



LATEST TRENDS ON DIRECT CARRIER BILLING, A CONSOLIDATED MARKET WITH GREAT GROWTH POTENTIAL

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Market Data 2019-2024
Europe & Spain

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1. FROM E-COMMERCE TO M-COMMERCE: DCB AS THE IDEAL PAYMENT METHOD FOR A NEW MOBILE ECONOMY



Connectivity, mobility and new technologies are the cornerstones of the digital economy, a reality with many challenges still to face and new developments to offer.

The mobile ecosystem is involved in a constant innovation, boosted by new technologies and a more extensive offer of services and contents. The industry evolves focused on finding responses to modern consumer patterns in all fields affected by the digital universe. At the same time, mobile is a key driver of socio-economic development and growth worldwide.

A high number of internet users are now choosing to browse through their mobile devices. In 2019 the number of internet users via mobile phone will be 3,986 million, representing around 52% of the world's population. In Europe, mobile internet already reaches nearly 95% of the population¹.

In this new economic scenario ruled by mobile, consumer models have changed. Digital content and services are the driving force behind a significant business turnover. The new models of the relationship between brands and users are based on mobile.

¹ Digital 2019 Overall Digital Overview v01 of Hootsuite and We are social / <https://marketing4ecommerce.net/usuarios-internet-mundo/>

DCB IS THE PERFECT PAYMENT TECHNOLOGY FOR A NEW MOBILE ECONOMY

The monetization of contents and services through any device is a critical factor of the digital economy. Compared to other models, DCB is the most suitable payment model for this new environment and the only one able to offer the best solution for impulsive and mobile purchases. Direct Carrier Billing technology reduces the payment process (x5 compared to credit cards). It allows reaching more users and offers them

a more natural, safer and faster checkout. Users can acquire the content they wish in a single click, without needing to introduce personal or banking details. They can see their expenditure reflected in their phone bill. The user experience is notably improved. For operators, this simplification of the process promotes user acquisition and multiplies conversion rates.



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Direct Carrier Billing model is designed to keep the user in the same environment with a simple, safe and fast paying process. When there is a desire of watching a film, downloading a game or buying a magazine, payment cannot be a barrier. DCB technology avoids having to take the user out of a native environment, avoids also having to enter 16 digits of a card on a screen smaller than 6 inches and avoids having to fill out personal data. It is ultimately a payment technology able to drive the industry and the mobile economy to the next level.

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Roberto Monge

Chief Operations Officer at Telecoming



DIRECT CARRIER BILLING IS THE ONLY PAYMENT TECHNOLOGY:

- 01** ABLE TO CHARGE
AND REGISTER A USER
IN 1 CLICK
- 02** ABLE TO OPERATE
REGARDLESSLY
OF THE DEVICE
- 03** WITH MORE THAN
100% PENETRATION
- 04** WITH NO REDIRECTIONS
OF ANY TYPE
- 05** ABLE TO INCREASE
CONVERSION RATES
UP TO 70%

2. EVOLUTION OF DIRECT CARRIER BILLING IN THE DIGITAL CONTENT MARKET

The global digital content market will register a turnover of almost \$249,211M in 2019 and will continue growing in the coming years (10% per year). Out of this total, more than \$64,893M (26%) corresponds to the digital content business in Europe².

New habits of digital content consumption driven by immediacy and mobility, boost the growth of the DCB (Direct Carrier Billing) as a preferred mobile payment method, especially for micro-payments and impulsive purchases. DCB will experience a remarkable expansion in the segments of games, videos and ePublishing, including digital newspapers and magazines, eBooks and other editorial productions.

Over the five coming years, the share of digital content paid through DCB worldwide will double. Globally, the invoicing of digital contents paid via DCB in 2019 will surpass \$36,550M and it will reach \$89,888M in 2024, with an average annual increase of around 20%.

Currently, just 15% of the content market is invoiced via DCB, but new developments and regulatory commitments will raise this figure to 22.5% in 2024.

In Europe, the digital content billed through the monthly invoice market will register a y-o-y average over 20% within 2024. In 2019, it will reach \$628M, while the forecast for 2024 DCB turnover is over \$22,033M.

In the next few years, this payment system will be consolidated as the preferred option for future generations of mobile users. It will become an easy and effective solution to really satisfy consumers' needs, including the spending of digital contents and the purchase of products and services via the Internet.

G1 .- VIA ALL CARRIER BILLED CONTENT. EUROPE VS WORLD³

	2019	2020	2021	2022	2023	2024
TOTAL EUROPE	\$8,628M	\$10,639M	\$12,942M	\$15,621M	\$18,505M	\$22,033M
WORLD TOTAL	\$36,550M	\$44,885M	\$54,542M	\$64,894M	\$75,985M	\$89,888M

² Juniper Research Digital Content Business Models 2018-2023

³ Juniper Research. Direct Carrier Billing Deep Dive Data & Forecasting 2019-2024

MOBILE PAYMENTS ARE GROWING IN EUROPE

The rapid growth of mobile devices' integration is another significant ally of Direct Carrier Billing. Europe is the second region in the world with the highest number of mobile devices. For DCB, smartphones are, by far, the preferred device for users, since they represent 66% of the global DCB sales.

Generally speaking, smartphones dominate consumer spending on digital content. However, it will tend to fall in Europe: in 2024, the digital content consumed and paid through DCB on a European mobile will barely exceed 45%. This changing trend is because European users will gradually begin to trust in tablets and other connected devices that will gain space and popularity in this market.

The aggregation of connected devices at home and other environments increases the number of opportunities to consume content and pay for it through the carrier invoice. DCB opens the door to the real monetization of the Internet of Things.

In the particular case of Spain, in 2019 smartphones are the most frequently used mobile device. More than 66% of consumer spending contents and DCB will be made via mobile devices. This figure is 10 pp (percentage points) over the European average. However, tablets and other types of devices in Spain will be around 15% and 18%, slightly less than the global standard in Europe.





G2.- DCB SHARE BY TYPE OF DEVICE. EUROPE AND SPAIN

EUROPE	2019	2020	2021	2022	2023	2024
SMARTPHONE	56%	54%	52%	50%	47%	45%
TABLET	18%	20%	21%	21%	21%	21%
OTHER DEVICES	26%	26%	27%	29%	31%	33%

SPAIN	2019	2020	2021	2022	2023	2024
SMARTPHONE	67%	65%	64%	63%	63%	62%
TABLET	15%	17%	17%	18%	18%	18%
OTHER DEVICES	18%	18%	19%	19%	19%	20%

In the global digital content market, invoicing with credit and debit cards continues to reach almost 5 out of 10 transactions. This proportion will gradually decrease over the next five years, mainly thanks to the increased availability of new payment solutions such as DCB and its acceptance from content operators and producers.

3. GAMING, VIDEO AND EPUBLISHING, THE MOST RELEVANT INDUSTRIES FOR DCB

Due to its speed and simplicity, DCB is the perfect payment technology for games, videos and ePublishing markets. These three industries will account for 80% of the DCB European market in 2019 on 2024.

In this sense, regarding the content type, games and videos will still be the main sectors in digital content sales paid by DCB. They will also see the most significant increase in the next few years. This pattern reflects the consolidation of a trend - the migration of content from the real world to the virtual world, driven by a growing demand for personalized experiences available at any time and from anywhere.

The video game sector is expanding its presence beyond traditional consoles. Access through mobile devices is increasing at the same time when streaming presence is growing to satisfy preferences for developers and gamers. In the coming years, it is expected to be, alongside the video, the segment with the highest sales increase in the digital content market. Income from digital games billed through DCB starts at \$19,708M in 2019 and will reach \$41,767M in 2024, with an average y-o-y growth of 16.2% (worldwide figures)⁴.

In Europe, gaming invoiced via mobile operators will grow 119% in the next five years, from over \$4,588M in 2019 to more than \$10,049M in 2024.

Furthermore, videos will have the highest annual increase in the content industry. Currently, only 7.1% of digital video content is invoiced via DCB. In the majority of developed markets, this percentage is foreseen to remain under 10% in the future, and recurring payments via credit or debit cards will represent the vast majority. The rate is usually higher in emerging markets with a more unbanked population. Moreover, contents of digital video invoiced around the world via DCB will start at over \$6,707M in 2019 increasing to more than \$21,981M in 2024, with an average annual increase of 27%.

⁴ Juniper Research Direct Carrier Billing Deep Dive Data & Forecasting 2019-2024



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Lots of significant players are relying on the technology of Direct Carrier Billing to offer better user experience and to reach new customers. They will be clear promoters of this market in which year-on-year growth is expected to be over 20% in Europe.

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David Murillo

Product Director at Telecoming

The sector of ePublishing presents very positive predictions, thanks to the continuous migration of content editors from paper to digital formats and, in particular, to the upward trend of subscriptions. The most innovative digital media who are aware of their readers' needs have already started to see an increasing trend in their income from subscriptions.

Within the framework of this trend, DCB is a preferred payment option. The subscriber increasingly opts for paying for good quality, verified and reliable content. It is expected that the content of ePublishing invoiced via DCB at a worldwide level will increase from about \$1,685M in 2019 to \$6,549M in 2024, with an annual average increase of 32%⁵.

Digital contents grouped in the lifestyle sector (sports, dating, weather, results of lotteries, etc.), maintain an upward trend, thanks to the proliferation of entertainment and useful apps. It is expected that lifestyle content invoiced via DCB will increase from \$3,666M this year to about \$8,475M in 2024 (average annual raise of 18%).

Finally, music revenue invoiced through operator payment will increase in the coming years (average 22% y-o-y growth) from almost \$1,885M in 2019 to over \$5,023M in 2024.

⁵ Juniper Research Direct Carrier Billing Deep Dive Data & Forecasting 2019-2024

G4.- DCB MARKET SHARE BY TYPE OF DIGITAL CONTENT. SPAIN VS EUROPE⁶

GAMES	2019	2020	2021	2022	2023	2024
EUROPE	57%	54%	53%	51%	50%	49%
SPAIN	52%	50%	48%	47%	47%	46%
VIDEO	2019	2020	2021	2022	2023	2024
EUROPE	16%	17%	18%	20%	22%	24%
SPAIN	18%	18%	18%	18%	19%	19%
MUSIC	2019	2020	2021	2022	2023	2024
EUROPE	6%	6%	6%	6%	7%	7%
SPAIN	3%	3%	4%	4%	4%	5%
LIFESTYLE	2019	2020	2021	2022	2023	2024
EUROPE	13%	12%	12%	11%	9%	8%
SPAIN	14%	13%	13%	12%	11%	10%
EPUBLISHING	2019	2020	2021	2022	2023	2024
EUROPE	8%	10%	11%	12%	12%	11%
SPAIN	12%	15%	17%	18%	19%	19%

⁶ TELECOMING and Juniper Research

ZOOM SPAIN

The pattern of digital content invoicing in Spain via DCB will increase from \$509M this year to more than \$1,201M in 2024, with a similar upward trend to the European market. Nevertheless, the Spanish market of paid contents via the mobile bill still represents just around 6% of the total in Europe.

Currently, more than half of digital contents invoiced via DCB in Europe are games, (both online and downloaded). In Spain, this sector also represents a significant share of the business volume, and it will experience a slight decrease from now until 2024.

The video sector, including both films and video clips, series and other television content, will continue to

gain share in Europe. In Spain, it accounts for 18% of the content (above the European average) and it will remain at a standstill over the next five years. Lifestyle content, now at around 13% in Europe and 14% in Spain, will lose weight in both regions.

The ePublishing content sector is showing an upward trend and is becoming more significant year after year. In this industry, Spain is above the European average, and it will gain five points from the total content market. Thus, it will represent 18% of the content market from 2024, while in Europe that average share will be 11%.

Both in Spain and Europe, music is the content with a lower presence in DCB.

G2 .- DIGITAL CONTENT BILLED TO DCB VIA MOBILE DEVICES. SPAIN VS EUROPE⁷

	2019	2020	2021	2022	2023	2024
TOTAL EUROPE	\$8,628M	\$10,639M	\$12,942M	\$15,621M	\$18,505M	\$22,033M
TOTAL SPAIN	\$509M	\$613M	\$735M	\$872M	\$1,023M	\$1,201M

⁷ TELECOMING and Juniper Research

4. PSD2: BEYOND DIGITAL CONTENT



With the recent European directive, (PSD2) business possibilities have been multiplied in the new scenario of the mobile economy.

The new Payments Services Directive (PSD2) opens the door to exceptional growth, allowing in addition to the digital content market, the use of carrier billing for ticketing services, transport, parking and donations.

The new directive and its transposition into natural or local law set limits on amounts: €50 in one shot and €300 accumulated monthly.

Digital ticketing is a growing market. More and more users are choosing digital devices to buy tickets for sports, shows, entertainment or transport.

In Europe, at the end of the year, about 430M users will choose an electronic device to buy or access services that require a ticket. In the next five years, this figure will increase by 38% to reach about 593M European users. The old continent will grow above the rest of the world that, in 2023, will have 26% more digital ticketing users. The global digital ticketing market will be around \$167M in 2019 and will exceed \$198M in 2023. The Spanish market represents 6% of the European business, and at the end of 2019, it will almost reach \$10M. The estimated growth in the 2019-2023 period is 24%, 6 points above the European growth.

Collectively it will become a global market of about 31,000M transactions per year, 7,000M in Europe. European digital ticketing will almost double the number of purchases in 2023 to exceed 13,200M sales. Spain will register in 2019 more than 471M acquisitions of tickets in digital format and will be around 900M annual transactions in 2023.

MOBILE GAINS STRENGTH IN THE DIGITAL TICKETING MARKET

In 2019, smartphone weights 24% of the global digital ticketing market volume. However, the portion will tend to grow in the coming years and will account for almost 40% of the total size. Mobile devices will, therefore, manage transactions worth nearly \$333,671M in 2023.

In Europe, the mobile phone has more prominence today, taking 27% of the market, which means a turnover of \$45,693M in 2019 and an estimated growth of 90% in the 2019-2023 period. This means that more

than 4 out of 10 euros of digital ticketing will be purchased via mobile.

The figures for Spain are still above average. The mobile owns 33% of the digital ticketing turnover in 2019 and will account for 47% of the total purchases. In economic terms, the Spanish mobile ticketing market will be around \$3,321M in 2019 and will grow 79% in the 2019-2023 period, to exceed \$5,939M.

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On the one hand, DCB's implementation is continually increasing. On the other, new services and new developments to fight fraud are emerging. All this will confirm the exciting potential of DCB in Europe, and specifically in Spain.

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Roberto Monge

Chief Operations Officer at Telecoming



However, if there is an income path with growth expectations still challenging to quantify, this will be the IoT (Internet of things). IoT promises a connected world, with millions and millions of devices transmitting information, from apps at cars to industrial machinery. In a year, 95% of new electronic products will be connected. Spain is the fifth country in Europe to invest in IoT, behind Germany, the United Kingdom, France and Italy. This market will grow at a rate of almost 18%

per year, similar to the European average. The turnover will surpass \$25,658M in 2020, according to Telefonica Foundation.

Furthermore, innovation in specific payment developments for subscription services and advances in cybersecurity are some of the most important challenges that technology companies will have to solve.

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