VALUE ANALYSIS OF RETAIL ELECTRONIC PAYMENTS MARKET:

A generic value framework for electronic payment services providers

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Roadmap

- Introduction
- Background terminology
- Review of value creation theories
- Overview of the framework
- Conclusion and future work

Introduction

- What ?
  - Present a framework for value analysis of the payments industry, based on the concepts of value chain (Porter, 1985), value shop and value network (Stabell and Fjeldstad, 1998)
- Focus ?
  - Theoretical contribution to the analysis of electronic payments
- To whom ?
  - Banks, payment service providers, telecommunication companies

Payments market overview

- Technology evolution
- Emerging payment methods and instruments
- Increasing competition from non-banks
- High cost of innovation failures
- Strong network externalities

Decision makers' needs

- Strategic decisions
  - Market entrance
  - Positioning to the market
  - Appropriate portfolio mix
- Tactical decisions
  - Marketing mix
  - Operation
- Need for intelligent tools

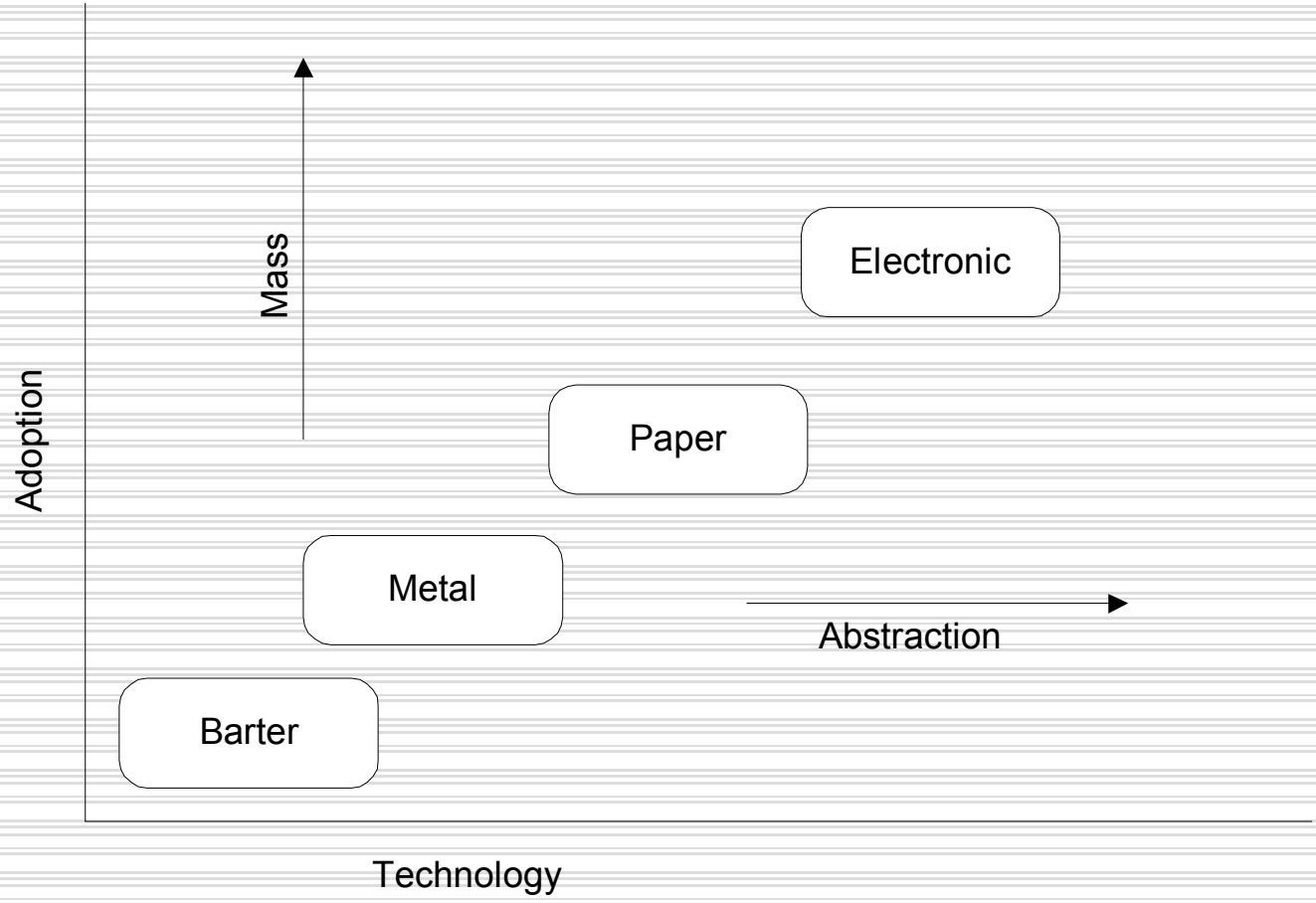
Some terminology

- Money
  - Traditional: a medium of exchange, a unit of account and a store of value
  - Sociology of money (Zelizer, 1994): money is not an economic phenomenon but a social one
- Payment: the payer's transfer of a monetary claim on a party acceptable to the payee

Some terminology II

- Payment system: a set of instruments, banking procedures and, typically, interbank funds transfer systems which facilitate the circulation of money
- Payment instrument: any instrument enabling the holder/user to transfer funds
- Electronic payments: payments that are initiated, processed and received electronically
- Clearing , Settlement

Evolution of payments



Value creation theory

- Porter (1985) introduced the value chain framework
- Stabell and Fjeldstad (1998) proposed value shop and value network models

Value chain model

- Value creation through transformation of inputs to products mainly through sequential process. It is consisted of primary and support activities
  - Primary activities are directly involved in creating and bringing value to customers. Porter's (1985) five generic primary activities of a value chain are, inbound logistics, operations, outbound logistics, marketing and sales, and service
  - Support activities that enable and improve the performance of the primary activities are, procurement, technology development, human resource management and firm infrastructure (Porter, 1985)

Value shop model

- Value creation through problem solving. Value is created by mobilizing resources and activities to resolve a particular customer problem (Stabell and Fjeldstad, 1998). Customer value is not related to the solution itself, but to the value of solving the problem
  - Primary activities of a value shop are, problem-finding and acquisition, problem-solving, choice, execution and control and evaluation (Stabell and Fjeldstad, 1998)

Value network model

- Value creation through linking customers. Value networks rely on a mediating technology to link independent customers
  - Primary activities of a value network are network promotion and contract management, service provisioning, and network infrastructure operations

Value network model II

- Network promotion and contract management consists of activities related to attracting and selecting customers and to managing the customer relationship, in particular contracts related to governing service provisioning and pricing
- Service provisioning is linking customers to one another and charging for the services provided
- Network infrastructure operation consists of activities related to maintaining a physical and informational infrastructure

Value creation, can be direct between two customers, or indirect where one customer is not linked directly to another customer but linked through a pool

Relevant research

- Network economics studies
  - Researchers in the field approach payments domain from a network economics perspective (Chakravorti, 2003; Chakravorti and Roson, 2004) emphasizing in network effects that are present in such industries (Guibourg, 2001), or studying adoption (Saloner and Shephard, 1995) under the presence of network effects

Relevant research II

- Similar approaches
  - A framework towards payment services provision is presented by Kannen et al (2003), which analyses the payment process in phases based on Lelieveldt's (2001) generic B2C purchase process analysis
  - A value network approach is presented in Sannes (2001), who proposes such a model for self-service banking based on firm's value theory (Stabell and Fjeldstad, 1998)
  - Camponovo and Pigneur (2002) also utilize value network theory in their analysis of mobile business

Our contribution

- Relative lack in theoretical work towards an integrated value analysis framework for electronic retail payments
- Extensive studies related to technology and security issues, user requirements (Abrazhevich, 2001a, 2001b, 2001c, 2002), adoption and diffusion, provide extensive knowledge to researchers, but they are not practical for the decision makers in the domain, that need integrated analysis tools

- Our work aims to contribute in the above, providing a value analysis framework for retail electronic payments domain

Framework

- Payment layers
- Actors
- Value network configuration

Payment layers

- Retail electronic payments is a network product
- Three-layer structure: core services, network infrastructure and payment services
- Each layer comprises services provided from corresponding actors that are either essential for the payment activity or facilitate the payment process.
- Each service incorporates a value offer to consumers or users of payment service

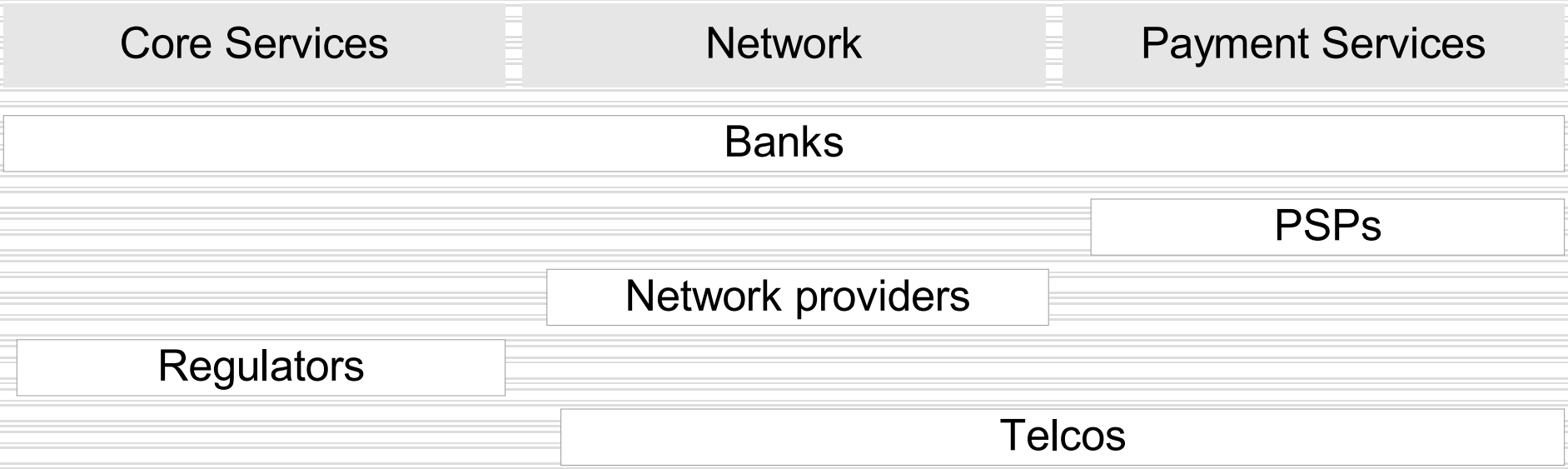
Payment layers

Payment Layers	Provided Services
Payment Services	Payment services built on the network infrastructure (e.g. withdrawal, deposit, payment)
Network Infrastructure	Existing or new network services that connect users of core services (e.g. telephone, internet)
Core Services	Social contract about "what is accepted as money" (e.g. metal, paper, check, plastic), instrument issuing, trust building, account provision

Actors

- Payments industry has evolved through the years as a collection of specialized products built around single purpose networks
- Various players operate in retail electronic payments industry today, ranging from traditional banks to non-bank payment service providers

Actors


Core Services
Network
Payment Services
Banks
PSPs
Network providers
Regulators
Telcos

Value network configuration

- Map each payment layer to a primary activity as is defined in value network configuration
  - Payment services -> service provisioning
  - Network -> infrastructure operation
  - Core services layers -> network promotion and contract management

Value network configuration II

- Divide a retail electronic payment in three phases:
  - pre-payment
  - payment
  - post-payment
- Identify a value entity for each primary activity and payment phase box of the matrix, resulting in a generic value matrix

Value network configuration

Payment layers	Primary activity	Payment phase		
		Pre-payment	Payment	Post-payment
Payment Services	Service provisioning	pre-payment services	transaction services	post-payment services
Network	Infrastructure operation	availability	accessibility	customer training
Core Services	Network promotion & contract management	services bundling	channel integration	customer service and self-service

Conclusion

- A payment system or innovation is not a competitive advantage by itself
- Competitive advantage comes from built around services and customer service
- Present complexity in the domain requires an integrated view, helpful for the decision makers
- Future directions of our work include extensive value analysis of the electronic payments industry and enhancement of our framework with contributions from real cases