East and Africa”.<sup>17</sup>

The DCB Index established a ranking based on the score achieved by each country. It is presented on a scale from 1 to 5, with 1 as the lowest indicator and 5 being the most advanced pointer. The ranking is based on four main factors: mobile players’ actions to prevent fraud on DCB, their bent to innovate in DCB, the country’s overall DCB penetration, and the DCB growth potential.

Results show that South Africa is the leading country in the ranking, with the highest score (3.4 out of 5). Morocco and the United Arab Emirates stand out in the Middle East and Africa region, surpassing the previous year’s leader, Bahrain. These are the most favourable countries for DCB growth in the MEA region. Nigeria and the Democratic Republic of Congo also rank highly, with 3.1 and 3.0, respectively.

This research provided the market with a standard indicator of the industry. It showed that local mobile operators and merchants are working together to promote DCB as an effective payment method in the region. It also indicates that MEA is an extraordinarily dynamic and very mature region regarding mobile payments. As Roberto Monge, Telecoming’s Chief Operations Officer, revealed: “The average level of innovation in DCB increased in 2022 by 13% compared to 2021 with the enlargement of new uses of this payment technology, such as sports subscriptions, that has grown considerably during 2022. And the overall fraud prevention of mobile players increased by 0.2 points compared to 2021, showing a collective willingness to safeguard this technology. The countries analysed have demonstrated their commitment to Direct Carrier Billing as a strategic growth lever for the so-called mobile economy in the region.”<sup>18</sup>

As the study proved, MEA looks like a valid breeding ground for the development of DCB. Therefore, efforts by all parties must continue to realize the full potential of DCB. Payment solution providers should go along with mobile operators and brands that wish to develop the market in a safe, sustainable, and profitable way.<sup>19</sup>

<sup>16</sup> <https://www.gsma.com/membership/resources/direct-carrier-billing-index-reveals-the-most-favorable-countries-for-dcb-growth-in-the-mea-region/> <sup>17</sup> <https://www.evina.com/dcb-index-2022-insights-into-the-direct-carrier-billing-market-in-the-middle-east-and-africa/>

<sup>18</sup> <https://www.telecoming.com/blog/the-2022-edition-of-the-dcb-index-is-now-live/>

<sup>19</sup> <https://www.evina.com/wp-content/uploads/2022/12/INFOGRAPHIC-2022-DCB-INDEX-EVINA-TELECOMING.pdf>

The MEA is the fastest-growing region regarding mobile connections, with a large percentage of the population owning smartphones. And consumers rely more on mobile payments rather than credit or debit cards.

David Lotfi, CEO of Evina explained that “the overall fraud prevention of mobile players across the Middle East and Africa region has increased by 0.2 points in 2022 compared to 2021, showing a collective willingness to safeguard the powerful payment tool that is Direct Carrier Billing.

Businesses have yet to understand that DCB can become even more powerful than credit cards and that mobile operators already have all the advantages to elevate DCB and become the biggest fintech companies. DCB is without a doubt a major opportunity for the African continent alongside mobile money, if protected with the right cybersecurity solutions.”

Now, let’s look at how some countries in the report performed. The figures provided below are primarily algorithmic-based estimations calculated from data collected by Evina and Telecoming for the DCB Index 2022.

### SOUTH AFRICA (3.4)

South Africa is leading the ranking with the highest score. This is thanks to all mobile operators deploying DCB, with an overall decrease in the average fraud attempts rate compared to last year. For the South African carrier billing ecosystem to thrive, all players must do two things: implement the right cybersecurity protection solutions and continue promoting innovation so that businesses can earn new revenues by offering new digital and personalized uses. According to the analysis of Telecoming, published in the report “DCB Evolution and Trends 2022-2026,” South Africans currently spend an average of \$4.2 per month on digital content. By 2026, this average figure will reach \$5.5/month/user.<sup>20</sup>

### MOROCCO (3.3)

With mobile subscribers of 47 million and smartphone penetration of 137%,<sup>21</sup> Moroccan mobile players keep increasing the deployment of DCB and their investment in cybersecurity measures to protect this payment technology from cybercriminals. Although carrier billing usage has increased significantly, organizations still have room to pioneer innovative uses of DCB.

### IRAQ (3.2)

Iraq hasn’t recorded many changes in its DCB protection, penetration, and innovation. Mobile players supporting carrier billing need to invest in innovation and use the right anti-fraud solutions to access the revenue generator that is DCB.

### UNITED ARAB EMIRATES (3.2)

DCB is a modern payment method in the United Arab Emirates. All mobile operators offer their subscribers DCB to pay for various services. Customers can use their mobile accounts to purchase third-party products or services, including Apps, Games, Books, Movies, and others from third parties. Amazon, App Store, Google Play, Netflix, and Riot Games are a few OTT providers present in the market offering direct carrier billing. Yet major organizations still have to implement adequate protection. There is room for DCB to grow in the United Arab Emirates.

### NIGERIA (3.1)

Low bank penetration rates and high mobile acceptance led to the massive adoption of mobile money in Nigeria, the largest economy in Africa. The country with 22 million mobile subscribers is also at the forefront of mobile payments, with payment types such as mobile money jumping more than 3000% in early 2022. With a penetration of 93%, smartphones play a central role in payment, making DCB a popular method that can grow at the same or greater rate than mobile money only if mobile operators secure DCB transactions with the most sophisticated technology. The lack of adequate cybersecurity protection is a large part of what is preventing the rapid growth of DCB.

### QATAR (3.1)

Qatar is showing solid signs of innovation when it comes to mobile payments. Operators like Ooredoo have enabled payroll services (salary transfers) via mobile money, symbolizing great potential for DCB innovation. Customers with Android devices can also pay their bills and recharge their accounts using Google Pay via the

<sup>20</sup> <https://www.telecoming.com/blog/south-africans-choose-direct-carrier-billing-to-pay-for-digital-entertainment/>

<sup>21</sup> <https://www.statista.com/statistics/1258462/mobile-cellular-subscriptions-by-billing-method-in-morocco/>



Ooredoo App. However, as DCB is heavily deployed in Qatar, this needs to be accompanied by adequate protection against fraud attempts.

### TUNISIA (3.1)

Tunisia, a country with a low rate of financial inclusion (less than 40%) but a high penetration rate of mobile phones (+125%), continues to show a solid commitment to developing the use of DCB. In 2021, TPAY announced a strategic app monetisation partnership with HUAWEI, enabling local and global developers to accept DCB payments for their apps and services through HUAWEI Mobile Services (HMS) In-App-Purchases (IAP) kit. The partnership is live in seven countries within the MEA region, including Tunisia with Ooredoo. The Central Bank of Tunisia (BCT) launched the electronic bill payment aggregation platform called Payscale, which may soon include DCB.<sup>22</sup> To increase the national carrier billing potential, players need to make investments in cybersecurity and innovation their top priority.

### DEMOCRATIC REPUBLIC OF CONGO (3.0)

Although Congo remains a primarily cash-based ecosystem, mobile payments are the second most popular payment method, and DCB is widely deployed. Live sports content and video-on-demand services are offered in Direct Carrier Billing with a telephone package including internet access. While some players have the

right anti-fraud solutions in place, others still need a more robust solution to deal with potential fraud surges. A stronger cybersecurity solution would allow DRC to explore innovative uses of DCB.

### SAUDI ARABIA (3.0)

DCB is a popular method in Saudi Arabia to pay for digital purchases via mobile, especially content such as mobile games and in-game content. According to Statista, the average transaction size with carrier billing in Saudi Arabia amounted to 4.8 U.S. dollars in May 2021.<sup>23</sup> Mobile operators and merchants are working together to make it possible to purchase various services and products (e.g., Microsoft through this payment technology. Boku launched DCB in 2021 with Microsoft in the country.<sup>24</sup> Microsoft Gamers and PC users are now able to speed through checkout by using their phone number as their on-file payment method. Saudi Arabia is on the right track to exploring more innovative DCB uses. More effective cybersecurity solutions will help the country experience sustainable DCB growth in the coming years.

### EGYPT (2.9)

Although mobile payments like mobile money saw transactions surge by 160% in 2021, Egypt is still only at the beginning of the significant expected growth for DCB. Players must get absolute cybersecurity protection, starting with all mobile operators, for DCB payments to experience sustainable and steady growth. TPAY first availed DCB payment for Google Play with Vodafone Egypt in 2020, enabling the operator's subscribers to purchase from Google Play and charge the payments as DCB. In 2023, TPAY extended Google Play DCB payment into Etisalat Egypt in partnership with Bango.<sup>25</sup> The partnership allows Etisalat customers to pay for in-app purchases and service subscriptions through their mobile phones, bringing Google Play Store's content within reach of more than 60% of Egypt's population who do not have access to traditional card payment methods.

### KENYA (2.8)

Kenya is still reaping the benefits of a more digitized economy after the COVID-19 pandemic, with a surge in digital payments such as mobile money, opening more doors for DCB deployment and innovation in this context. Kenya has slightly strengthened its DCB fraud prevention this year. Yet the country still has a long way to go to make it a preferred secure payment method.

<sup>22</sup> <https://www.afro-impact.com/en/tunisia-the-central-bank-launches-payscale-an-electronic-bill-payment-platform/>

<sup>23</sup> <https://www.statista.com/statistics/1123360/saudi-arabia-average-carrier-billing-transaction-value/>

<sup>24</sup> <https://www.fintechfutures.com/techwire/boku-launches-direct-carrier-billing-with-microsoft-in-south-korea-saudi-arabia/>

<sup>25</sup> <https://www.globenewswire.com/news-release/2023/05/11/2666576/0/en/Bango-TPAY-and-Etisalat-Egypt-launch-Direct-Carrier-Billing-with-Google-To-Enable-IN-APP-Purchases-and-Subscriptions-for-over-30-million-Subscribers.html>

TPAY, through its partnership with Bango and Etisalat, announced the launch of DCB with Google for over 30 million subscribers. The partnership allows customers to be able to pay for in-app purchases and service subscriptions through their mobiles.

### OMAN (2.8)

The Oman market seemed to have disregarded the growth of carrier billing in 2022, yet key players have shown great initiative in the past months to fuel its development and innovation to create a more profitable market, such as implementing new DCB payment flows. However, most businesses need to realize the potential of expanding the protection of DCB transactions as a significant revenue source for the entire market. A handful of mobile operators have taken the right steps to clean up the market from malicious attempts, raising the likelihood of greater DCB security improvements in 2023.

### BAHRAIN (2.7)

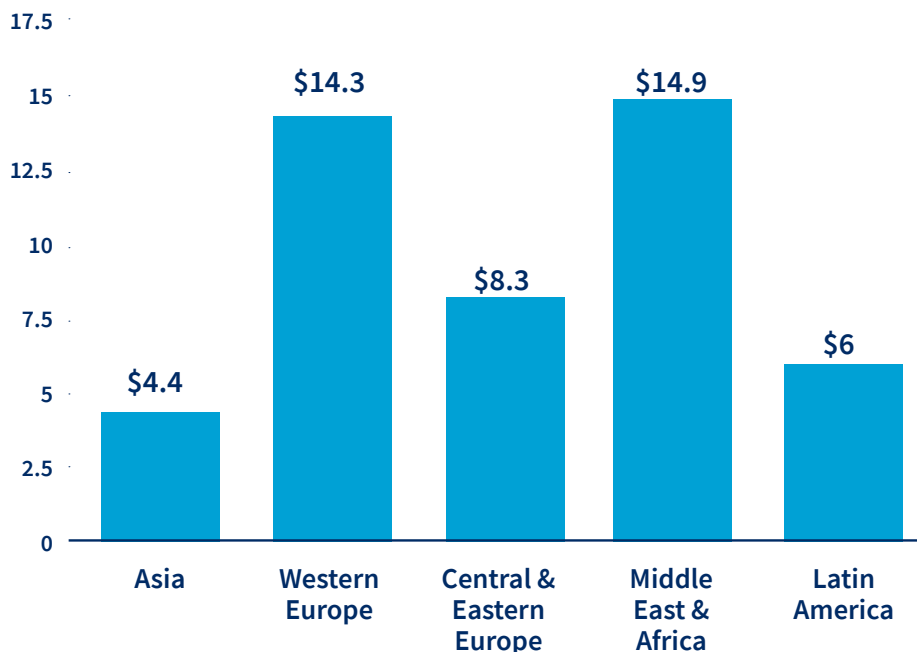
Bahrain led the 2021 edition of the DCB Index. Although local operators have invested in innovation during the analysed period, the loss of points is due to the slight decrease in fraud prevention among DCB payment

channels and some players' discontinuation of DCB activities.

As the study showed, carrier billing has proven to be a popular method in the Middle East & Africa to pay for digital purchases via mobile. In fact, the region has some of the most penetrated mobile markets in the world. By the end of 2018, nearly half of the 25 countries in the MENA region had unique subscriber penetration rates of 70% or more.<sup>26</sup>

In April 2020, the average revenue per paying user (ARPPU) with carrier billing in the Middle East and Africa amounted to \$14.9, making the region leader globally. The figures have been in the Statista report titled "Global carrier billing transaction ARPPU 2019, by region" published by Stephanie Chevalier on Feb 22, 2022. The report underlines that carrier billing is a common method, especially for the underbanked population of the region in participating in the economy by having access to digital payment.<sup>27</sup>

### Average revenue per paying user with carrier billing worldwide in 2019, by region (in U.S. dollars)



Source: Statista, 2023

<sup>26</sup> <https://www.statista.com/statistics/1121710/average-revenue-per-paying-user-carrier-billing-region/>

<sup>27</sup> <https://www.statista.com/statistics/915656/preferred-banking-channels-african-countries/>



## 03

# TRENDS, CHALLENGES & OPPORTUNITIES FOR CARRIER BILLING

### Key Market Drivers

Five years ago, cash on delivery was the leading payment method preferred by online consumers in Middle Eastern and African countries. The COVID-19 outbreak in 2020 has changed this perspective, as online shopping platforms and regulators encouraged the use of cashless payment. Sustaining social and economic activities was paramount. And mobile operators have been considerably instrumental during the pandemic in providing the reliable connectivity needed to sustain such activities. The result was the reduced use of cash and the gained momentum of digital payments. Today more users purchase online. The improvement can also be attributed to the increasing security and trust levels of alternative payment methods.

Other factors that have an impact on the mobile payments industry and drive carrier billing growth in the MENA are as follows:

#### i. Consumer Behavior

- The MENA region has some of the most penetrated mobile markets in the world: By the end of 2021, there were 412 million unique mobile subscribers. It is predicted to reach 456 million in 2025, with a unique

subscriber penetration rate of 68% or more. It means a CAGR of 2.5% between 2021-2025.<sup>28</sup>

- The number of mobile internet users in the MENA region is forecasted to reach around 362 million in 2025, up from 307 million in 2021. The mobile internet penetration rate in the region is predicted to reach about 54% of the population by 2025.<sup>29</sup> Gulf Cooperation Council (GCC) countries have the highest mobile internet penetration rates in MENA. In 2022, almost 98% of the population in Bahrain accessed the internet through their mobile devices, either via browser or via app. Approximately 96% of the United Arab Emirates population had access to the internet via their mobile phone.<sup>30</sup>
- The data in the Internet World Stats show that in July 2022, 79.7% of the Middle East population (compared to 69% of the world's total) were internet users.
- Average data consumption by mobile internet users in the MENA region is 7.8 GB per month in 2021, predicted to rise to 38 GB per month by 2028.<sup>31</sup>
- Segments such as social media, music, and streaming services have been gaining popularity in recent years. They are expected to contribute significantly to the digital media market's growth in the coming years.

28-29 GSMA Report, "The Mobile Economy Middle East & Africa, 2022," [https://www.gsma.com/mobileeconomy/wp-content/uploads/2022/05/GSMA\\_MENA\\_ME2022\\_R\\_WebSingles.pdf](https://www.gsma.com/mobileeconomy/wp-content/uploads/2022/05/GSMA_MENA_ME2022_R_WebSingles.pdf)

30 <https://www.statista.com/statistics/1190158/mena-mobile-internet-users-forecast/>

31 <https://www.statista.com/statistics/1273847/mena-mobile-data-traffic-per-smartphone/>

4G adoption in MENA will decline in 2024 for the first time, while 5G adoption will reach 10% and drive carrier billing. As of January 2022, there have been 15 5G network deployment by 9 operators in 6 GCC Arab states.

## ii. Technological Advances

- Research from the GSMA (in 2022) has found that 5.4% of the GDP in MENA was generated by mobile technologies and services in 2021. The mobile industry's contribution to GDP in the MENA region will reach just over \$276 billion by 2025 (up from 255 million in 2021), with countries benefiting from better productivity and efficiency resulting from increased mobile services.
- The mobile telecom sector in the Middle East is booming with rapid technological advances. This boom not only enlarges the mobile consumer base but also accelerates economic growth and industrial production. Total operator revenues and investment are forecasted to reach \$66.5 billion in 2025, up from \$63.3 billion in 2021.
- 4G was MENA's leading mobile technology, with almost 270 million connections at the end of 2021. Today the mobile industry is still in the nascent stages of the 5G era. However, the number of countries that have launched commercial 5G services is steadily increasing. Research from the GSMA (in 2022) has found that 73% of operator capex of \$37.3 billion between 2022 and 2025 will go to 5G investments. As a result, 4G adoption will decline in 2024 for the first time, while 5G adoption will reach 10%.
- 5G is now available in the Middle East, driving carrier billing in the region. According to the Global Mobile Suppliers Association (GSA), there has been 15 5G network deployment by nine operators in six GCC Arab states as of January 2022. Operators in the GCC countries such as Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates have become global pioneers in 5G, with regulatory bodies awarding spectrum and mobile operators deploying some of the world's first next-generation networks.
- In 2025, there will be 116 million 5G connections (excluding licensed cellular IoT) across the region – 2021 adoption rate of 1% is expected to grow to 17% by 2025.
- B2B is the largest incremental opportunity in the 5G era, with digital transformation projects underway across industries.
- To fully exploit these opportunities, 5G leaders in MENA are investing in new capabilities, prioritising edge computing. This ties in with operators' efforts to grow revenues beyond core telecoms services.







## Opportunities for DCB in the New Digital Ecosystem

The main stakeholders in the global DCB market ecosystem include merchants, direct carrier billing service providers, mobile operators and end users. And, of course, government organizations, regulatory bodies, and industry associations are also in the ecosystem with the mission of enabling the healthy growth of the DCB industry. Merchants integrating DCB for easier payment collection from their users include giant companies such as Google, Apple, Amazon, Netflix, Spotify, Facebook, and Badoo etc. These merchants use direct carrier billing for various products and services such as apps, games, music & video streaming. DCB platform & service providers include companies such as Bango, Boku, Digital Virgo, Telecoming, and TPAY. These companies build partnerships with mobile operators such as Vodafone, Airtel, Etisalat, etc., and offer merchants convenient payment collection solutions.

### i. Gaming

The convenient nature of this technology helped consolidate its position as the preferred payment tool in sectors such as games and videos. Because games and video services usually require fast online buying options from emotion-driven users and are almost totally consumed on the same device purchased. That is why

DCB allows the user experience during the purchase to be quick and as mobile as the bought service itself.

The inaccessibility and the lack of popularity of credit cards among a significant percentage of the population in the world's developing regions, such as Asia Pacific and the Middle East, help the high growth of carrier billing. Any mobile user can adopt this payment solution quickly on a smartphone. Furthermore, let us not forget that a large percentage of gamers are minors (teenagers) who do not have a credit card but own a smartphone.

We also see that carrier billing enables storefronts and merchants to bill across a range of connected gaming devices. People are now quite comfortable making purchases through smart TVs and game consoles such as Xboxes. So, if a user wants to pay for content such as movies or games through their smart TV, they enter their phone number, and the charge appears on their phone bill or is deducted from their credit balance.

According to Omdia (formerly Ovum), of the three primary media horizontal segments – games, music, and video–, the video will see the most significant gains over the next five years, especially in the telco-over-the-top (OTT) bundling arena. Video games will, however, continue to hog more than half of all carrier-billed digital goods and services revenue, largely thanks to app stores – which make up the biggest wedge of the carrier billing market.

## ii. Video on Demand

According to Digital TV Research, OTT is on the rise. The UK-based market research company predicts that the Middle East & North Africa OTT TV episodes and movies will generate \$5.69 billion by 2028, double from \$2.83 billion in 2022. Türkiye, Israel and Saudi Arabia together will account for 55% of the region's revenues by 2028. The 13 Arabic-speaking countries will generate \$2.47 billion in 2028, up from \$1.28 billion in 2022.<sup>32</sup>

Digital TV Research predicts global advertising-based VOD (AVOD) revenues for TV series and movies will more than double from 2022 to 2028, reaching \$91 billion. In its latest report, the research media outfit expects AVOD revenues for TV series and movies will increase by \$50 billion from the \$41 billion recorded in 2022.<sup>33</sup> AVOD will bring in \$1.55 billion in MENA by 2028 – up by \$1 billion in 2022. Türkiye will supply 62% of the 2028 total, with Israel bringing in another 11% and Saudi Arabia 10%.

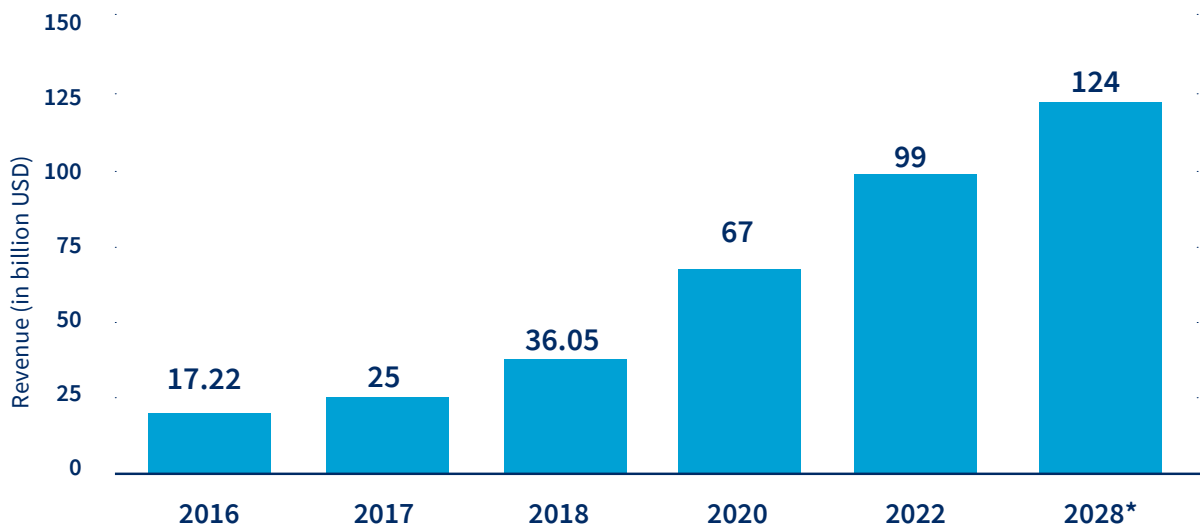
Subscription-based VOD (SVOD) seems to be the revenue driver for OTT TV and video. Statista data<sup>34</sup> on the global subscription video-on-demand (SVOD)

market showed that worldwide revenue more than tripled between 2017 and 2022, growing from 25 billion U.S. dollars to 99 billion U.S. dollars. Further rapid growth is predicted to continue in the future. By the year 2028, the SVOD revenue is expected to surpass 124 billion U.S. dollars. SVOD revenue in the MENA region will reach \$3.82 billion in 2028, up by \$1.8 billion from \$2.03 billion in 2022.

Simon Murray, Principal Analyst at Digital TV Research, commented: “We forecast 42 million SVOD subscriptions by 2028, double from 21 million at end-2022. Netflix will have 11 million subscribers by 2028. Disney+ started in the Arabic countries, Israel and Türkiye in 2022 – with 7.22 million subscribers expected by 2028.”

The top eight platforms in the 13 Arabic countries are Netflix, Amazon Prime Video, Icflix, StarzPlay, Iflix, Wavo, beIN Connect and Shahid VIP – retaining 95% of SVOD subscribers. According to the forecast, Netflix is set to gain 4.22 million subscribers in Arabic-speaking countries by 2024, followed by StarzPlay (2.98 million) and Shahid VIP (1.81 million) paying subscribers.<sup>35</sup>

### Subscription video-on-demand (SVOD) revenue worldwide from 2016 to 2028



Source: Statista, 2023

<sup>32</sup> <https://digitaltvresearch.com/mena-ott-revenues-to-double/>

<sup>33</sup> <https://www.digitaltveurope.com/2023/04/24/avod-revenues-is-to-more-than-double-by-2028/#close-modal>

<sup>34</sup> <https://www.statista.com/statistics/483096/svod-revenue-worldwide/>

<sup>35</sup> <https://sla-digital.com/blog/carrier-billing-market-focus-the-middle-east/>



## Ongoing Challenges and Risks in the DCB Space

DCB has gone from a market that appeared in severe decline to one that has managed to reinvent itself for the new digital age. However, it is still facing significant challenges.

### i. Hesitant Operators

In the previous sections, we have clarified that its increasingly low margins have mobile operators worried about its worth. Carriers thought that DCB - as a low-margin opportunity- could cannibalise their revenues; therefore, it is not a very attractive option. Partnering with solution providers and offering DCB services give mobile operators in fact, greater access to the digital media and app ecosystem. However, operators reluctant to adopt DCB were among the most significant barriers to this alternative payment method.

As explained by many market research companies, profit margins could be a little tight on DCB, but cannibalisation is not the case. Quite the contrary, if the operators want to offset their conventional revenue losses, they need to look at long-term opportunities and take immediate action to partner with other payment ecosystem players to offer DCB services. Staying hesitant and not adopting DCB could cost them dramatically in the long run. This is why Omdia (formerly Ovum), a London-based market research company, in its “Global Carrier-Billing Forecast Report: 2018–23”<sup>36</sup> recommends carriers focus on

putting in place a robust, e-commerce-grade payment infrastructure and a merchant-friendly rate card that can put them in a position to seize new opportunities as they arise. Billing gives the operators a continued stake in the digital media value chain. It is among the strongest cards they hold in partnership negotiations with influential OTT players.

Secondly, operators should also realise that the value of DCB is not only in direct revenue – that may be the least valuable aspect for operators. According to Omdia’s report, the real value for operators lies in indirect KPIs, such as boosting subscriber retention and ARPU and improving customer loyalty– factors that can move the revenue needle for carriers much more than any direct money from billing. Many of the capabilities that carriers need to develop in support of DCB, such as mobile ID authentication and know-your-customer (KYC), have the potential to generate new revenue streams. There is also valuable user data resulting from carrier billing about who is most likely to make purchases and when that can be exploited for marketing campaigns.

### ii. Security Concerns

Fraud related security concerns are another major roadblock to the expansion of the direct carrier billing industry. Worries concerning the protection and the security of consumer data are really quite high and prioritized. So, these concerns have a significant impact on the adoption of the DCB methods, especially when fraudulent digital techniques appear to be on the rise.

36 <https://omdia.tech.informa.com/OM009553/Global-Carrier-Billing-Forecast-Report-201823>



Both operators and content aggregators should take consumer concerns seriously because consumers are worried about being maliciously misled into clicking on a web page that is different from what they perceive. And there are also some cases where hackers try to take consumers' identity or confidential information while purchasing through their smartphones.

Luckily, a range of robust security solutions is coming into the market to prevent these types of fraud attempts. Some of them assess an end-user's interactional behaviour with a particular page and then, using predefined algorithms and machine learning, decide whether or not to allow the transaction that the user is making. And there are also malicious app detection features of some solutions, which detect apps that initiate transactions.

Therefore, understanding how these emerging markets regulate and protect human data is critical if you are primarily operating in developing regions. So, some questions including data compliance obligations should be addressed to feel secure in terms of ensuring that no personal data has been leaked and cannot be used by a third party in any way. Whether that data should be

Understanding how these emerging markets regulate and protect human data is critical. So, some questions should be addressed to feel secure in terms of ensuring people that no personal data has been leaked and cannot be used by a third party in any way.

locked down and anonymized, particularly when a hacker or a thief retrieves any data breach, must be another essential question to ask.

### iii. Low Customer Awareness

Another hurdle holding back the adoption of carrier billing as a payment mechanism is insufficient customer awareness. DCB sits in a very competitive landscape of mobile payments. There are very popular digital payment brands across the globe: Google Pay, ApplePay, PayPal, SamsungPay, Venmo, Paytm, and Alipay (which are very popular in China). People easily recognize those brands but may have yet to hear of DCB. Because DCB is not a recognizable global brand or concept. It does not have branding prerequisites; it does not have its own logo.

Payment service providers do not, in fact sell a DCB brand. They sell the ability to buy something through a carrier's phone bill or credit balance. This is one hurdle that DCB intermediaries face today. So, increasing customer awareness of DCB services is still an important challenge. For storefronts, merchants and network operators to maximize their revenues from DCB, they must widely market the availability of it to end-users and encourage them to use that service to purchase goods and services. Marketing departments may not prioritize promoting its advantages to consumers and storefronts. But the issue has to be addressed. We have seen from studies that Fortumo, an Estonian mobile payment company, has done<sup>37</sup> that where there is an increase of raising awareness among users of DCB, we're seeing better purchases and less complexity to use that despite high credit card usage as we have witnessed in developed markets like the US and Canada.

<sup>37</sup> [https://ctmfile.com/assets/ugc/documents/PCPOS\\_Fortumo\\_how\\_to\\_avoid\\_cannibalization\\_between\\_online\\_payment\\_methods\\_-\\_white\\_paper\\_by\\_fortumo.pdf](https://ctmfile.com/assets/ugc/documents/PCPOS_Fortumo_how_to_avoid_cannibalization_between_online_payment_methods_-_white_paper_by_fortumo.pdf)



## 04

# WHY DCB IS KEY FOR MERCHANTS' GLOBAL REACH

## Merchants' Expansion into International Markets

As merchants explore ways to internationalize their services in the Middle East, Africa, Türkiye and Asia, they look for solutions that help them do so at the lowest possible cost and in the easiest way. DCB provides no-cost, simple, secure and scalable market expansion. With a single integration to mobile operators, merchants embrace the chance to easily accept and scale mobile payments globally and expand into new markets. And that means new customers and increased conversion rates. To make this possible, merchants need to partner with a payment aggregator, who - with a single connection- allows merchants to connect to multiple mobile operators on an international level but also has a local presence to respond to technical, cultural, regulatory, financial, and contract-wise specificities of each region. In this way, eliminating the complexity of the process and settling payments for merchants and offering them a single point of contact to manage their global financial flow, the payment aggregator takes a heavy burden off the merchants' shoulders. And the merchant only needs to connect via an API to expand its business internationally without incurring any additional cost in the technological, physical or legal infrastructure.

These international transactions offer tremendous growth potential for merchants. According to the Bank of England, the total flow of global cross-border payments could be over \$250 trillion by 2027. Cross-border payments involve money transfer between countries using methods such as bank transfers, alternative payment methods, card payments, and mobile payments. The funds undergo complex processes and approvals before reaching their intended destination. Historically banks have been at the centre of these global cross-border payments markets. Capitalizing on the digital environment and access to cutting-edge technologies, fintechs outpace traditional banks in developing solutions for cross-border transactions. DCB is one such solution. In the case of DCB, carrying out international payments is achievable too. For this to be possible, merchants generally need to have payment services partners who have a local presence in different countries, as in many cases, a local company presence is required to be able to carry out invoicing activities.

## Monetising Underbanked & Youth

One of the biggest opportunities DCB presents for merchants wishing to expand into international markets is to monetise the unbanked & underbanked

TPAY's high degree of expertise as a solution integrator in the payment industry enables all local or international merchants to offer flexible, secure, and fast payment options. Thanks to TPAY's DCB platform, global merchants do not need to establish a local presence in their new target country.

populations, especially in emerging markets. These are the places where most people have a smartphone or a secondary smartphone but don't have a bank account. And these countries have a low penetration of credit/debit card ownership. So, consumers will likely use their smartphones while making purchases there. That means unbanked and underbanked people are prime demographics to target with DCB offerings.

Another opportunity is monetising younger demographics. Statistics show that smartphone ownership and usage among 16-24-year-olds are increasing rapidly. There is even an increased smartphone usage and ownership among 8-11-year-old users. Therefore, more content is being catered for and directed at that demographic. Apparently, since these users are financially underaged, they are legally excluded from card ownership. Reaching these users through DCB and using their smartphones makes a lot of sense in that context.

## Reaching the Unreachable

Even in relatively mature markets like Türkiye with high ownership of credit cards, consumers may still refrain from using bank accounts or cards and sharing their sensitive data, no matter how small or big the payment is. Most of them may be worried about privacy while handing in card details. Some do not like long check-out flows with login or form requirements. Plus, let's not forget millions of people with no credit cards. These people have been previously unreachable for merchants to accept payment from. What the merchants needed was an alternative payment method that would entirely give those consumers security and freedom in their payments while allowing a fast and straightforward shopping experience. The DCB had that potential. (Not everyone has a credit card, but almost the entire population owns a mobile phone.) It allows anyone with a pre-paid or post-paid mobile subscription to make immediate purchases by charging payments to their mobile phone carrier bills or credit balance. This has been an excellent opportunity for merchants wishing to expand their customer base

reach into markets where a large proportion of the population remains unbanked.

TPAY deployed its mobile payment expertise in more than 30 countries in the META region: Egypt, United Arab Emirates, Saudi Arabia, Nigeria, Morocco, Türkiye, etc. Our local presence allows us to understand the cultural, technological and regulatory specificities of the countries in which we operate. With a single API, we connect merchants to over 720 million consumers through 100 carriers worldwide, making them easily accept and scale mobile payments globally.

So, if you wish to reach more customers and also expand into emerging markets in the Middle East, Türkiye and Africa as well, you may wish to get in touch with TPAY team and tell them about the content or services you would like to launch, and which type of billing you are interested in (one-time purchases, or recurring subscriptions). And connect to TPAY's platform with a flow suited to your needs and start monetizing right away. Bear in mind that TPAY -with deep knowledge of local markets and regulations acquired over the years- has been granted official licenses by the regulatory bodies in the relevant countries.

TPAY's high degree of expertise as a solution integrator in the payment industry enables all local or international merchants to offer flexible, secure, and fast payment options. Thanks to TPAY's DCB platform, global merchants do not need to establish a local presence in their new target country. TPAY's platform connects merchants with telecom operators' billing, authentication, and data analysis capabilities. The fact that the transaction is entirely secured and does not require any personal or banking information – with no login or lengthy forms makes the check-outs faster and the customers more loyal. The democratic nature of the DCB appeals to many consumers, and it is another attractive characteristic of the DCB. Barbaros Özbugutu, ex-CEO of Iyzico, who is a partner company for TPAY Türkiye (Payguru), expressed it this way: "In a country where almost half the population remains unbanked, the very high rate of smartphone penetration is a great opportunity to advance financial inclusion nationwide. That's why, through our partnership with TPAY Türkiye



on DCB, we do not just contribute to broader and more democratic payment coverage -compared to traditional payment methods like credit cards- but also help support Türkiye's economic development.”

## Available for Both One-Time Purchases & Subscriptions

Another feature of DCB is its flexibility in terms of solution offerings. Depending on the type of good, service, or content offered, merchants can activate different types of carrier billing, including -not just web and mobile site payments but- also in-app payments, subscriptions, memberships, and due payments.

Although DCB is most commonly deployed for billing in the digital content industry (such as online games, streaming services, and OTT platforms with on-demand content), it can also be used in e-commerce for physical goods and services. Adoption of TPAY Türkiye's (Payguru) DCB platform by numerous industry leaders (such as Burger King, Blue TV, Canlı Maç Takip, Digital Virgo, E-Kent, Exxen, Fenix, İyzico, PassoLig, Tencent, Tramer, Wix, etc.) is the best proof that DCB is extending the reach of the mobile payments into the physical realm.

Accessible to any smartphone owner having a pre-paid or post-paid account with a mobile operator, Payguru's DCB solution does not rely on banking infrastructure to

## Adoption of TPAY Türkiye's DCB platform by numerous industry leaders is the best proof that DCB extending the reach of the mobile payments into physical realm.

complete a transaction. It only requires the consumer to enter their phone number to pay. There is no need to share details such as name, card number, home address, etc. Ultimately, the amount due is either deducted from their credit balance or added to their next monthly mobile bill.

### General Advantages of DCB

Lastly, let's summarize the advantages of direct carrier billing for merchants and operators:

- Access to unbanked or underbanked customers through the widespread use of mobile phones
- Expands your reach to TPAY's mobile subscribers in the Middle East, Türkiye and Africa (META) region
- Gives merchants advanced reporting tools to support their decision-making
- Utmost customer privacy -no sensitive data transmitted
- Available for both one-time purchases and recurring or subscription-based payments
- Lower abandonment rates and higher conversion rates due to fast and simple checkout experience
- Flexible and customized workflow models tailored to the merchant's needs
- Eliminates the need for international content providers to have a local presence
- DCB-specific details are handled by a licensed payment aggregator with full compliance
- Leaving the difficulties to the payment company, it lets merchants concentrate on their core businesses
- Presents a massive future growth opportunity to offset conventional losses of operators
- Customers of DCB spend more than other customers on traditional operator services such as voice, SMS and data.
- Provide operators with a whole suite of other ancillary benefits.

## CONTACT

### TPAY MOBILE HEAD OFFICE

1509 Fifteen Floor,  
Thuraya 1, Tecom, Dubai,  
United Arab Emirates  
Tel: +971 436 16 339  
[www.tpaymobile.com](http://www.tpaymobile.com)

### CAIRO OFFICE

30A, Ibn Malka St.  
First Settlement Service Zone  
First Settlement, New Cairo  
Cairo /Egypt  
Tel: +20 (0)2 22460081

### ISTANBUL OFFICE

Reşitpaşa Mahallesi  
Katar Caddesi, Teknokent  
ARI 1 Binası, No:2/5/23  
34398 Sarıyer  
Istanbul/ Türkiye  
Tel: +90 (0)212 2854600

### LAGOS OFFICE

7b Olu Holloway Road  
İkoyi, Lagos /Nigeria  
Tel: +234 1280 2330  
+234 809 419 0896

### RIYADH OFFICE

Office #111, 7961 Takhassusi Road 3367  
Al-Mohammadeya,  
Riyadh,  
Postal Code 12363  
KSA  
Tel: +966 507163325

For more information, please visit the  
TPAY website at [www.tpaymobile.com](http://www.tpaymobile.com)

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