



E- and M-Payments: Evolution or Paradigm Shift?

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E-money euphoria at the end of last century

- “It [electronic money] has the potential to change everything, to alter the very fabric of business and, perhaps, even to shake up economics and governments all over the world” in Business Tech, 12(4), 1996.
- Charles Goodhart, Can Central Banking Survive the IT Revolution, July 2000.



E-Money Schemes in 2000 (CPSS. E-Money Survey May 2000)

Austria	Quick
Belgium	Proton
Brazil	VISA Cash, SIBS
Canada	Mondex Canada Pilot program 1, 2
	VISA Cash
Costa Rica	Futura 3000, Mondex (Credomatic)
Finland	Avant II, Matkahuolto, Rovaniemi Citycard, Vaasa Citycard, Seinäjoki Citycard, UniCard
France	Kleline
Germany	GeldKarte
Hong Kong	Octopus, Mondex, VISA Cash
Italy	Cassamat, MINIpai, VISA Cash
Lithuania	ImparCard
Mexico	Visa Cash, Monedero Electronico Inbursa (Proton)

Netherlands	Chipknip, Chipper
Portugal	PMB(Porta-Moedas Multibanco)
Singapore	CashCard
Spain	Monedero 4B, VISA Cash, Euro 6000, Virtual C@sh
Switzerland	Cash, e-cashTM
Thailand	MicroCash, SCB Smart Card
Turkey	Akilli Bayi Kartlari, (Moneycard)
UK	Barclaycoin13, Mondex, Visa Cash, Magex Wallet
USA	Visa Cash (New York) Mondex (New York) eCash Technologies Cybercoin

Most schemes failed commercially



The failure of e-money

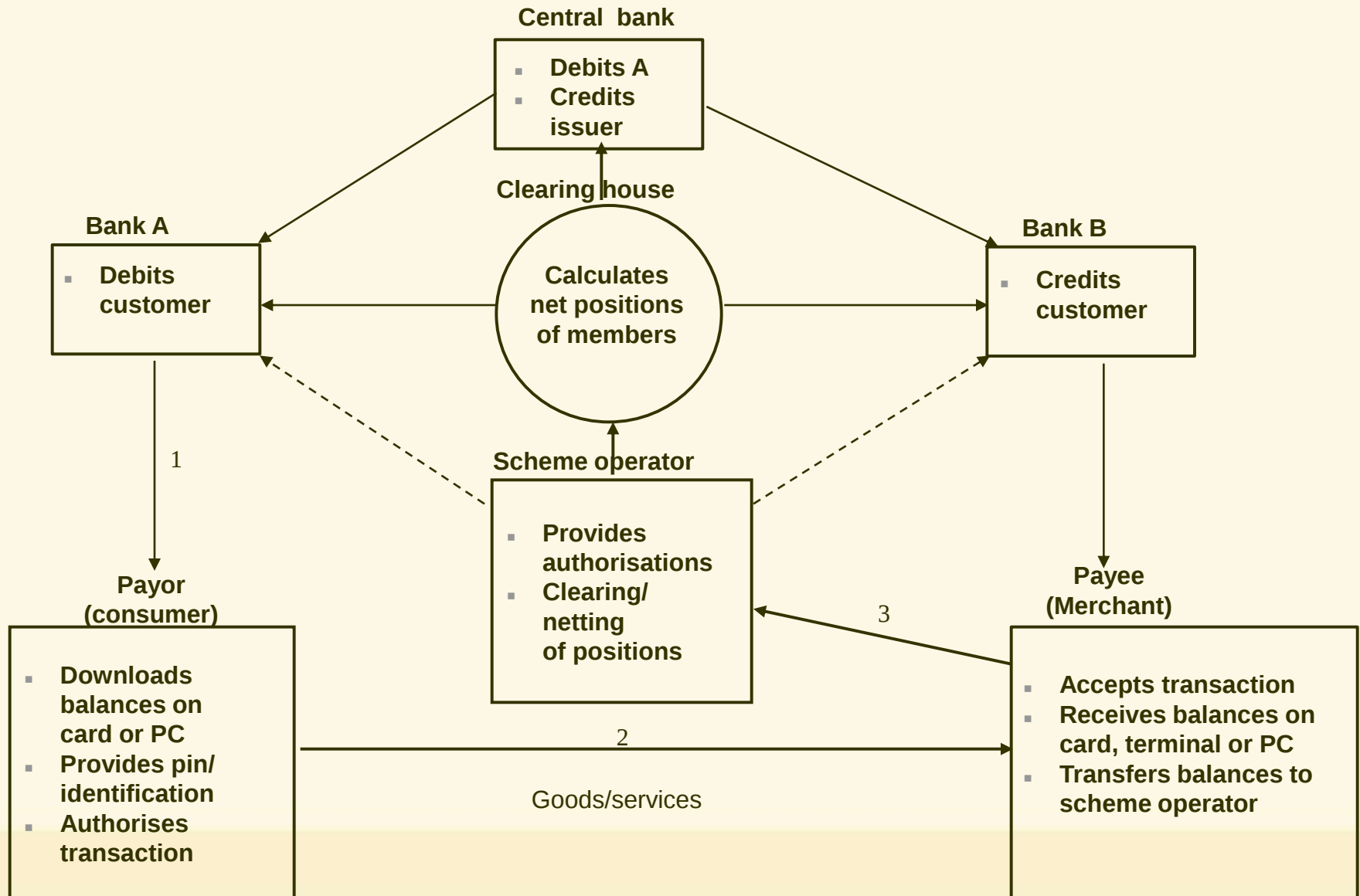
- E-money did not catch on
- Unspectacular schemes like credit and debit cards were much more successful
- Will m-payments be more successful?



No lights to study at home, but probably most have a mobile phone

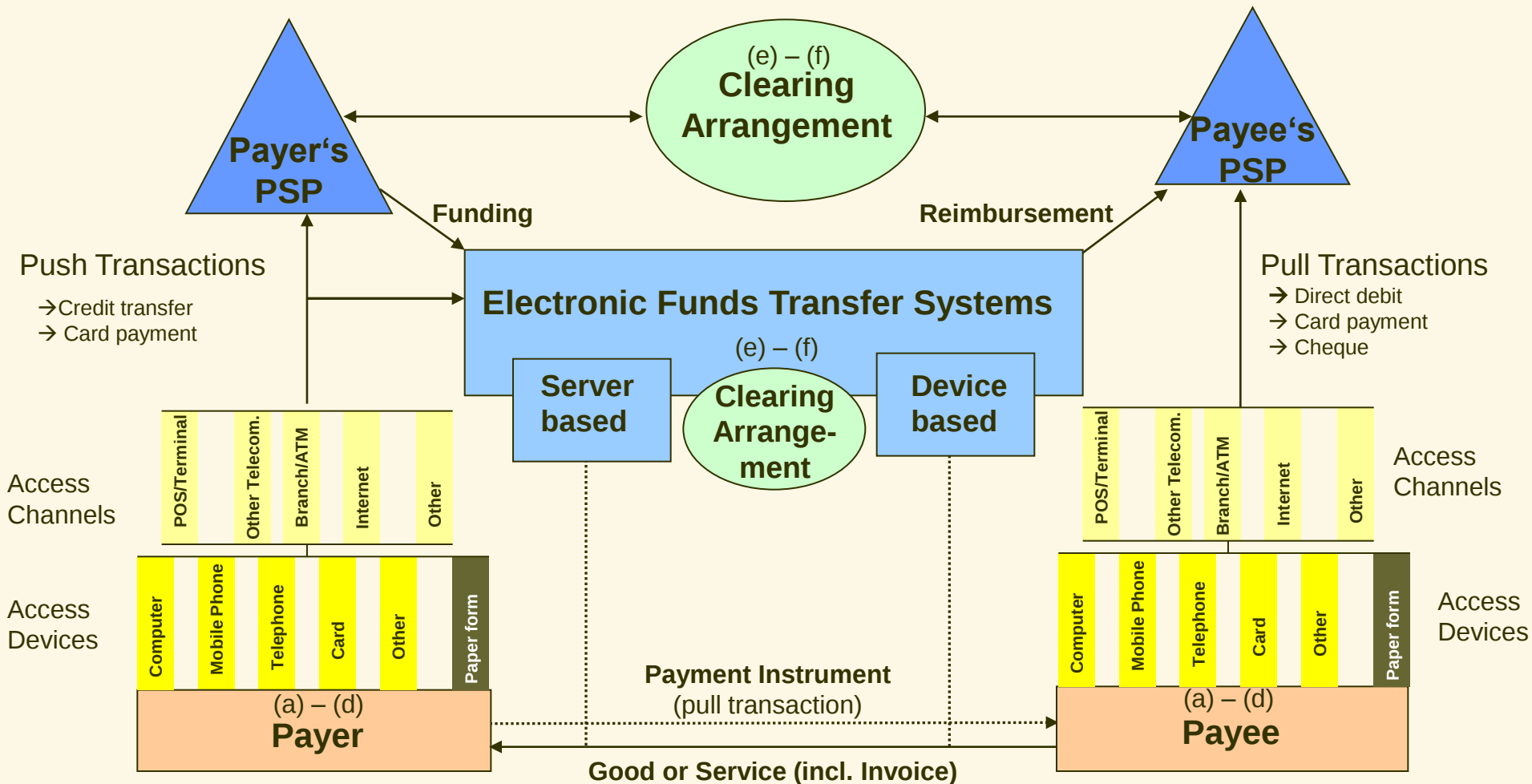


Message flows and book entries in a typical e-money scheme





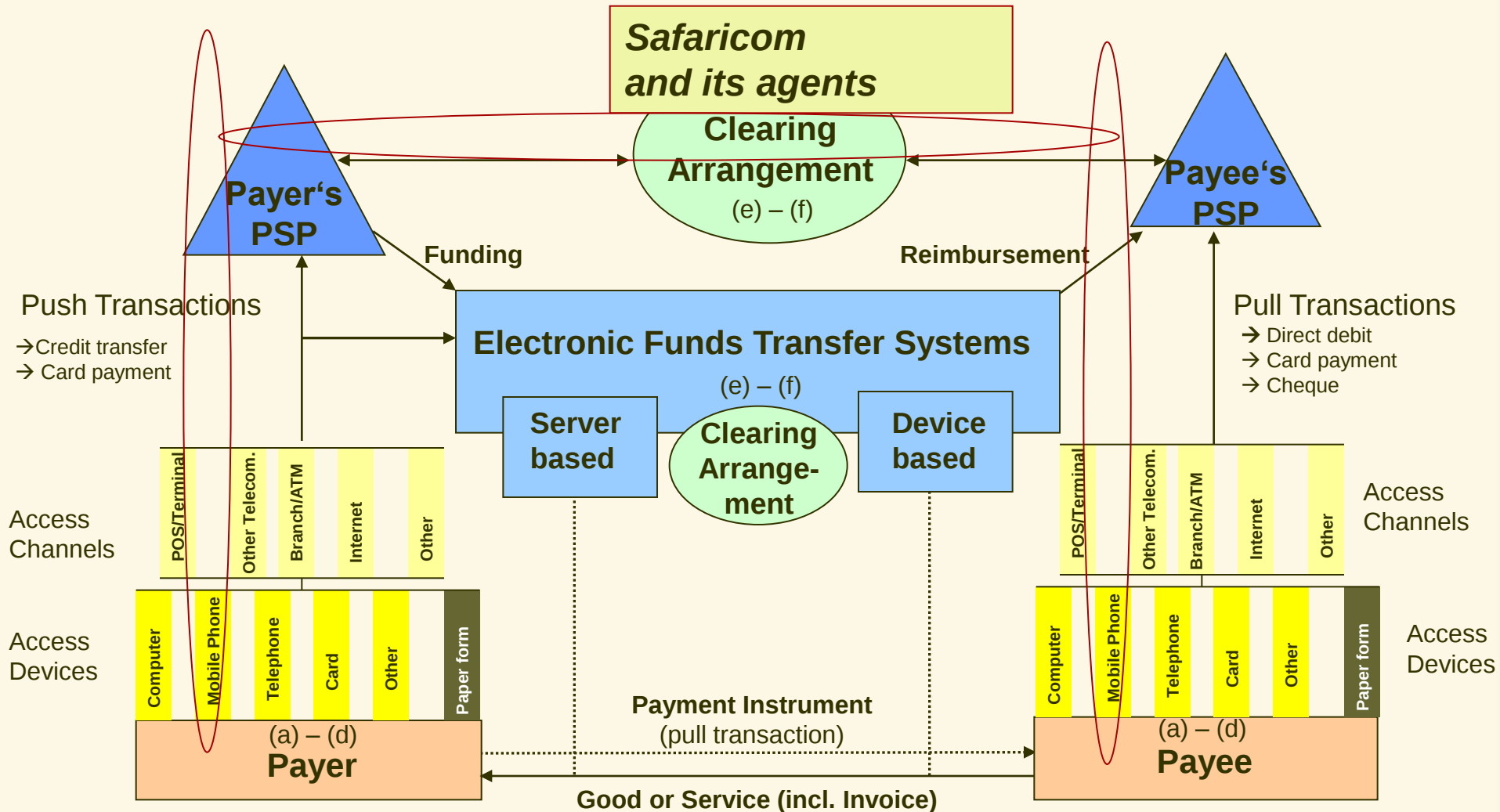
A conventional retail payment scheme



(a) verification of the identity of the involved parties (b) validation of the payment instrument (c) verification of the ability to pay (d) authorisation of the transfer of the funds by both the payer and the payer's financial institution (e) communication of the information by the payer's financial institution to the payee's financial institution (f) processing of the transaction.



A typical M-payment scheme such as M-PESA



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Hypotheses I

- Commercially successful innovation is difficult in two-sided markets
- Consumers are creatures of habit
 - switching costs < benefits
- Failure of e-money schemes are due to too strong competition
- M-payment schemes catch on where competition is weak



Hypotheses II

- M-payment schemes depend on quasi monopoly of provider
- Operational complexity of m-payments puts doubt on economic sustainability of low value transactions
- Walking on egg shells: security gaps can make m-payment schemes collapse very rapidly
- Unknown critical success factors
 - If m-payments were the superior model why are there not more examples