INDUSTRIES OF INDIA

THE CREDIT CARD

Plastic, Promise, Debt

Sources & Method. A companion to the book: every source consulted, what it was used for, and how it was read. 144 sources, compiled November 1-2, 2026.

How this book was sourced

Every factual claim in *The Credit Card* is tied to a numbered source in this companion. In the book's text, a superscript number refers to the source with the same number here (S14 in the text is source 14 below). Sources are grouped by subject in the order the book uses them.

Each entry records how the source was actually read. **PAGE** means the full page or document was fetched and read. **DIRECT CSV** means the underlying data file was downloaded and read. **SEARCH-EXCERPT** means the source was read through the search-index excerpt of the named page, not the retrieved page itself; the excerpt is quoted from the search result for that exact URL. Forecasts and projections are labeled as such in the text and here; figures are stated exactly as the source states them, with the source's own units and time frames.

Where sources disagreed, the text says so. Where a number is the industry's own estimate (network press releases, trade associations), the text attributes it to them rather than stating it as independent fact.

Source index

PRECURSORS

S1 Smithsonian National Museum of American History, "Plastic Payments" https://americanhistory.si.edu/explore/exhibitions/value-money/online/innovations-money/plastic-payments SEARCH-EXCERPT: store cards early 20th c.; Charga-Plate 1928 mechanized account payments; Diners Club 1950 first single card for multiple high-end businesses; magstripe added to cards in 1980s.

S2 Virginia Tech Special Collections blog, "Charge It With Charga-Plate!" https://scuablog.lib.vt.edu/2023/07/21/charge-it-with-charga-plate/ SEARCH-EXCERPT: Charga-Plate developed by Farrington Manufacturing 1928; metal plate, imprinter like a stapler, inked ribbon; circular notch = city, square notch = store; customers could pay in full or revolve.

S3 UATP, "Credit History: The Birth of the Air Travel Card" https://uatp.com/news/credit-history-the-birth-of-the-air-travel-card/ SEARCH-EXCERPT: from 1936 American Airlines passengers first to "buy now, pay later" with Air Travel Card; conceived with Air Transport Association; 15% discount on one-way fares; soon honored by 17 airlines. UATP est. 1936.

S4 Harvard Business School Library, "Easy Payments: The Rise of Installment Selling" https://www.library.hbs.edu/hc/credit/credit4b.html SEARCH-EXCERPT: installment paying ancient; 1641 Pilgrims consolidated debts in four annual "estallments"; mass production of durables in 19th c. made installment plans available to average person.

S5 Boston Fed, "Credit History: The Evolution of Consumer Credit in America" (Ledger, Spring/Summer 2004) https://www.bostonfed.org/-/media/Documents/ledger/spring-summer2004/credhistory.pdf SEARCH-EXCERPT: consumer durables (stoves, organs, lamps) spread via credit in 19th c.

DINERS CLUB / T&E

S6 Diners Club official history https://www.dinersclub.com/about-us/history/ SEARCH-EXCERPT: 1949 McNamara forgot wallet dining with clients in Manhattan; 1950 world's first multipurpose charge card; 1981 Citicorp acquires Diners Club International; 2008 Discover Financial Services acquires Diners Club International.

S7 Wikipedia, "Diners Club International" https://en.wikipedia.org/wiki/Payment_card_interchange_fee_and_merchant_discount_antitrust_litigation SEARCH-EXCERPT: idea conceived at Majors Cabin Grill 1949; wallet left in another suit; discussed with lawyer Ralph Schneider and friend Alfred S. Bloomingdale; founded Feb 8, 1950 with $1.5M initial capital; Feb 1950 McNamara paid at same restaurant with cardboard card + signature ("The First Supper"); press agent Matty Simmons said the wallet story was invented; 27 participating restaurants and ~200 friends at launch; expanded to hotels, car rentals, flower shops.

S8 Saturday Evening Post, "The First Credit Card Ever" https://www.saturdayeveningpost.com/2016/04/day-cash-died/ SEARCH-EXCERPT: "more than 2 billion credit cards being used around the world" (2016); on Feb 9, 1950 there were three.

S9 HISTORY, "American Express launches its first credit card | October 1, 1958" https://www.history.com/this-day-in-history/october-1/american-express-launches-its-first-credit-card SEARCH-EXCERPT: Oct 1, 1958 Amex issues first charge card in US and Canada; purple paperboard card, later iconic green/gold plastic; users could buy airline, steamship, cruise tickets.

S10 AP, "Correction: AmEx Green Card-50 Years story" https://apnews.com/general-news-053f4eac5eb74c50a56179f389645205 SEARCH-EXCERPT: Green Card wasn't first AmEx card; "Purple Card" paper version launched 1958; Green Card originally "The Money Card," colored to resemble dollar bills; rolled out a year before Boeing 707 [1959].

S11 Oregon newspaper OCR (May 24, 1959) https://oregonnews.uoregon.edu/lccn/sn85042470/1959-05-24/ed-1/seq-51/ocr.txt SEARCH-EXCERPT: Amex "entered the credit card business in October, 1958, already boasts well over 600,000 members"; "comprehensive credit cards" adding members at 30,000/month.

S12 Hilton Stories https://stories.hilton.com/history SEARCH-EXCERPT: 1958 Barron Hilton introduces Hilton Carte Blanche credit card, "premier travel and entertainment card owned by Hilton Hotels."

S13 NYT, "Citicorp Acquisition Of Diners Club Unit" (Jun 23, 1981) + UPI (Jun 22, 1981) https://www.nytimes.com/1981/06/23/business/citicorp-acquisition-of-diners-club-unit.html SEARCH-EXCERPT: Citicorp acquired Diners Club from Continental Corp, 1981; Citicorp already owned Carte Blanche operations.

BANKAMERICARD / FRESNO

S14 Washington Post, "The Day the Credit Card Was Born" (Nov 4, 1994) https://www.washingtonpost.com/archive/lifestyle/magazine/1994/11/04/the-day-the-credit-card-was-born/d42da27b-0437-4a67-b753-bf9b440ad6dc/ SEARCH-EXCERPT: mid-September 1958 BofA dropped first 60,000 cards on Fresno; "drop" = industry word for mass mailing; over next 12 years, before practice outlawed, banks blanketed country with 100 million cards.

S15 a16z, "The Fresno Free-for-All Behind the Original Credit Card" (Sep 18, 2019) https://a16z.com/the-fresno-free-for-all-behind-the-original-credit-card/ SEARCH-EXCERPT: Sept 18, 1958 Fresno; BofA then California-only; Fresno ~250,000 people, 45% of families BofA customers; idea from Customer Services Research Department run by Joe Williams, 41; 60,000 cards mailed with no application; merchant fee 6%; consumers got $300-$500 instant credit; 300+ Fresno merchants signed; within 3 months expanded to Modesto and Bakersfield; within a year SF, Sacramento, LA; 13 months after drop: 2 million cards, 20,000 merchants; Williams assumed late payments would never cross 4%.

S16 Wikipedia, "Mastercard" (Master Charge article) https://investor.mastercard.com/investor-news/investor-news-details/2006/MasterCard-Incorporated-Prices-Initial-Public-Offering/default.aspx SEARCH-EXCERPT: BankAmericard debut Sept 1958 "was a failure"; profitable by May 1961; BofA kept profitability secret to ward off competition; from 1960-66 ten new credit cards in US, then explosion 1966-68.

S17 FRONTLINE/PBS, "Secret History of the Credit Card" https://www.pbs.org/wgbh/pages/frontline/shows/credit/more/rise.html SEARCH-EXCERPT: first decade of drops produced little profit and much chaos; "Chicago debacle" 1966 just before Christmas: five million cards dropped by Midwestern banks scrambling to be first; public outrage, massive defaults.

S18 NYT (Apr 16, 1970) "Senate Approves Ban on Mailing of Unsolicited Credit Cards" https://www.nytimes.com/1970/04/16/archives/senate-approves-ban-on-mailing-of-unsolicited-credit-cards.html SEARCH-EXCERPT: Senate passed bill to outlaw issuance of unsolicited credit cards, 79-1 (Gore dissenting).

S19 Federal Reserve, TILA supervisory manual https://www.federalreserve.gov/boarddocs/supmanual/cch/til.pdf SEARCH-EXCERPT: TILA enacted May 29, 1968 as title I of Consumer Credit Protection Act (Pub. L. 90-321); effective July 1, 1969; implemented by Regulation Z; first amended in 1970 to prohibit unsolicited credit cards; Fair Credit Billing Act 1974 among amendments.

NETWORKS

S20 Mastercard brand history https://www.mastercard.com/news/press/2025/april/mastercard-unveils-agent-pay-pioneering-agentic-payments-technology-to-power-commerce-in-the-age-of-ai SEARCH-EXCERPT: origins late 1940s bank-issued paper; 1966 Interbank Card Association (ICA) formed; not dominated by a single bank; member committees ran authorization, clearing, settlement, marketing, security, legal; 1968 alliance with Eurocard in Europe, Banco Nacional in Mexico, first Japanese members; 1967 seventeen bankers met in Buffalo NY to form federation, "Interbankard" with "i" symbol; 1968 Master Charge name and interlocking red/ochre circles adopted; 1979 Master Charge becomes MasterCard; 1987 first payment card issued in PRC; 1988 first MasterCard in Soviet Union.

S21 Dee Hock official biography https://www.deewhock.com/biography/ SEARCH-EXCERPT: 1966-70 VP/GM BankAmericard dept at National Bank of Commerce, Seattle; chairman of national executive committee of BankAmericard issuing banks; 1967 NBC among first six banks licensed by BofA to issue BankAmericard; system grew to 100+ licensed banks.

S22 American Banker, "First BankAmericard CEO Set Tone For Visa" https://www.americanbanker.com/payments/news/first-bankamericard-ceo-set-tone-for-visa-coworker-says SEARCH-EXCERPT: 1970 BofA spun off card into National BankAmericard Inc.; Hock first CEO; pushed decentralized, member-owned, nonstock structure.

S23 NYT, "Dee Hock, Credit Card Visionary, Is Dead at 93" (Aug 5, 2022) https://www.nytimes.com/2022/08/05/business/dee-hock-dead.html SEARCH-EXCERPT: 1967 Hock ran card dept at NBC Seattle; business beset by bad debts and fraud; cards lacked magstripes; authorizations slow; embossing copied with heavy imprinter.

S24 Springer, "Automating Authorization: BASE" (from "The Digital Hand" / payments history) https://link.springer.com/chapter/10.1007/978-1-84996-139-4_4?code=8d65bb77-e5ed-4a9f-9103-6f35e4e84acf&error=cookies_not_supported SEARCH-EXCERPT: NBI's first electronic authorization system BASE; local authorization automation; Omniswitch; abandoned effort for single shared national authorization system across all cards.

S25 Federal Reserve History, "Electronic Point-of-Sale Payments" https://www.federalreservehistory.org/essays/electronic-point-of-sale-payments SEARCH-EXCERPT: ~100 banks issuing credit cards in 1950s; BofA began licensing BankAmericard to other banks in US and abroad in 1966; BankAmericard spun off 1970, rebranded Visa 1976; MasterCard began 1966 as Interbank.

S26 Visa press release, "Visa Inc. Prices Initial Public Offering" (Mar 18, 2008) https://investor.visa.com/news/news-details/2008/Visa-Inc-Prices-Initial-Public-Offering/default.aspx SEARCH-EXCERPT: 406,000,000 Class A shares at $44.00; trading begins Mar 19, 2008 NYSE under V.

S27 CNBC (Mar 18, 2008) https://www.cnbc.com/2008/03/18/visa-priced-at-44-a-share-for-record-179-billion.html SEARCH-EXCERPT: Visa raised $17.9B, largest US IPO ever at the time; forecast range $37-$42; shares jumped up to 38% first day; more than half of proceeds to JPMorgan Chase, BofA, National City, Citigroup and other bank shareholders.

S28 Mastercard IPO release + MarketWatch (May 24, 2006) https://www.marketwatch.com/story/mastercard-ipo-prices-at-39-a-share-raising-24-billion-2006524202600 SEARCH-EXCERPT: MasterCard IPO of 61,520,912 Class A shares priced at $39.00; raised $2.4B; below expected $40-$43 range; NYSE symbol MA.

MAGSTRIPE / CHIP / STANDARDS

S29 IBM, "The magnetic stripe" https://www.ibm.com/history/magnetic-stripe SEARCH-EXCERPT: first person to affix magnetic media to plastic card: IBM engineer Forrest Parry (joined IBM 1957); early 1960s wanted stripe on card for more secure CIA identity card; his wife, ironing clothing, suggested using the iron to attach the stripe.

S30 Wikipedia, "Forrest Parry" https://en.wikipedia.org/wiki/Forrest_Parry SEARCH-EXCERPT: Forrest Corry Parry (Jul 4, 1921 - Dec 31, 2005), IBM engineer mostly Rochester, Minnesota; invented magnetic stripe card in 1960 for use by CIA.

S31 WIRED, "The days of credit card fraud are numbered" https://www.wired.com/story/credit-card-fraud/ SEARCH-EXCERPT: 1960 Parry cut half-inch magnetic tape, Scotch tape then warm iron at wife's suggestion; magstripe holds account number, expiration, CVV - enough to produce flawless counterfeit.

S32 ISO/IEC 7812-1:2017 standard preview https://cdn.standards.iteh.ai/samples/66011/3021dec2b73d4ed9bc08e6a819dce060/ISO-IEC-7812-1-2015.pdf SEARCH-EXCERPT: PAN format; IIN (issuer identification number); check digit per standard.

S33 Google Patents US2950048A, "Computer for verifying numbers" https://patents.google.com/patent/US2950048A/en SEARCH-EXCERPT: Hans P. Luhn, filed Jan 6, 1954, granted Aug 23, 1960 - the Luhn check-digit algorithm patent.

S34 St. Louis Fed, "The Smart Chip Credit Card" (2016) https://www.stlouisfed.org/publications/page-one-economics/2016/03/01/the-smart-chip-credit-card-a-current-solution SEARCH-EXCERPT: chip cards invented early 1970s; first tested in France in 1980s; by 1994 French-developed chip used for all credit cards issued by French banks; 1994 Europay, MasterCard, Visa began global partnership on worldwide chip specs.

S35 Wikipedia, "EMV" https://en.wikipedia.org/wiki/EMV SEARCH-EXCERPT: first smart payment card standard Carte Bancaire B0M4 from Bull-CP8 deployed France 1986; B4B0' in 1989; EMV named for Europay, Mastercard, Visa; now managed by EMVCo with control split equally among Visa, Mastercard, JCB, American Express, China UnionPay, Discover.

S36 Communications of the ACM, "Smart Card Evolution" https://cacm.acm.org/research/smart-card-evolution/ SEARCH-EXCERPT: German inventors Jurgen Dethloff and Helmut Grotrupp patented microchips on plastic cards 1968; Japanese version patented 1970; French journalist Roland Moreno filed IC card patent 1974.

S37 Revue Banque (FR), "EMV: projet technique et marketing" https://www.revue-banque.fr/binrepository/0000000000000000000_BRB00998_MG107991330.pdf SEARCH-EXCERPT: French banks adopted chip cards from 1992 with generalized PIN; domestic fraud rate fell from 0.10% in 1991 to 0.02% in 1996, a fivefold division.

S38 NYT, "Mastercard's Goal: Security Plus Flair" (Mar 22, 1983) + UPI (Nov 21, 1983) + CSMonitor (May 10, 1983) https://www.nytimes.com/1983/03/22/business/mastercard-s-goal-security-plus-flair.html SEARCH-EXCERPT: MasterCard began embedding laser 3-D holograms on cards to foil counterfeiters; Bank of New York first in NYC area; plan to put holograms on all 80 million cards over three years; counterfeiting cost card industry an estimated $40 million in 1982.

TERMINALS / FLOW

S39 VeriFone 10-K (2016), SEC https://www.sec.gov/Archives/edgar/data/1312073/000131207316000116/pay10k103116.htm SEARCH-EXCERPT: VeriFone Inc. incorporated 1981; shortly after introduced first check verification and credit authorization device for merchants; 1984 first mass-market electronic payment system to replace manual authorization for small merchants; public 1990.

S40 FDIC, Credit Card Activities Manual ch.19 https://www.fdic.gov/system/files/2024-06/ch19.pdf SEARCH-EXCERPT: transaction data flows merchant -> acquiring bank (and its processor) -> Associations -> issuing bank; networks maintain flow of information and funds.

S41 Philadelphia Fed, "Clearing and Settlement of Interbank Card Transactions: A MasterCard Tutorial" (2013) https://www.philadelphiafed.org/-/media/frbp/assets/consumer-finance/discussion-papers/d-2013-october-clearing-settlement.pdf?hash=CB5785393686C300C316A43A2620E904&la=en SEARCH-EXCERPT: settlement is final process; assurance of reliable, accurate, timely settlement induces participation in network.

S42 OCC, "Merchant Processing, Comptroller's Handbook" https://www.occ.treas.gov/publications-and-resources/publications/comptrollers-handbook/files/merchant-processing/pub-ch-merchant-processing.pdf SEARCH-EXCERPT: first step in authorizing card transactions is verifying cardholder identity; association rules vary by transaction type, merchant category, amount.

SCORING / BUREAUS

S43 Wikipedia, "FICO" https://en.wikipedia.org/wiki/FICO SEARCH-EXCERPT: FICO (Fair Isaac Corporation), originally Fair, Isaac and Company, founded by Bill Fair and Earl Isaac in 1956; FICO score a fixture of US consumer lending; now based in Bozeman, Montana.

S44 myFICO, "The History of the FICO Score" https://www.myfico.com/credit-education/blog/history-of-the-fico-score SEARCH-EXCERPT: 1970 FCRA required bureaus (like Retail Credit Co.) to open files to public, expunge data on race/sexuality/disability, delete negative info after set period; RCC renamed Equifax 1975; Experian and TransUnion later; FICO scores introduced 1989.

S45 Martha Poon, "What lenders see: a history of the Fair Isaac scorecard" (https://escholarship.org/uc/item/7n1369x2 SEARCH-EXCERPT: scorecard manufacture 1957-c.1980; assigning odds of default; samples from credit offices; "hiring housewives to process data"; Fair Isaac's corner on computing.

S46 Congress.gov CRS R44125 https://www.congress.gov/crs-product/R44125 SEARCH-EXCERPT: FCRA (15 U.S.C. 1681), Regulation V; adverse-action notice; free annual credit report from each of three largest bureaus.

REGULATION

S47 FTC, CARD Act 2009 summary https://www.ftc.gov/legal-library/browse/statutes/credit-card-accountability-responsibility-disclosure-act-2009-credit-card-act SEARCH-EXCERPT: amends TILA; open-end credit procedures, enhanced disclosures, limits fees/charges, increased penalties, constraints on issuance to minors and students; gift card rules via EFTA amendment.

S48 Senate Banking, CARD Act section-by-section https://www.banking.senate.gov/imo/media/doc/CARDACT09SECBYSEC.pdf SEARCH-EXCERPT: prohibits misleading "prime rate" use; payments applied first to highest-rate balance; prohibits late fees if issuer delayed crediting; 45-day notice for rate increases (TILA amendment).

S49 Wikipedia, "Credit CARD Act of 2009" https://en.wikipedia.org/wiki/Credit_CARD_Act_of_2009 SEARCH-EXCERPT: "fee harvester" subprime card fees limited to 25% of credit limit (first year); due-date rules.

S50 Federal Reserve, TILA manual (see S19) SEARCH-EXCERPT: enacted May 29, 1968; Reg Z; unsolicited cards banned 1970 amendment. https://fraser.stlouisfed.org/title/press-releases-board-governors-federal-reserve-system-9237/regulation-z-amended-ban-unsolicited-issuance-credit-cards-698157

S51 Congress.gov CRS R41913, "Regulation of Debit Interchange Fees" https://www.congress.gov/crs-product/R41913 SEARCH-EXCERPT: growth of electronic card payments and decline of checks 2009-2012; Durbin amendment context.

S52 Council of the EU press release (Apr 20, 2015) + Regulation (EU) 2015/751 https://fraser.stlouisfed.org/title/press-releases-board-governors-federal-reserve-system-9237/regulation-z-amended-ban-unsolicited-issuance-credit-cards-698157 SEARCH-EXCERPT: interchange caps adopted Apr 20, 2015; 0.2% of transaction value for consumer debit, 0.3% for consumer credit (art. 3-4); goal: reduce costs for retailers and consumers, EU-wide payments market.

S53 PR Newswire / NACS (2019) https://www.prnewswire.com/news-releases/court-announces-5-54-6-24-billion-settlement-providing-payments-to-merchants-who-accepted-visa-or-mastercard-since-2004--300800177.html SEARCH-EXCERPT: payment card interchange fee antitrust litigation; settlement $5.54-6.24B announced Feb 22, 2019 for merchants accepting Visa/Mastercard since 2004; Judge Margo Brodie approved $5.54B Dec 13, 2019; largest-ever private antitrust settlement class.

S54 Supreme Court, Marquette Nat. Bank v. First of Omaha Svc. Corp., 439 U.S. 299 (1978) justia https://law.justia.com/cases/federal/district-courts/FSupp/758/908/1809074/ SEARCH-EXCERPT: Section 85 of National Bank Act permits Omaha bank to charge Minnesota BankAmericard customers the higher rate sanctioned by Nebraska law; "exportation" of interest rates.

S55 Supreme Court, Smiley v. Citibank (South Dakota), 517 U.S. 735 (1996) https://tile.loc.gov/storage-services/service/ll/usrep/usrep439/usrep439299/usrep439299.pdf SEARCH-EXCERPT: California resident's cards issued by national bank located in South Dakota; late-payment fees legal under South Dakota law challenged; Court held fees are "interest" under NBA and governed by bank's home state. Decided June 3, 1996.

S56 myFICO (S44) + libguides Berkeley https://libguides.law.berkeley.edu/c.php?g=834909&p=10401495 SEARCH-EXCERPT: ECOA 1974; Consumer Leasing Act 1976; EFTA 1978; Dodd-Frank 2010.

ECONOMICS / CURRENT FIGURES

S57 NY Fed, Quarterly Report on Household Debt and Credit, Q3 2025 press release (Nov 5, 2025) https://www.newyorkfed.org/newsevents/news/research/2025/20251105 PAGE: total household debt $18.59T (+ $197B, 1% QoQ); credit card balances rose $24B to $1.23 trillion ($1.233T in table); aggregate delinquency 4.5% of outstanding debt; credit card limits rose $94B (+1.8% QoQ).

S58 Federal Reserve G.19 via FRED REVOLSL https://federalreserve.gov/releases/g19/20260206 DIRECT CSV: total revolving consumer credit $1,316.77M Jan 1968; $1,352,414M (about $1.35 trillion) Aug 2026. Monthly, seasonally adjusted... (as published: levels in millions of dollars).

S59 Federal Reserve G.19 via FRED TERMCBCCINTNS https://federalreserve.gov/releases/g19/20260206 DIRECT CSV: APR at commercial banks, credit card accounts assessed interest: 15.77% Nov 1994; 22.36% Aug 2026 (latest).

S60 CFPB, "The Consumer Credit Card Market" 2025 report https://files.consumerfinance.gov/f/documents/cfpb_consumer-credit-card-market-report_2025.pdf SEARCH-EXCERPT: in 2024 average APR reached 25.2% for general purpose cards and 31.3% for private label cards, highest since at least 2015; most of 2022-24 increase from prime rate changes.

S61 CFPB, "Data Point: Credit card revolvers" https://files.consumerfinance.gov/f/documents/bcfp_data-point_credit-card-revolvers.pdf SEARCH-EXCERPT: grace period mechanics; revolving debt bears interest from purchase date; transacting debt under grace period does not; cardholders classed revolver/transactor by carry behavior.

S62 Kansas City Fed, "Credit & Debit Card Interchange Fees Assessed to Merchants" https://www.kansascityfed.org/research/interchange-fees-us/ SEARCH-EXCERPT: historical US interchange by merchant category and size; from networks' own fee schedules.

S63 Minneapolis Fed, "The Interchange Fee Debate" (2006) https://www.minneapolisfed.org/article/2006/the-interchange-fee-debate-issues-and-economics SEARCH-EXCERPT: interchange = fraction of each card transaction retained by card's issuer; with acquirer's smaller fee, cuts into retailer revenue.

S64 Fed FEDS 2009-23, "Interchange Fees and Payment Card Networks" https://www.federalreserve.gov/pubs/feds/2009/200923/index.html SEARCH-EXCERPT: interchange = payment from merchant's bank to card user's bank per transaction; set at network level; same for all banks in network; passed through to merchants; issuers use portion for rewards (cash rebates, airline miles).

REWARDS / CO-BRAND

S65 American Airlines newsroom, "The evolution of the AAdvantage" https://news.aa.com/news/news-details/2022/American-Airlines-and-Citi-Celebrate-35-years-of-Partnership-with-Events-Promotions-and-Sweepstakes-to-Reward-Customer-Loyalty-AADV-09/default.aspx SEARCH-EXCERPT: AAdvantage launched May 1, 1981; invitation-only at first; reward: first-class ticket anywhere AA flew.

S66 Wikipedia, "AAdvantage" https://en.wikipedia.org/wiki/AAdvantage SEARCH-EXCERPT: launched May 1, 1981; second loyalty program in the world after Texas International Airlines 1979.

S67 American Airlines newsroom, "American Airlines and Citi Celebrate 35 years of Partnership" (2022) https://news.aa.com/news/news-details/2022/American-Airlines-and-Citi-Celebrate-35-years-of-Partnership-with-Events-Promotions-and-Sweepstakes-to-Reward-Customer-Loyalty-AADV-09/default.aspx SEARCH-EXCERPT: co-branded Citi/AAdvantage card among travel industry's first co-branded credit cards; 35 years in 2022 => launched 1987.

S68 Discover, "Our History" https://www.discover.com/company/our-company/ SEARCH-EXCERPT: first Discover card purchase $26.77 on Sept 17, 1985 by a Sears employee at a Sears store in Atlanta; test marketing Atlanta and San Diego; national launch 1986 by Dean Witter Financial Services Group, subsidiary of Sears, Roebuck.

S69 NYT (Jan 8, 1986) https://www.nytimes.com/1986/01/08/business/sears-speeds-debut-of-discover-card.html SEARCH-EXCERPT: Sears to market Discover nationwide Jan 23; start-up costs to cause after-tax loss of $115 million that year.

S70 Digital Transactions, "Discover at 25" https://www.digitaltransactions.net/magazine_articles/discover-at-25/ SEARCH-EXCERPT: born 1986 from world's largest retailer; Cashback Bonus rebates up to 1% and more by category; last company to successfully build a national general-purpose credit card network from scratch.

S71 Chase media (Aug 23, 2016) + AP + Reuters https://media.chase.com/news/chase-reinvents-luxury-credit-card-sapphire-reserve SEARCH-EXCERPT: Chase Sapphire Reserve launched Aug 23, 2016 with 100,000-point sign-on bonus; metal card; demand so overwhelming manufacturer ran out of raw material in days; JPMorgan said account-opening costs could cut Q4 2016 revenue by up to $200 million.

S72 NYT, "Beyond the Glow of Platinum" (Dec 5, 1999) https://www.nytimes.com/1999/12/05/business/vicarious-consumption-beyond-the-glow-of-platinum.html SEARCH-EXCERPT: Amex's new black invitation-only Centurion card arriving Dec 1999, above Platinum.

S73 https://www.luxuryplastic.com/category/information/history/ citing original press release SEARCH-EXCERPT: Oct 14, 1999 public launch of American Express Centurion Card ("The Black Card"). (secondary; NYT corroborates Dec 1999 launch window)

WORLD NETWORKS

S74 JCB global history global.jcb/en/about-us/history/ https://www.global.jcb/en/about-us/history/ SEARCH-EXCERPT: Jan 1961 Japan Credit Bureau established (Sanwa Bank + Nippon Shinpan); March 1961 issued Japan's first general-purpose credit card; May 1961 first private company in Japan to offer automatic bank-draft payment of card bills; 1968 JCB and OCB merge context.

S75 Reuters, "Explainer: China UnionPay" (Apr 21, 2022) https://www.reuters.com/business/finance/china-unionpay-russias-potential-payments-backstop-2022-04-21/ SEARCH-EXCERPT: UnionPay approved 2002 as coalition of banking operators under central bank; clears and settles directly with banks; 87 shareholders incl. PBOC affiliates; debit, credit, prepaid.

S76 ChinaUnionPay corporate page (2003 archive) https://web.archive.org/web/20031219015523/http://www.chinaunionpay.com/cup.aspx SEARCH-EXCERPT: founded March 26, 2002, HQ Shanghai; registered capital 1.65B RMB; 80+ domestic financial institutions as promoters.

S77 Livemint (Mar 26, 2012) https://www.livemint.com/Money/DkSic5qOEU9dYcSCi2Y5dL/Payment-gateway-Rupay-launched.html SEARCH-EXCERPT: India launched RuPay, indigenous card payment network, to compete with Visa/Mastercard, cut bank costs, extend to rural areas; first envisaged by banking regulator in 2005; five banks at launch incl. SBI, Bank of India.

S78 President of India speech (Pranab Mukherjee, dedication of RuPay, 2014) https://www.presidentofindia.gov.in/shri-pranab-mukherjee/speeches/speech-president-india-shri-pranab-mukherjee-dedication-rupay-card SEARCH-EXCERPT: "RuPay... fruit of five years of hard work"; India among few countries with domestic card network.

S79 NPCI RuPay product booklet https://www.npci.org.in/uploads/Product_Booklet_e7ea5e65cc.pdf SEARCH-EXCERPT: cash inconveniences drove evolution to "plastic money."

S80 Mint/Bernstein via livemint (2024) https://www.livemint.com/Money/DkSic5qOEU9dYcSCi2Y5dL/Payment-gateway-Rupay-launched.html SEARCH-EXCERPT: RuPay credit card transactions on UPI = 38% of all credit card transactions in India by volume and ~8% by value (Bernstein, Oct 27 data).

S81 PIB (Press Information Bureau) https://www.pib.gov.in/PressNoteDetails.aspx?ModuleId=3&NoteId=154912&lang=2&reg=48 SEARCH-EXCERPT: UPI processes over 18 billion transactions every month in India (2025); June 2025 handled record volumes.

S82 Outlook Business https://www.outlookbusiness.com/news/can-indias-upi-battle-it-out-with-us-and-chinese-payments-majors-in-global-markets SEARCH-EXCERPT: UPI launched 2016 by NPCI; FY2016-17 to FY2024-25 volume surged 10,000-fold.

S83 Economic Times BFSI (2025) https://bfsi.economictimes.indiatimes.com/articles/hdfc-bank-clinches-title-as-indias-top-credit-card-issuer-sbi-dominates-debit-card-market/122859723 SEARCH-EXCERPT: HDFC Bank largest credit card issuer with 22% share June 2025; followed by SBI Card, ICICI, Axis; debit and credit card transactions CAGR 20% and 19% over past four years.

S84 Financial Express / HSBC (2025) https://www.financialexpress.com/business/banking-finance-banks-credit-card-portfolio-could-see-a-turnaround-hsbc-3894019/ SEARCH-EXCERPT: cards in force up ~6% YoY to 111.2 million (2025).

S85 New Indian Express (Aug 27, 2025) https://www.newindianexpress.com/business/2025/Aug/27/credit-card-spending-issuances-hitrecord-highs-in-july-shows-rbi-data SEARCH-EXCERPT: RBI data: July 2025 record card spending and issuance; HDFC net-added 3.15 lakh cards to 24.8 million card customer base; SBI Cards 21.2 million.

S86 Card Insider / Razorpay blog (secondary) https://cardinsider.com/blog/history-of-credit-cards-in-india/ SEARCH-EXCERPT: 1960s Diners cards only for foreign-linked users; 15 years to reach 8,000 Diners users in India; Central Bank of India launched first bank credit card in 1980 ("Centralcard"), followed by Andhra Bank 1981.

S87 Times of India, Andhra Bank profile https://timesofindia.indiatimes.com/business-economics/andhra-bank/articleshow/59385144.cms SEARCH-EXCERPT: Andhra Bank "a pioneer in introducing Credit Cards in the country in 1981."

S88 BusinessToday (2009) https://www.businesstoday.in/magazine/focus/story/play-your-cards-right-244895-2009-08-06 SEARCH-EXCERPT: 1950 Diners Club 27 restaurants; 1982 "First Plastic: Andhra Bank launches India's first credit card; five-star hotels start accepting credit cards." (NOTE: sources differ 1980 Centralcard vs 1981/82 Andhra Bank; book presents both claims attributed.)

S89 Capital One press release (May 18, 2025) + 8-K https://fraser.stlouisfed.org/title/press-releases-board-governors-federal-reserve-system-9237/regulation-z-amended-ban-unsolicited-issuance-credit-cards-698157 SEARCH-EXCERPT: Capital One completed acquisition of Discover Financial Services May 18, 2025; merger agreement dated Feb 19, 2024.

MARKET SIZE / FRAUD

S90 Nilson Report 1288, "Global Brand Card Networks Worldwide - 2024" https://nilsonreport.com/articles/global-brand-cards-worldwide-midyear-2024/ SEARCH-EXCERPT: Visa, UnionPay, Mastercard, Amex, JCB, Discover/Diners Club generated $36.741 trillion purchase volume worldwide in 2024, up 0.1% local currency; purchase transactions grew 12.4% to 772.73 billion.

S91 Nilson, "Payment Cards Projected Worldwide 2024-2029" https://nilsonreport.com/articles/payment-cards-projected-worldwide-2024-2029/ SEARCH-EXCERPT: all credit/debit/prepaid cards in circulation 27.76 billion at YE2024, projected 31.13 billion by YE2029; global brand general-purpose cards (UnionPay, Visa, Mastercard, JCB, Amex, Discover, Diners Club) projected 20.24 billion by end-2029.

S92 Nilson, "Card Fraud Losses Worldwide - 2024" and issue 1298 https://nilsonreport.com/articles/card-fraud-losses-worldwide-2024/ SEARCH-EXCERPT: total card volume (purchase + cash) $51.920T in 2024 vs $51.428T in 2023; fraud losses to issuers, merchants, acquirers $33.41B in 2024, down 1.2% from $33.83B in 2023; 2023 fraud 6.58 cents per $100 of total volume; projection: cumulative $403.88B over next 10 years, 41% in US.

S93 Nilson, "Payment Card Manufacturer Shipments - 2023" https://nilsonreport.com/articles/payment-card-manufacturer-shipments-2023/ SEARCH-EXCERPT: 4.52 billion payment cards shipped by listed manufacturers in 2023: 4.00 billion chip cards, 476.4 million magstripe-only, 43.4 million other.

S94 Smart Payment Association (Jul 4, 2024; Jul 22, 2026) https://www.smartpaymentassociation.com/news-and-events/2022-smart-payment-card-and-module-global-shipment-figures-released-by-smart-payment-association-may-2023/ SEARCH-EXCERPT: SPA members shipped 3.2 billion smart payment cards/modules in 2023; eco-friendly cards 21% of SPA shipments (+7 pts); 2.47 billion units in 2025 (SPA perimeter).

S95 McKinsey Global Payments Report 2024 (Oct 18, 2024) via American Banker https://web-assets.bcg.com/21/ac/d3f46d0144d98059ccbe9506483a/2024-global-payments-report-october-2024.pdf SEARCH-EXCERPT: global payments industry processed 3.4 trillion transactions totaling $1.8 quadrillion in value, $2.4 trillion in revenue in 2023; payments revenue grew 7% annually 2018-2023; cash usage at 80% of 2019 level, declining ~4% per year.

S96 BCG Global Payments Report 2024 https://web-assets.bcg.com/21/ac/d3f46d0144d98059ccbe9506483a/2024-global-payments-report-october-2024.pdf SEARCH-EXCERPT: revenue growth to halve by 2028; CAGR 9% to 5%; revenues $1.8 trillion to $2.3 trillion (BCG's payments revenue perimeter differs from McKinsey's; labeled as such).

S97 Visa annual report FY2025 https://www.visa.com/en-us/personal/security/zero-liability-policy PAGE: total volume $16.7T, payments volume $14.2T, transactions processed 257.5B, payment credentials 4.9B (12 months ended Sep 30, 2025).

S98 Mastercard 10-K FY2024 (SEC ma-20241231) https://www.sec.gov/Archives/edgar/data/1141391/000114139125000011/ma-20241231.htm SEARCH-EXCERPT: GAAP net revenue $28.2B (up 12%), net income $12.9B (up 15%), diluted EPS $13.89.

S99 Amex 10-K/press FY2024 (SEC; https://ir.americanexpress.com/news/investor-relations-news/investor-relations-news-details/2025/American-Express-Announces-Record-FY-2024-Revenue-Up-9-or-10-on-an-FX-Adjusted-Basis/default.aspx) SEARCH-EXCERPT: worldwide billed business $1,550.9B (up 6-8%); total revenues net of interest expense $65,949M; 83.6 million proprietary cards-in-force at Dec 31, 2024.

S100 Visa press release (Jun 4, 2024) https://usa.visa.com/about-visa/newsroom/press-releases.releaseId.20506.html SEARCH-EXCERPT: Visa issued its 10 billionth token; tokenization generated $40 billion incremental e-commerce globally; saved $650 million in fraud in the last year; launched 2014.

FRAUD / SECURITY HISTORY

S101 Congress.gov CRS R43496, "The Target and Other Financial Data Breaches" https://www.congress.gov/crs-product/R43496 SEARCH-EXCERPT: Nov-Dec 2013 Target breach; Dec 19, 2013 confirmed ~40 million credit and debit card account numbers stolen; Jan 10, 2014 announced personal info of up to 70 million more.

S102 Reuters (2013) https://www.reuters.com/article/business/target-payment-card-data-theft-highlights-lagging-us-security-idUSL2N0K004A/ SEARCH-EXCERPT: Target theft highlighted lagging US chip adoption vs Europe/Canada; cost of chips and ~10M terminals deterred.

S103 US DOJ, District of Massachusetts (2010) https://www.justice.gov/archive/usao/ma/news/2010/March/ScottSentencingPR.html SEARCH-EXCERPT: between ~2003 and 2007, Albert Gonzalez and others broke into major retailers' networks; wardriving for vulnerable wireless access points; TJX among victims.

S104 Richmond Fed, "Cybersecuring Payments" (2014) https://www.bostonfed.org/-/media/Documents/PaymentStrategies/summary-of-mpiw-meeting-june-2014.pdf SEARCH-EXCERPT: Dec 19, 2013 Target announced payment terminals and systems hacked.

E-COMMERCE / MOBILE

S105 NYT, "Attention Shoppers: Internet Is Open" (Aug 12, 1994) https://www.nytimes.com/1994/08/12/business/attention-shoppers-internet-is-open.html SEARCH-EXCERPT: Phil Brandenberger of Philadelphia bought a CD paying by credit card; "apparently the first retail transaction on the Internet using a readily available version of powerful data encryption"; NetMarket, Nashua NH.

S106 Wikipedia, "NetMarket" https://en.wikipedia.org/wiki/NetMarket `SEARCH-EXCERPT`: Aug 11, 1994, Ten Summoner's Tales by Sting, $12.48 + shipping (encrypted via PGP); Dan Kohn.

S107 Visa, "Visa Celebrates 25 Years of Ecommerce" (2019) https://corporate.visa.com/en/sites/visa-perspectives/company-news/visa-celebrates-25-years-of-ecommerce.html `SEARCH-EXCERPT`: first ecommerce payment on Visa network Aug 11, 1994.

S108 Boston Fed (Jun 2014) + American Banker + NFCW https://www.americanbanker.com/creditunions/news/mastercard-celebrates-40-years `SEARCH-EXCERPT`: EMVCo published EMV Payment Tokenization Specification v1.0 March 2014; Visa Token Service launched same day as Apple Pay announcement (Sep 9-10, 2014); tokens replace card account numbers so actual number never shared with merchants.

S109 Barclays, "Ten years of contactless" (2017) https://home.barclays/news/2017/09/ten-years-of-contactless/ `SEARCH-EXCERPT`: first UK contactless card Barclaycard OnePulse, September 2007, combining Chip and PIN, contactless and Oyster; GBP 60bn spent contactless in decade after; six in ten Brits choose contactless (2017).

S110 Thames Technology timeline + Kansas City Fed (2005) https://www.thamestechnology.co.uk/inspiration/history-of-contactless-payments-a-timeline `SEARCH-EXCERPT`: 1995 Seoul UPass first contactless commuter payment card; 1997 Mobil Speedpass (ExxonMobil) in US; FreedomPay mobile platform 2001.

S111 MIT Technology Review (2009, 2011) + Wikipedia "Square" https://www.technologyreview.com/2009/12/07/92696/new-system-swaps-the-cash-register-for-an-iphone/ SEARCH-EXCERPT: Square launched 2009 by Jack Dorsey and Jim McKelvey; card reader plugging into smartphone; as of 2024 US POS market leader serving 4 million sellers processing $228bn annually. Stripe launched 2011 by Patrick and John Collison, developer-friendly online payments.

SECURITIZATION / LEGAL ECONOMICS

S112 Philadelphia Fed, "An Overview of Credit Card Asset-Backed Securities" (2002) https://www.philadelphiafed.org/-/media/frbp/assets/consumer-finance/conference-summaries/CreditCardSecuritization_012002.pdf SEARCH-EXCERPT: credit card ABS first issued in 1987; became primary vehicle by which card industry funds unsecured consumer loans.

S113 ProQuest, "The Evolution of Credit Card Structures" https://search.proquest.com/openview/8c35ea2a2532007b3572a2e2dd969bb3/1?cbl=38930&pq-origsite=gscholar SEARCH-EXCERPT: consensus of pioneers: first true credit card securitization 1986 - private term transaction placed by Salomon Brothers for Bank One (Columbus, Ohio).

S114 NAIC Capital Markets primer https://content.naic.org/sites/default/files/capital-markets-primer-consumer-abs.pdf SEARCH-EXCERPT: non-mortgage ABS began mid-1980s with auto loans and credit card receivables; now ~$1.5 trillion diversified market.

GICS

S115 Computacenter mirror of GICS map 2023 (S&P DJI/MSCI document) https://www.msci.com/downloads/documents/indexes/consultations/equity/Implementation_of_2023_GICS_Changes.pdf PAGE: 40202010 Consumer Finance: "Providers of consumer finance services, including personal credit, credit cards, lease financing, travel-related money services and pawn shops." 40201060 Transaction & Payment Processing Services (New 2023): "Providers of transaction & payment processing services and related payment services including digital/mobile payment processors, payment service providers & gateways, and digital wallet providers." 40101010 Diversified Banks.

CREDIT REPORTING / DEEPER HISTORY

S117 Baker Library/HBS, "R.G. Dun & Company Credit Report Volumes" + "Buy Now, Pay Later: The Mercantile Agency" https://www.library.hbs.edu/hc/credit/credit3b.html SEARCH-EXCERPT: Mercantile Agency founded 1841 by Manhattan merchant and abolitionist Lewis Tappan after Panic of 1837 exposed danger of trading without credit rating; first successful commercial reporting agency in US; later R.G. Dun & Co, predecessor of Dun & Bradstreet; published quarterly credit ratings.

S118 New Georgia Encyclopedia, "Equifax" https://www.georgiaencyclopedia.org/articles/business-economy/equifax/ SEARCH-EXCERPT: 1899 brothers Cator and Guy Woolford founded Retail Credit Company in Atlanta; went door to door among merchants asking about customers, noting findings in ledgers; RCC renamed Equifax (SEC filing: name change 1976).

S119 Springer chapter, "Automating Clearing and Settlement: BASE II and III" https://link.springer.com/chapter/10.1007/978-1-84996-139-4_4?code=8d65bb77-e5ed-4a9f-9103-6f35e4e84acf&error=cookies_not_supported SEARCH-EXCERPT: BASE II in 1974, first electronic clearinghouse for bank-issued payment cards; BASE III, a member-bank software package, failed.

S120 Edinburgh dissertation, "A History of the VISA Payment System, 1970-1984" https://era.ed.ac.uk/bitstream/handle/1842/2672/Stearns%20DL%20thesis%2007.pdf;jsessionid=232701957DD99CF5B5E8BA29F175F16C?sequence=1 SEARCH-EXCERPT: 1970-1984 corresponds to tenure of founder and first CEO Dee Ward Hock.

S121 PCI SSC press release (Sep 7, 2006) + Wikipedia https://fraser.stlouisfed.org/title/press-releases-board-governors-federal-reserve-system-9237/regulation-z-amended-ban-unsolicited-issuance-credit-cards-698157 SEARCH-EXCERPT: PCI Security Standards Council formed by American Express, Discover, JCB, MasterCard, Visa on 7 September 2006, Wakefield MA, to manage account data security standards.

S122 Reuters (Apr 15, 2025) + CFPB compliance page https://files.consumerfinance.gov/f/documents/cfpb_consumer-credit-card-market-report_2025.pdf SEARCH-EXCERPT: CFPB Credit Card Penalty Fees Final Rule (capping late fees at $8) vacated April 15, 2025 by N.D. Texas court order in Chamber of Commerce v. CFPB, No. 4:24-cv-00213-P.

S123 Banco Central do Brasil, Pix/SPI Annual Report 2023 + IMF https://www.bcb.gov.br/content/financialstability/spi_annual_reports/SPI_2023.pdf SEARCH-EXCERPT: Pix launched November 2020 by Central Bank of Brazil; goals: reduce cash reliance, financial inclusion, competition, modernization.

S124 Richmond Fed (2023) https://www.richmondfed.org/publications/research/econ_focus/2023/q3_federal_reserve SEARCH-EXCERPT: Fed launched FedNow in July 2023, its first new payment service in more than 40 years.

S125 Digital Transactions / Global Payments press (May 28, 2019) https://investors.globalpayments.com/news-events/press-releases/detail/72/global-payments-and-tsys-combine-to-form-leading-pure-play SEARCH-EXCERPT: Global Payments-TSYS $21.5B merger of equals; followed Fiserv-First Data (Jan 2019) and FIS-Worldpay (Mar 2019) announcements: acquiring/processing consolidation wave.

S126 Congress.gov, Fair Credit and Charge Card Disclosure Act of 1988 https://fraser.stlouisfed.org/title/press-releases-board-governors-federal-reserve-system-9237/regulation-z-truth-lending-amended-revise-disclosure-requirements-credit-charge-card-solicitations-applications-674814/content/fulltext/frsbog_pr_20000928-1 SEARCH-EXCERPT: sponsor Rep. Charles E. Schumer; became Public Law 100-583 on Nov 3, 1988; amended TILA to require APR and key terms in card solicitations (the "Schumer box").

S127 Nilson 1288 + 1276 https://nilsonreport.com/newsletters/1288/ SEARCH-EXCERPT: UnionPay held 40.42% share of debit card transactions in 2024 (+151 bps); 33.15% share of global brand purchase transactions at midyear 2024; Visa most widely used global brand; global brands did 363.93B purchase transactions in H1 2024 (+13.1%).

S128 American Banker (Nov 25, 1992) + LA Times (Dec 20, 1993) https://www.americanbanker.com/creditunions/news/mastercard-celebrates-40-years SEARCH-EXCERPT: Visa processing centers in McLean, Va. and Basingstoke, England, "super centers," each capable of handling payment volume for the entire global Visa system; VisaNet as intermediary among merchants, merchant banks and cardholders.

EXPANSION SOURCES (DEEPENING PASS)

S129 Barclaycard, Barclays archive + Wikipedia https://home.barclays/archive-barclays/stories/Barclaycard/ SEARCH-EXCERPT: launched 29 June 1966 as charge card; first UK credit card (revolving) 8 November 1967 after Bank of England agreement; first all-purpose credit card in Europe; 1,000,000 cardholders and 30,000 outlets targeted by launch; monopoly in UK until Access Card October 1972.

S130 Visa press release (Mar 26, 2024) + Reuters (Jun 25, 2024) https://usa.visa.com/about-visa/newsroom/press-releases.releaseId.20506.html SEARCH-EXCERPT: Visa and Mastercard agreed settlement with merchants after nearly 20 years' litigation, lowering swipe fees and capping increases 5 years, estimated $30B value; U.S. District Judge Margo Brodie rejected the settlement June 25, 2024 as inadequate.

S131 AP/NBC (Mar 14, 2006) + FDIC comment letter https://www.fdic.gov/resources/regulations/federal-register-publications/2006/06c03ac96.pdf SEARCH-EXCERPT: three national bureaus created VantageScore, work began July 2005 on ~15 million anonymized files, launched March 2006 as consistent tri-bureau score.

S132 Capital One investor FAQ + company pages https://investor.capitalone.com/news-releases/news-release-details/capital-one-completes-acquisition-discover/ SEARCH-EXCERPT: Capital One began as monoline credit card company founded by Richard Fairbank (1988 per Capital One commercial history); IPO Nov 16, 1994 (11.5% of stock); Signet distributed remaining shares Feb 28, 1995.

S133 Prelec & Simester, "Always Leave Home Without It", Marketing Letters 12, 5-12 (2001) https://web.mit.edu/simester/Public/Papers/Alwaysleavehome.pdf SEARCH-EXCERPT: studies involving genuine high-value transactions show credit cards raise willingness to pay (the credit-card effect); MIT Sloan authors.

S134 Visa Zero Liability Policy + Mastercard Zero Liability pages https://www.visa.com/en-us/personal/security/zero-liability-policy SEARCH-EXCERPT: networks guarantee cardholders not held responsible for unauthorized transactions (with carve-outs for certain commercial/prepaid and non-network transactions).

S135 Visa 3-D Secure pages + Computerworld (2001) https://corporate.visa.com/en/solutions/visa-protect/insights/3d-secure.html SEARCH-EXCERPT: Visa developed 3-D Secure protocol and Verified by Visa in 2001 for e-commerce authentication; data exchange between merchant and issuer before authorization; shifts liability for authenticated transactions.

S136 Visa Intelligent Commerce (Apr 30, 2025) + Mastercard Agent Pay (Apr 29, 2025) press releases https://www.digitalcommerce360.com/2025/10/16/visa-mastercard-both-launch-agentic-ai-payments-tools/ SEARCH-EXCERPT: both networks launched agentic payments programs spring 2025, enabling AI agents to find and buy on consumers' behalf (Mastercard with Microsoft and others).

S137 IDEMIA (Nov 16, 2018) + Ars Technica (Dec 2018) + Biometric Update (Jan 2021) https://www.biometricupdate.com/202101/bnp-paribas-to-begin-issuing-biometric-payment-cards-to-all-customers-within-6-months SEARCH-EXCERPT: PNC piloted IDEMIA MOTION CODE dynamic CVV e-ink cards (90-day trial, rotating CVV to cut CNP fraud); BNP Paribas first general rollout of fingerprint-sensor biometric payment cards (2021).

S138 Bank of America 8-K (Jan 3, 2006) https://investor.bankofamerica.com/regulatory-and-other-filings/current-reports/content/0000950144-05-007003/0000950144-05-007003.pdf SEARCH-EXCERPT: BofA completed MBNA merger creating largest US card issuer: 40M+ active accounts, nearly $140B managed balances.

S139 RBI Bulletin + Oxford RFS study https://academic.oup.com/rfs/article/37/8/2550/7625073 SEARCH-EXCERPT: Nov 8, 2016, India demonetized 500/1000-rupee notes, 15.4 trillion rupees, 86.9% of currency in circulation by value; demonetization raised digital payment use measurably (RFS: +2.94pp digital payment use).

S140 Reuters/Target + NYT coverage (see S101/S102) SEARCH-EXCERPT: US EMV delay reasons. https://www.reuters.com/article/business/target-payment-card-data-theft-highlights-lagging-us-security-idUSL2N0K004A/

S142 Nilson 1288 (S127) SEARCH-EXCERPT: UnionPay shares; midyear 2024 UnionPay 33.15% of global brand purchase transactions. https://nilsonreport.com/articles/global-brand-cards-worldwide-midyear-2024/

S143 FRONTLINE/PBS, "Secret History of the Credit Card", full transcript https://www.pbs.org/wgbh/pages/frontline/shows/credit/more/rise.html SEARCH-EXCERPT: "In 1981, Citibank moved its credit card operation from New York to South Dakota"; Wriston: NY usury laws capped 12% while money cost 20%; South Dakota lifted usury ceilings (Gov. Janklow); Delaware copied, Wilmington became card center, MBNA arose; Marquette enabled rate exportation.

S144 Reuters (Dec 3, 2020) + Indian Express (Aug 18, 2021) https://www.newindianexpress.com/business/2025/Aug/27/credit-card-spending-issuances-hitrecord-highs-in-july-shows-rbi-data SEARCH-EXCERPT: RBI order dated Dec 2, 2020 directed HDFC Bank to stop sourcing new credit card customers and pause Digital 2.0 launches after repeated data-center outages; card curbs lifted Aug 17, 2021 after ~8 months; RBI also barred Mastercard and Amex from adding cards over data-localization.

S145 RBI, "Master Direction - Credit Card and Debit Card - Issuance and Conduct Directions, 2022" (RBI/2022-23/92, April 21, 2022, updated Mar 7, 2024) https://rbi.org.in/scripts/BS_ViewBulletin.aspx?Id=17201 SEARCH-EXCERPT: unsolicited credit cards strictly prohibited (2x penalty on reversed charges); explicit consent required; billing statement rules (fortnight to pay, 30-day dispute explanation); co-branding conduct rules (issuer branding prominent, revenue-sharing disclosed).

S146 ISO/IEC 7810:2019, "Identification cards - Physical characteristics" https://www.iso.org/standard/70483.html SEARCH-EXCERPT: ID-1 format nominally 85.60 mm wide x 53.98 mm high x 0.76 mm thick; four card sizes specified; standard confirmed current 2025.