

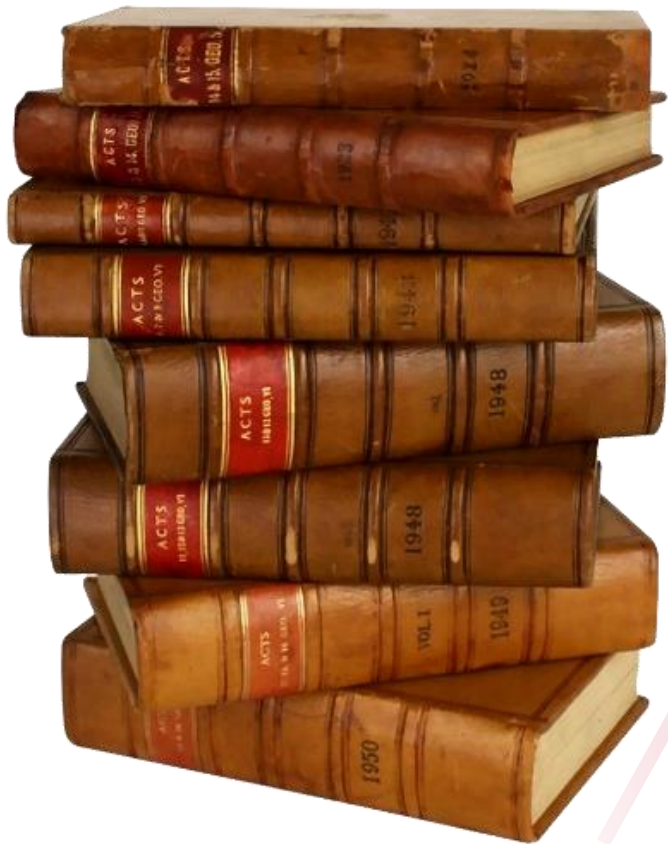


# Business Rules and Interoperability

## An Approach for the Mojaloop Community

Mojaloop Convening Arusha Jan 2019  
Carol Coye Benson, Glenbrook Partners

# About Payment System Rules



# About the Mojaloop Community Document Project

mojaloop

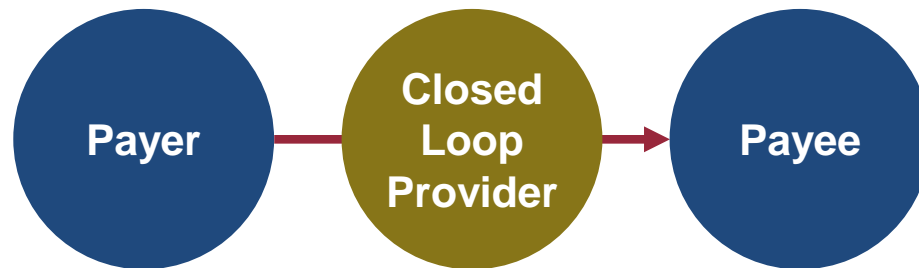


# Business Rules In Context

## An Interoperable (or Open-Loop) System

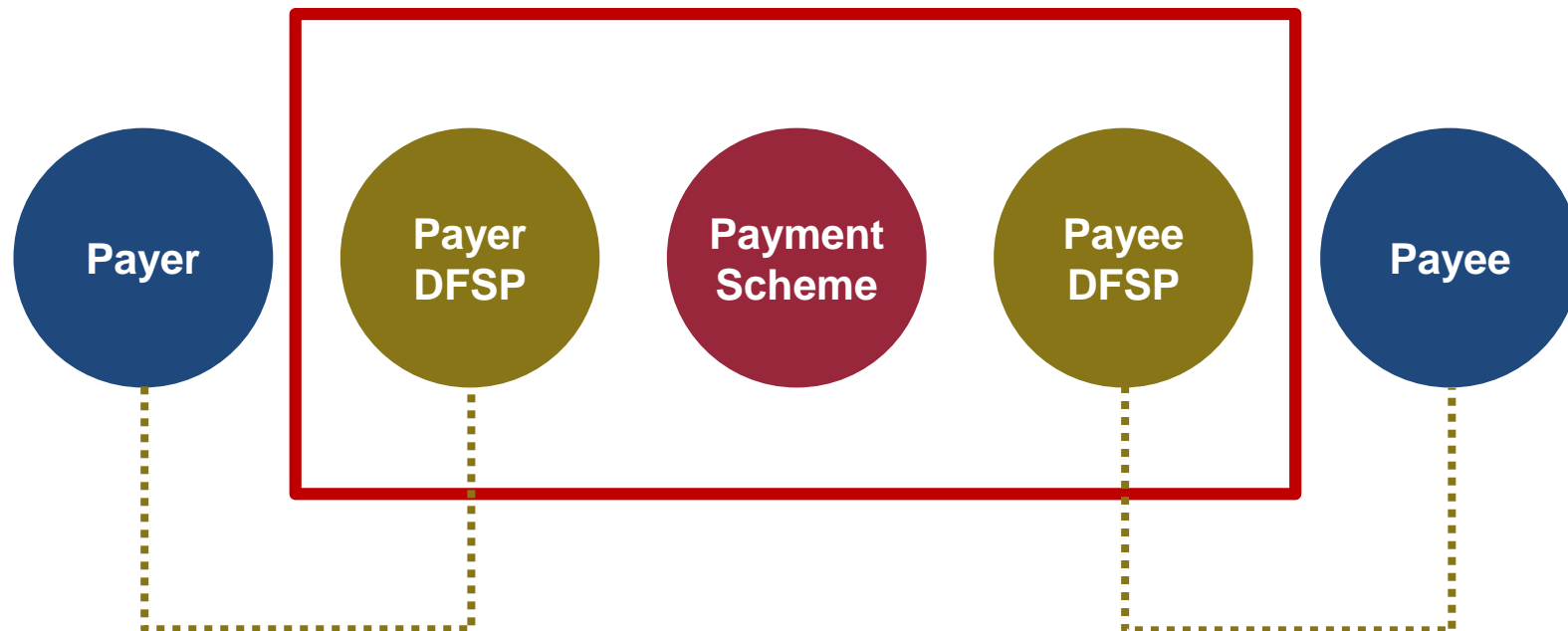


## A Closed-Loop System



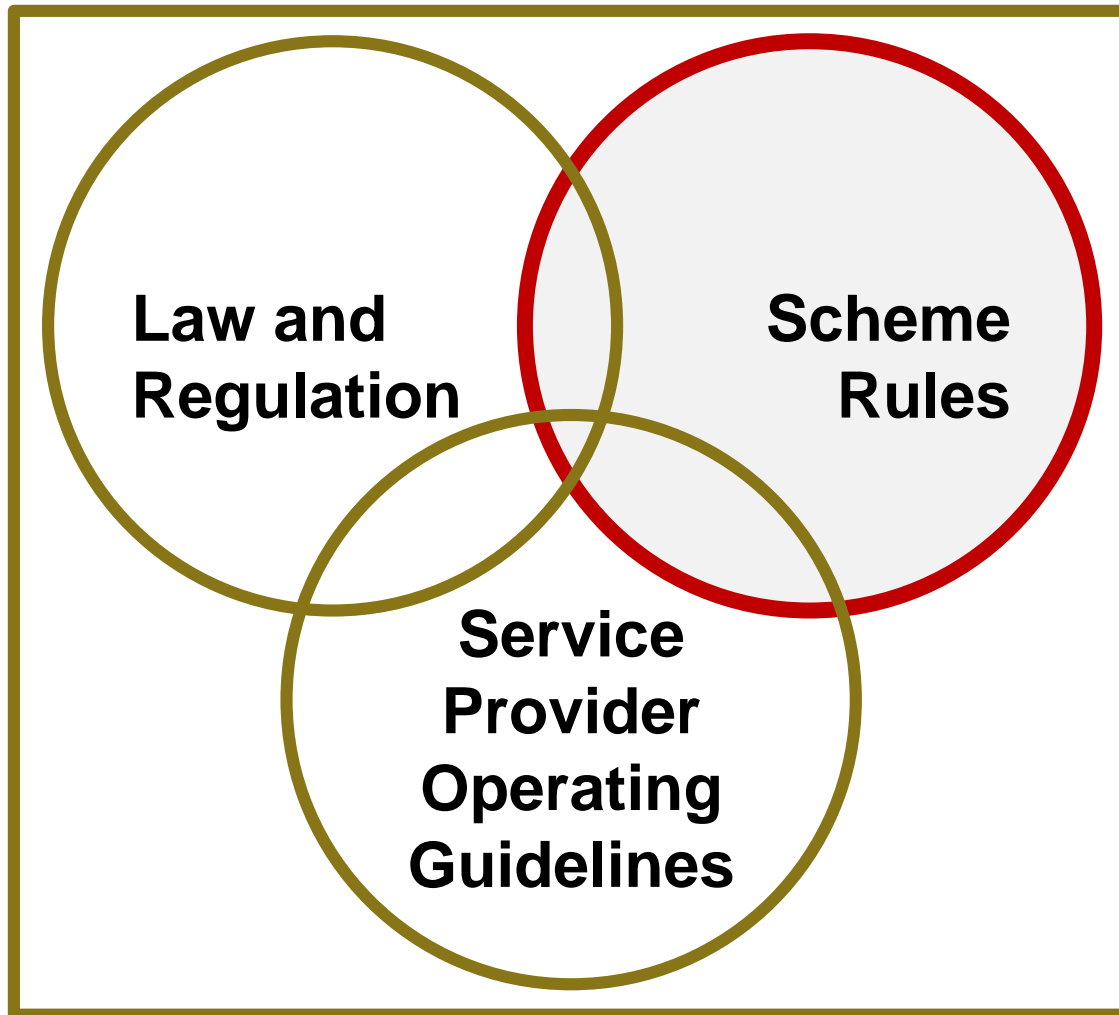
# Business Rules In Context

Scheme Business Rules are written by the Scheme and bind the participating DFSPs



DFSPs have their own business contracts with their customers. They may pass on certain provisions from the Scheme Rules.

# Business Rules in Context



**Standards**

**Market  
Practice**

**Partner  
Agreements**

**End-User  
Agreements**

# Business Rules Vary in Scope

## Check Clearing House:

“Meet at store parking lot at 4PM every weekday; bring your bags of checks to exchange with other banks.”

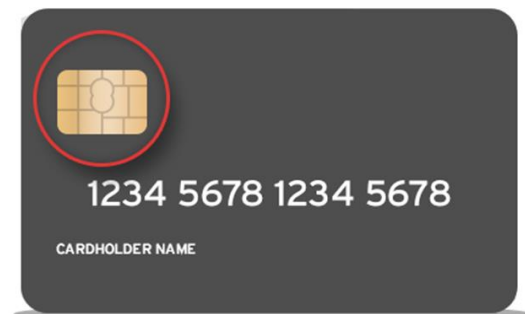




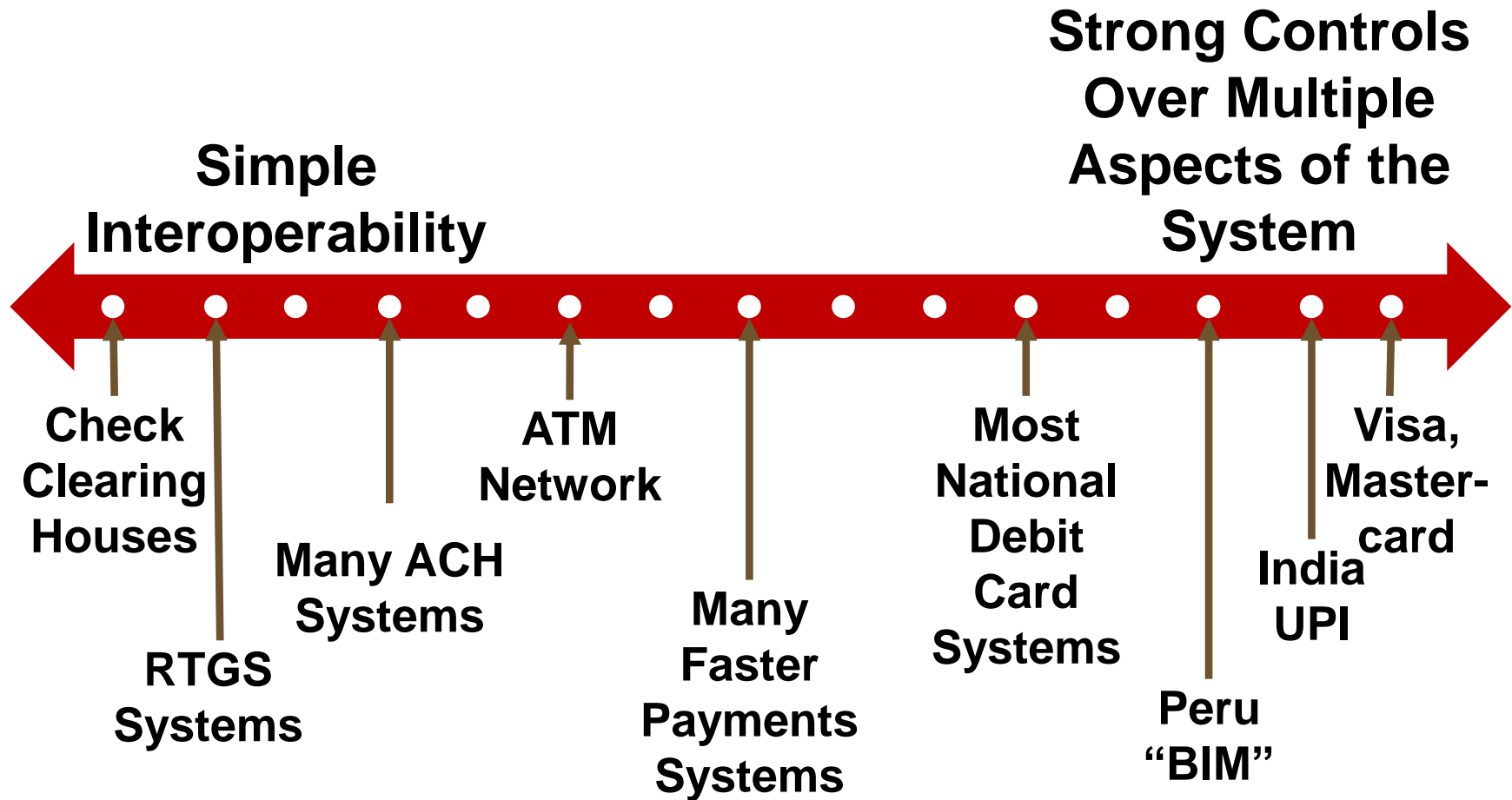
# Business Rules Vary in Scope

## MasterCard and Visa (U.S.):

“If a merchant does NOT have an EMV terminal, and the cardholder presents an EMV card, and the transaction is later disputed by the (legitimate) cardholder as unauthorized, then the merchant’s bank is liable, and must pay the consumer bank, who refunds the cardholder”.



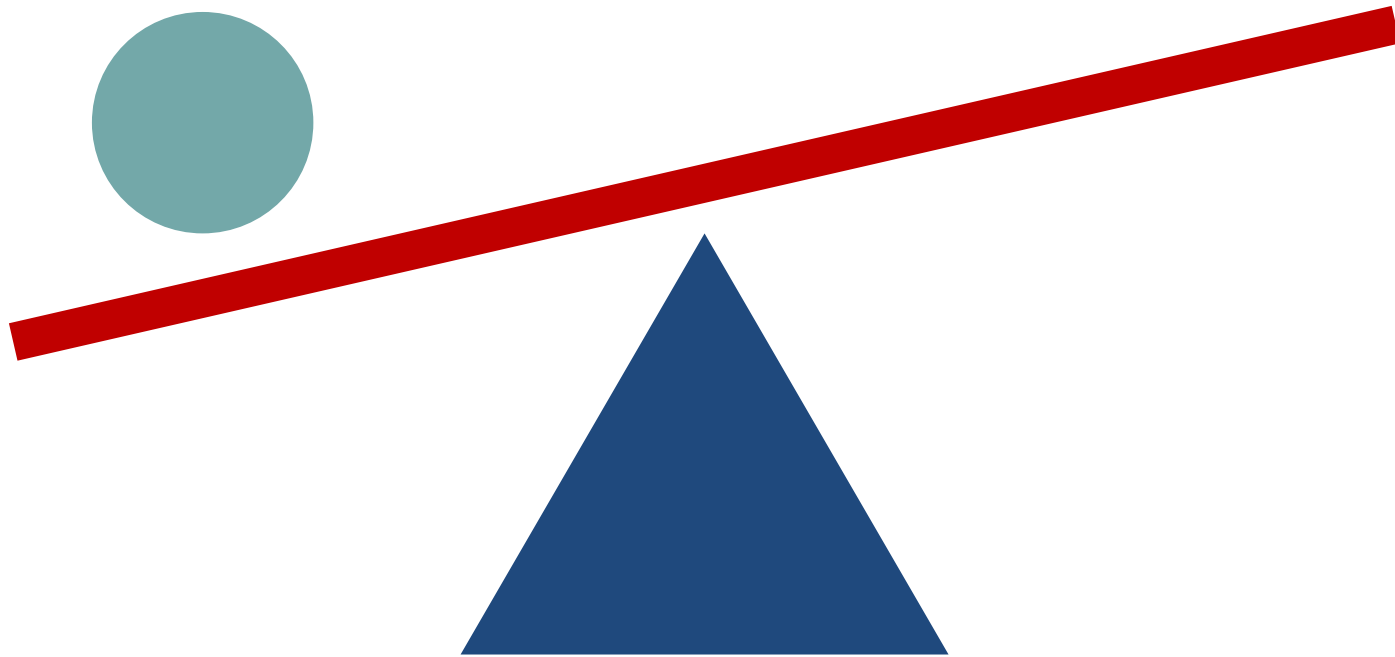
# Business Rules Scope Variations - Examples





# The Payment Scheme Challenge

Balancing between “a level playing field” for DFSPs, and allowing DFSPs to freely innovate and compete



# What Rules Do: Operational Specifications

- Types of messages (or API calls!), formats, data requirements
- Timelines, expiries, etc.
- Specific obligations and responsibilities of all parties:
  - The Scheme itself
  - Operator(s) of the Platform or other services (if different)
  - Participants (DFSPs), Participants as Payers, Participants as Payees
- Settlement procedures

# What Rules Do: Participation Specifications

- What kind of institutions can join; onboarding requirements
- What ownership options (if any) are available
- Scheme/Platform relationship
  - Scheme owns and operates platform
  - Scheme hires platform operator
  - DFSPs hire operators (they figure out how to interoperate)
- Who writes the rules? Who approves rule changes? If there is voting, what is the formula?
- What are the obligations of participants vis-à-vis third parties they may use or sponsor into the system
- Rules enforcement provisions: systemically enforceable/systemically recognizable/market enforced

# What Rules Do: Responsibility Specifications

## **Obligations of each party**


- Following the rules! Including Operational Guidelines
- Warranties and liabilities on transaction handling
  - For example, that a consumer has properly authorized a transaction before they send it to the platform
- Maintaining security and risk standards

Etc!

# What Rules Do: Economic Parameters

## Defined by Scheme Rules

- Platform processing fees
- Brand fees (if any)
- Interchange
- Membership fees (if any)
- Onboarding fees (if any)



Interchange can be either cost or revenue, to a DFSP, depending on the rule and their position on the transaction

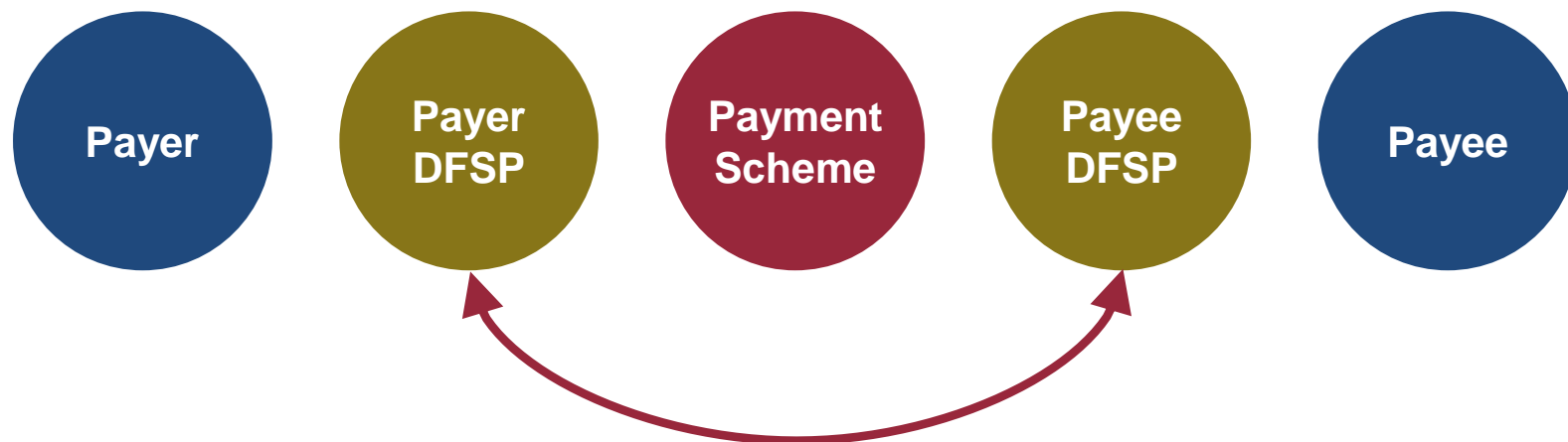
## Influenced by Scheme Rules

- Cost of integration with internal systems
- Cost of Rules-specified requirements for other processes

# Interchange: General Context

**Interchange is a concept in open-loop, interoperable payments systems**

- It is a payment from one system participant to another
- The scheme decides on the rate and the direction: which DFSP pays which?
- Some payments systems have interchange, and some do not.



# Interchange: General Context

## Arguments for interchange

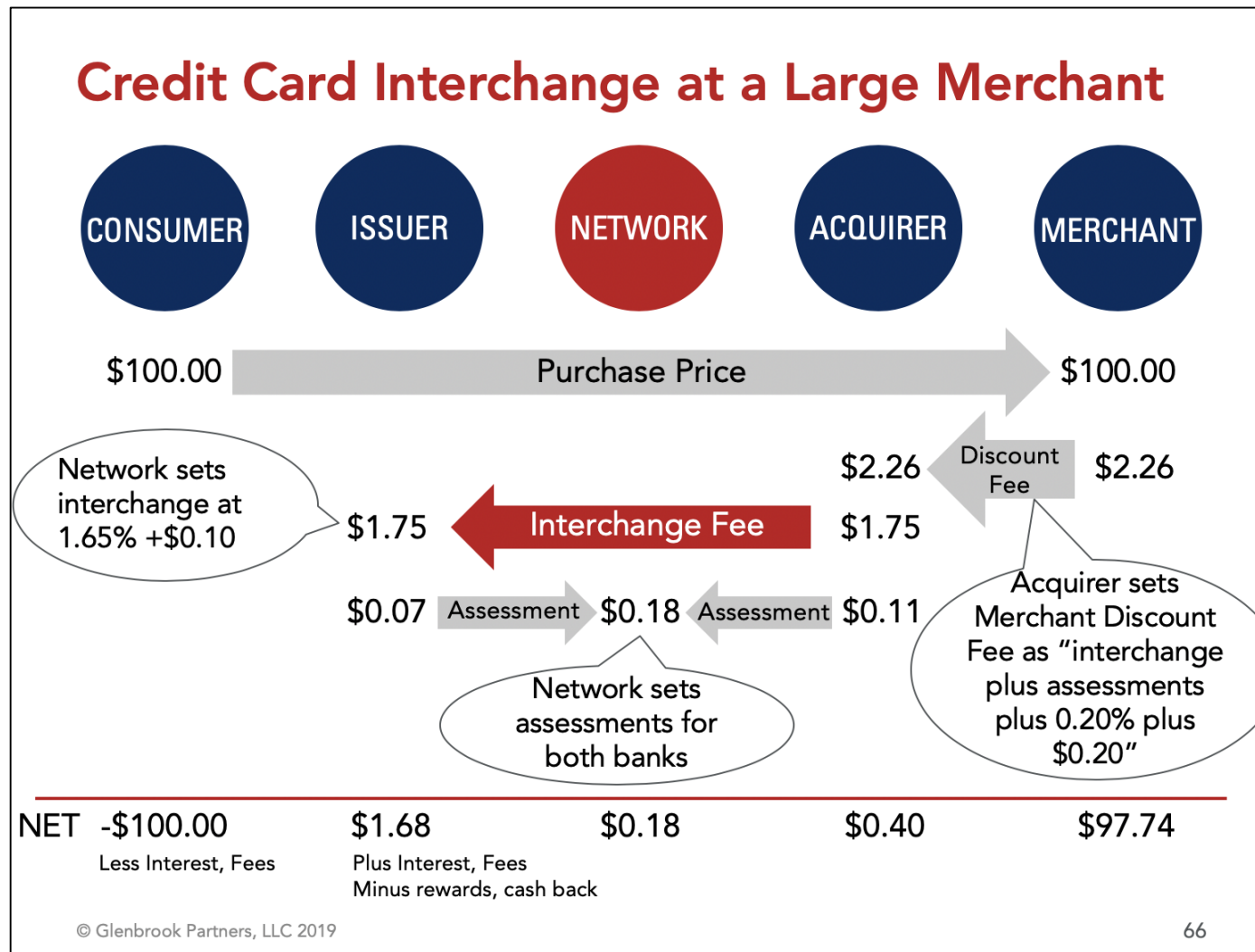
- Balance of costs and revenues among parties
- Billing mechanism between unrelated parties
- Incentive to get a system going

## Arguments against interchange

- Preserves existing business models
- It creates a minimum "hard" cost for the paying DFSP
- A history of abuse has led regulators to look at this closely



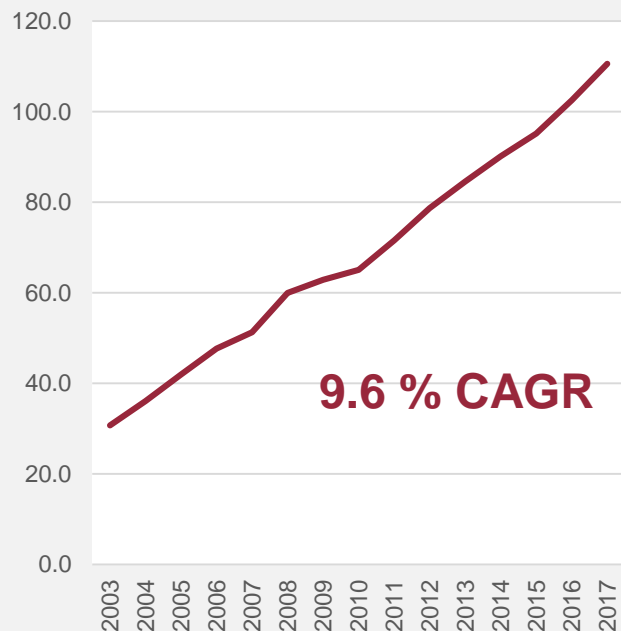
# Example: U.S. Credit Card Market



# Rules Can Drive Scale

## U.S. Card Payments

Transaction "Count"  
2003-2017 in Billions



Source: Glenbrook Analysis

FPS volumes since launch

## Faster Payments UK

Payment Volume 2008-2018



Source: Faster Payments UK

## Visa: One Of The Best Businesses In The World

Jul. 26, 2018 5:31 AM ET | About: Visa Inc. (V)

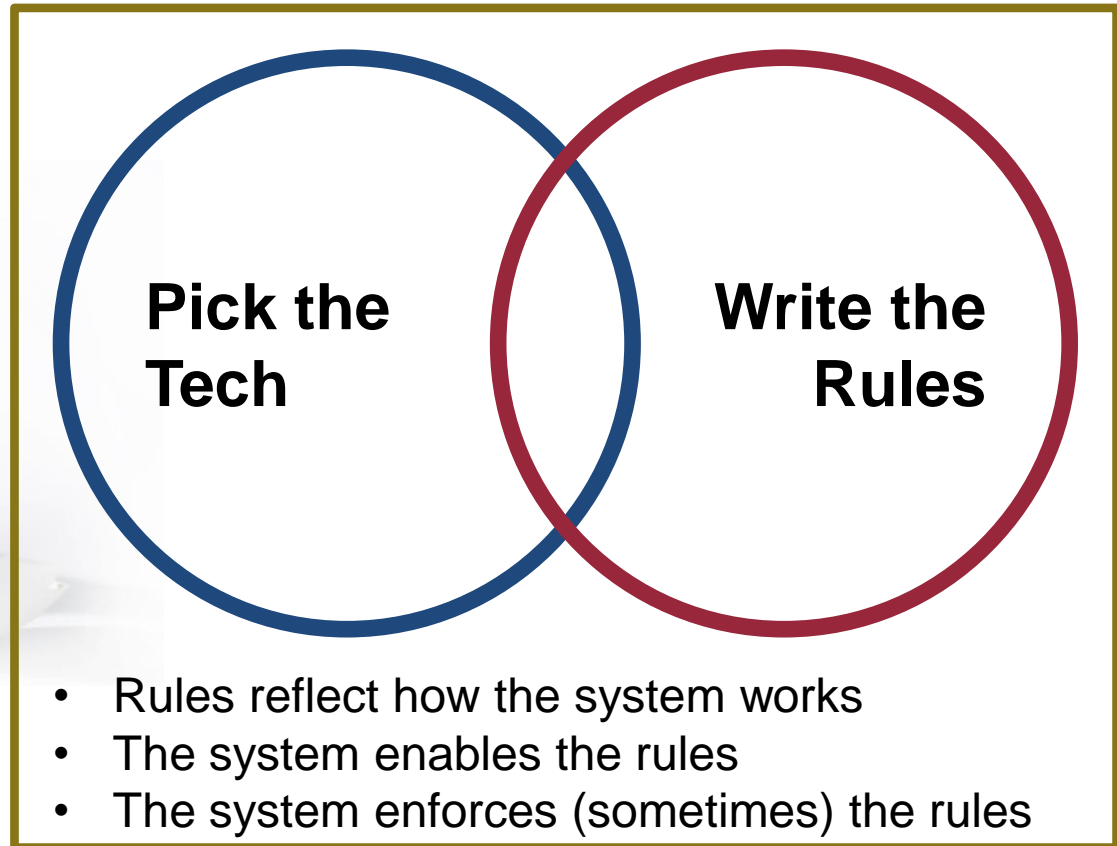
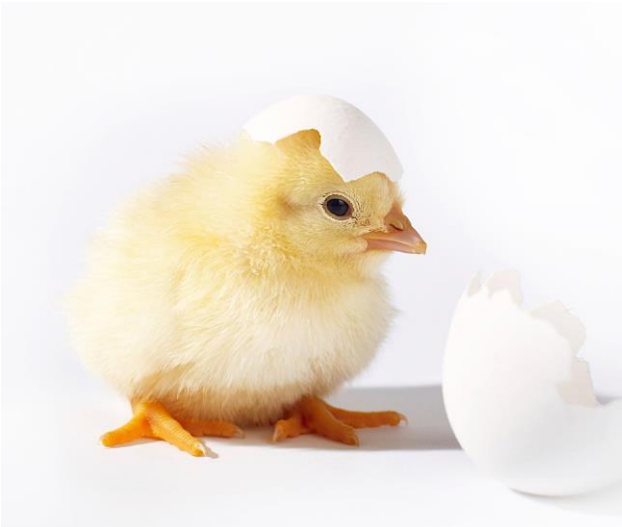
Seeking Alpha<sup>α</sup>

# Rules Can Drive Scale

- “Honor all Cards” and “Must Receive” rules
- “Chain of Liability” reduces friction
- “Obligation to Pay” (sending DSP must settle once transaction is received at hub); even stronger with Hub financial guaranty
- Common customer experience
- Dispute resolution and customer protections



# So, You Want to Start a New Payment System....



# The Mojaloop Community Document Project

## Goals

- Create a set of rules templates for rules for payments schemes following the Level One Design Principles
- Templates can work for many different schemes, but are designed to work in particular for schemes adopting Mojaloop
- Create a structure that will evolve along with the Mojaloop code
- Try to influence the use of rules that drive scale
- Try to anticipate the need for eventual cross-system interoperability

# Mojaloop Community Document Project - Plan

**Scheme  
Incorporation  
Document**

**Scheme  
Participation  
Agreement**

**Scheme  
Business  
Rules**

**Scheme  
Operating  
Guidelines**

**Scheme Key  
Choices and  
Policies**

**Scheme  
Glossary**

**Scheme  
Technical  
Documents**

**Scheme  
Implemen-  
tation  
Documents**

**Other  
Standards**

**Open API  
For FSP Inter-  
operability**

**Mojaloop  
Glossary**

**Mojaloop  
Technical  
Documents**

# Scheme Key Choices Document

1. Ownership of Scheme
2. Participation in the Scheme
3. Relationship of Scheme to Platform
4. Scheme Rules Authority
5. Use Case Support and Staging
6. Directory and Payee Identifiers
7. Settlement Model
8. Indirect (Tiered) Access
9. Scheme Fees and End User Pricing
10. Common Brand
11. Scheme Rules and the End-User Experience
12. Scheme Connections to Other Schemes
13. Scheme Rules and Exception Processing



# Business Rules Template

- Organizational Goals
- Scope of Rules
- Participation Eligibility
- Participant On-Boarding and Exit Processes
- Scheme Functions
- General Participant Functions
- Payer & Payee DFSP Functions
- Specific Rules for Use Cases
- Transaction Irrevocability
- Exception Management
- Liability - Allocation

## Appendices

- List of Associated Documents
  - Platform Operating Guideline
  - Other Service(s) Operating Guidelines
- Supported Use Cases and Secondary Use Cases
- Fee Schedule
- Risk Management, Security, Privacy, and Service Standards
- Exception Management

# Operating Guideline(s) Template

## Mojaloop Technical Documents Envisioned

- Platform Service Description
- Settlement Service Description
- Directory Service Description
- Fraud Management Service Description
- Cross-border Payments Service Description



## Operating Guideline Documents Envisioned

- Platform Operating Guideline
- Settlement Service Operating Guideline
- Directory Service Operating Guideline
- Fraud Mgmt Service Operating Guideline
- Cross-border Payments Service Operating Guideline

## A Closing Word on Glossaries

Goals: keep variances at at a minimum;  
understand variances where they exist

