E-invoicing in the U.S. – Challenges and Opportunities

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- Tasked with advancing the FRs mission in payments by supporting work in standards, research, education, & other initiatives that increase the efficiency of business-to-business (B2B) transactions
- Standards Work
  - ISO 20022 Payments SEG
  - ISO 20022 Trade SEG
  - W3C Web Payments Interest Group
  - Accredited Standards Committee (ASC) X9 AB Payments Subcommittee

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Agenda

• Federal Reserves role in E-invoicing
• E-Invoicing definitions, models, and networks
• The business, economic, & societal benefits of E-invoicing
• E-invoicing Adoption: A Global Market View
• Expanding Adoption in the U.S.
The Federal Reserve's role in E-invoicing

1. Actively engage with stakeholders on initiatives designed to improve the U.S. payment system.
2. Identify effective approach(es) for implementing safe, ubiquitous, faster payments.
3. Reduce fraud risk & advance the safety, security & resiliency of the payment system.
4. Achieve greater end-to-end efficiency for domestic & cross-border payments.
5. Enhance Federal Reserve Bank payment, settlement & risk management services to address identified gaps.

Five strategies in pursuit of five desired outcomes

- SPEED
- SECURITY
- EFFICIENCY
- INTERNATIONAL
- COLLABORATION


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Focus on B2B Efficiency

- Strategies for Improving the U.S. Payment System (SIPS) paper identifies **efficiency improvements** as one of five desired outcomes for U.S. payment system
  - Opportunities to improve efficiency are greatest in end-to-end Business-to-Business (B2B) transactions, including the payment & key information—e.g., invoice, remittance
- Specifically, called out:
  - *Explore, in 2015, the possibility of developing & implementing a standard, ubiquitous B2B electronic invoice & processing platform similar to ones that have been developed in other countries*

E-invoicing Definitions, Models, & Networks
Straight-through-Processing (STP)

• Businesses strive to move towards an exception-only process from “order to cash” and “procure to pay”
• E-invoicing is the 1st essential step

Source: U.S. Adoption of Electronic Invoicing: Challenges and Opportunities, Federal Reserve Bank of Minneapolis, 2016

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What is E-invoicing?

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Invoice Presentment Models

The Business, Economic, & Environmental Benefits of E-invoicing
Business Benefits

• Decreases internal processing costs
  — Reduce processing cost from 50-80%
  — This translates to a $4 to $8 savings per invoice
• Opportunity to access discount programs
  — Early payment programs
  — Factoring
  — Bank-led supply chain financing programs
• Enhances cash management
  — Improves visibility into outstanding payables & receivables
  — Increases decision making ability related to payment strategies
• Improves trading partner relationships and risk
  — Reduces errors & exception handling, including duplicate invoices
  — Reduces late fees
  — Decreases payment fraud
• Promotes electronic payments and straight-through-processing

Sources: E-Invoicing / E-Billing. Entering a New Era. Billentis, Koch, Bruno. 2015, Amount saved from various invoice calculators available from commercial providers of e-invoicing solutions

Economic Benefits

• Positive correlations between less burdensome business overhead & economic growth
  — 2014 study of private sector Belgium firms estimated total cost of paper invoicing to be €3.47 billion (0.96% GDP), which could be reduced to €1.46 billion (0.38% GDP) if all invoices were exchanged electronically
  — In the U.S. Adoption of E-Invoicing whitepaper an estimated potential cost savings to U.S. businesses was in the range $10B to $150B annually.
• Business-to-Government(B2G) e-Invoicing initiatives savings is substantial
  — Pilot study in Sweden measured cost savings to Swedish State Authorities of €400 million over five year period (2006-2012)
  — Estimated savings to U.S. federal government with fully implemented B2G e-invoicing initiative is $266 million annually


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Other Societal Benefits

Environmental

• 2008 study from Sweden concluded there are benefits in terms of reduced cumulative energy demand & emissions of greenhouse gases in changing from paper to e-invoices

• The U.S. generates between 15 to 25 billion invoices annually. The environmental benefit if half of all invoices (10 billion) were converted from paper to electronic:
  • Save around 1.3 million trees
  • Eliminate close to 200 tons of paper
  • Reduce Carbon Dioxide (CO2) footprint by almost 360 tons


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Europe – Key Findings

- Europe is in various stages of e-invoicing adoption. The Nordic countries were first and have the highest adoption rate of e-invoicing compared to the rest of the region.
- An estimated 24% invoices were sent electronically in 2014, compared to only 6% in 2004, by 2024 expect to have 95% converted.
- Key drivers include legislation, defined set of standards, and programs in place.

Sources: E-Invoicing / E-Billing, Billentis 2015 & 2016, PayStream Advisors 2014
Latin America – Key Findings

- **Value Added Tax Compliance** is the key driver to adoption
- 58% of all invoices were electronic in 2014, compared to 1% in 2004
- Brazil, Mexico and Chile are world leaders in e-invoicing adoption greater than 90%

Sources: E-Invoicing / E-Billing, Billentis 2015 & 2016

Asia-Pacific / Australia – Key Findings

- Market is in various stages of adoption, countries such as S. Korea & Singapore have highest adoption to facilitate tax collection
- **Australia** is currently implementing a *whole country* approach to e-invoicing, with a public-private partnership through the Digital Business Council
  - Estimated annual savings to the Australia economy is $7 to $10B AUD (Based on 1.2 B invoices)
  - Developed and adopted the Interoperable e-Invoicing Framework
  - By 2019, goal is to have 35% of paper invoices converted to electronic

North America – Key Findings

- Estimate 25% invoices are sent electronically (out of 25 Billion), up from 15% in 2004. **Only expected to grow to 38% by 2024**
- Primary large corporates are driving adoption, where a process efficiency business case can be made
- The U.S. Federal Government Office of Management and Budget (OMB) directed U.S. Federal Agencies to transition appropriate B2G procurement invoices to e-invoices by 2018 fiscal year end


U.S. Market – Key Findings

- Complex market where requirements differ by industry segments & size of organization
  - major barriers including:
    - Lack of a commonly used, unifying standard
    - Complexity and diversity of internal systems, service providers, & trading partners
      - U.S. businesses that adopt e-invoicing often need separate & distinct integration connections for each trading partner &/or use third parties to help navigate different standards & compliance requirements – all of which increases cost to implement e-invoicing, a barrier to adoption
    - Resistance to electronic payments & document exchange by small trading partners
    - Lack of access to IT resources needed
    - Difficulty/risks to validating trading partners electronic identity

Source: Federal Reserve study input from Electronic Invoice Presentment Platform External Advisory Group

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Barriers to E-invoicing: Lack of Interoperability

In-ter-o-p-e-r-a-b-i-li-t-y (noun) “The ability of the component parts of a system to operate successfully together”

- Service providers “close” their networks to only those who participate, creating an “island effect”
  - Software providers need a level of certainty before committing the resources to develop a standard interface
- Businesses have created their own community, with standards that meet their needs, increasing the difficulty for trading partners to connect / integrate

Barriers to E-invoicing: Lack of Standards

Stan-dard (adjective) “Very widely used and generally regarded as authoritative”

- Many e-invoicing standards in use today
  - Different “Syntax” & “Semantics” models, variable by market segments
- Many e-invoicing formats and delivery mechanisms in use today

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Barriers to E-invoicing: Inertia

In-er-tia (noun) “Inability or unwillingness to move or act”

- What is in place today, works
- Business case needs to be compelling for the investment
  - Cost of the implementation versus the benefit
- No mandate
- No industry-led coordination, collaboration and leadership
  - “Land grab” mentality amongst service providers

“What if we don’t change at all...... And something magical just happens.”

Expanding Adoption in the U.S.
Tackling the Issue & Building Awareness

• Current Issue:
  — Hurdle of multiple definitions, standards, and protocols create inertia for wide spread adoption
  — The industry lacks a coordinated, collaborative effort to define an holistic adoption strategy

• Action:
  — The Payments, Standards, & Outreach Group of the Federal Reserve Bank of Minneapolis, through the Business Payments Coalition, convened a new work group focusing on increasing awareness & developing a catalog e-invoicing standards, definitions, & service providers in the U.S.

Business Payments Coalition

• Participation: National group of associations, small & large businesses, financial institutions, technology & software vendors, standards development organizations & others
  — Formed in 2011
  — 550+ members & growing
  — No dues or criteria for joining, other than a willingness to work together

• Mission: Work together to solve problems related to processing information associated with B2B payments in order to promote use of electronic payments & straight through processing (STP)
Expanding B2B Payments through Education, Standards Development, & Collaboration

B2B Directory Project:
- Addresses the issues with hard to find, manage, & use the payment identity of payees

E-invoicing Work Group:
- Focuses on defining the exchange of payment related information electronically

Small Business Toolkit:
- Provides educational materials for small & medium businesses on electronic payments

E-invoicing Work Group

Mission: Identify ways to accelerate the adoption of B2B e-invoices by all types and sizes of U.S. businesses.

- Objectives:
  - Defining what an e-invoice is
  - Develop a catalog of e-invoicing standards in use by market segments
  - Identify an e-invoicing standard for the U.S.
  - Identify an exchange framework for e-invoicing
  - Create a best practice guide for Small / Medium Size businesses
  - Communication and adoption strategies related to e-invoice exchange, problems, & benefits

- Meets bi-weekly

Source: The Interoperability Framework diagram adopted from the Australian Digital Business Council
Business Payments Coalition: Join Us!

Business Payments Coalition website:
https://fedpaymentsimprovement.org/payments-efficiency/remittance-coalition/

- Learn about activities
- Join the Business Payments Coalition
- Volunteer on a project
- Listen to recorded webinars
- Download useful, free resources

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Questions

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Thank You!

- Contact me with additional questions or interest in joining the Business Payments Coalition at todd.albers@mpls.frb.org
E-Invoicing Resources

- Standards:
  - UN/CEFACT: The United Nations rules for Electronic Data Interchange for Administration, Commerce and Transportation:
    http://www.unece.org/cefact/edifact/welcome.html
  - ISO20022 - https://www.iso20022.org/trade_services_messages.page
- Europe:
  - European E-Invoicing Service Provider Association (EESPA): http://eespa.eu/
  - Pan European Procurement Online Portal (PEPPOL): http://www.peppol.eu/
- Australia:
  - Interoperability Framework: http://digitalbusinesscouncil.com.au/e invoicing-have‐your‐say

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E-Invoicing Resources

- E-Invoicing Platform: http://eeiplatform.com/
- Billentis: http://billentis.com/index_e.htm
- PayStream Advisors: https://www.paystreamadvisors.com/
- Exchange Summit: http://www.exchange-summit.com/
Methodology

The white paper is available via this link: https://fedpaymentsimprovement.org/