



E-invoicing a cornerstone in Real-Time Economy

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Outline & key takeaways

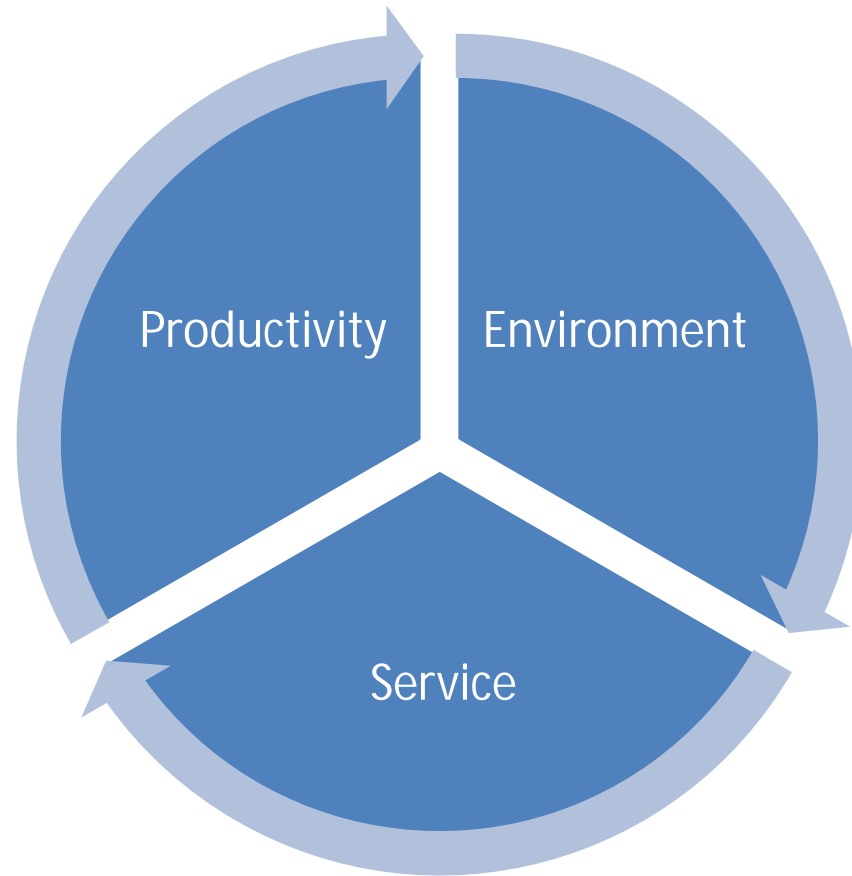
- Steps in the Real-Time Economy program
- Research results:
 1. How to onboard your suppliers?
 2. How to choose the service provider for e-invoicing?
 3. What comes after e-invoicing? – e-accounting reference as a value-added service & cash flow estimates

From EDI to XML

EDI versus Open-standard IOL		
	EDI	Internet-based IOL
Content platform		
Data standards	Open standards (e.g. ANSI X12, EDIFACT), but less open than XML	Open standards (XML-based standards, ebXML)
Complexity	High	Low
Customization	Highly partner-specific	Less partner-specific
Delivery platform		
Communication protocols	VAN (private)	Internet (open, TCP/IP based)
Interoperability	Low	High
Communication costs	High	Low
Trading partner base		
Scope	Relatively narrow, with existing partners	Broad, with existing and new partners, hence strong network effects

Zhu, Kraemer, Gurbaxani & Xu (2006). Migration to Open-standard Interorganizational Systems: Network effects, Switching Costs, and Path Dependency, MIS Quarterly, vol. 30, August 2006.

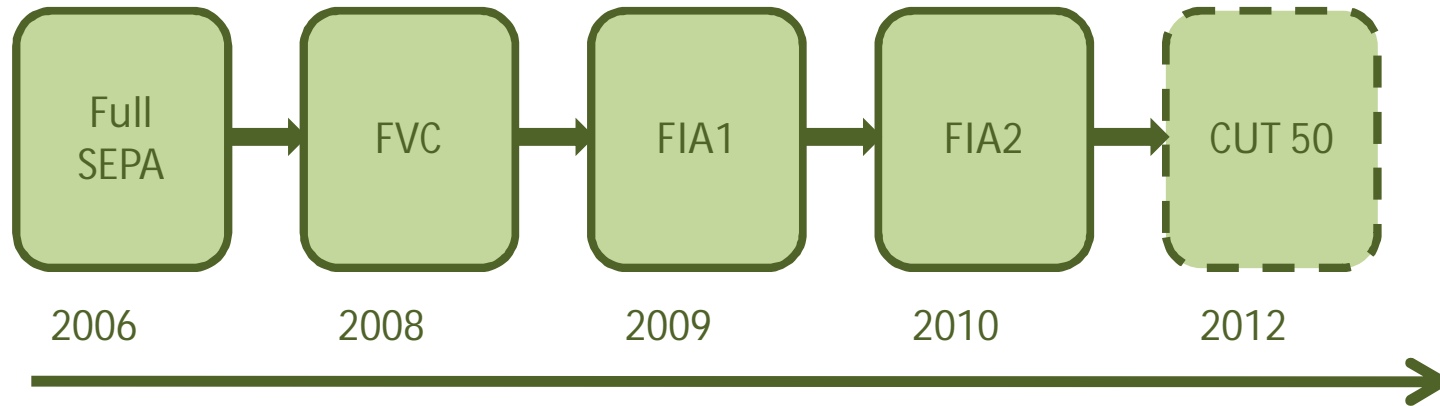
Why Real-Time Economy?



Benefits

Benefit	Function/item	Results	Cases/references
Productivity	Accounts payable	Around 50% workload reduction in accounts payable, (increased FTE efficiencies of 59% 48% 44%; three large Finnish organizations)	Lindström, Finnair, Finncontainers, Tania Potapenko thesis
Environment	CO2e	<u>Purchase invoices</u> 1 paper invoice 407 gCO2e 1 e-invoice 30 gCO2e <u>Sales invoices</u> 1 paper invoice 364 gCO2e 1 e-invoice 9 gCO2e	Tieto, Maija Tenhunen thesis

Real-Time Economy – Projects



Full SEPA
(Full Single Euro
Payment area)

- SEPA payments
- E-invoicing



FVC
(Full Value Chain)

- Harmonizing value chain development

FIA 1
(Fully Integrated
Accounting 1)
1.1.2009-30.6.2010

- E-accounting reference
- Standard for Mandatory Business Reporting (www.raportointikoodisto.fi)
- Global e-invoicing standard ISO20022
- European e-invoicing work

FIA 2
(Fully Integrated
Accounting 2)
1.8.2010-30.12.2011

1. URC - Unified Reporting Code
2. FIP - Fully Integrated Payroll & HR Reporting Scheme
3. IDE-a – Automated Accounting

CUT 50 ('Administrative costs in half...')
2012-2013

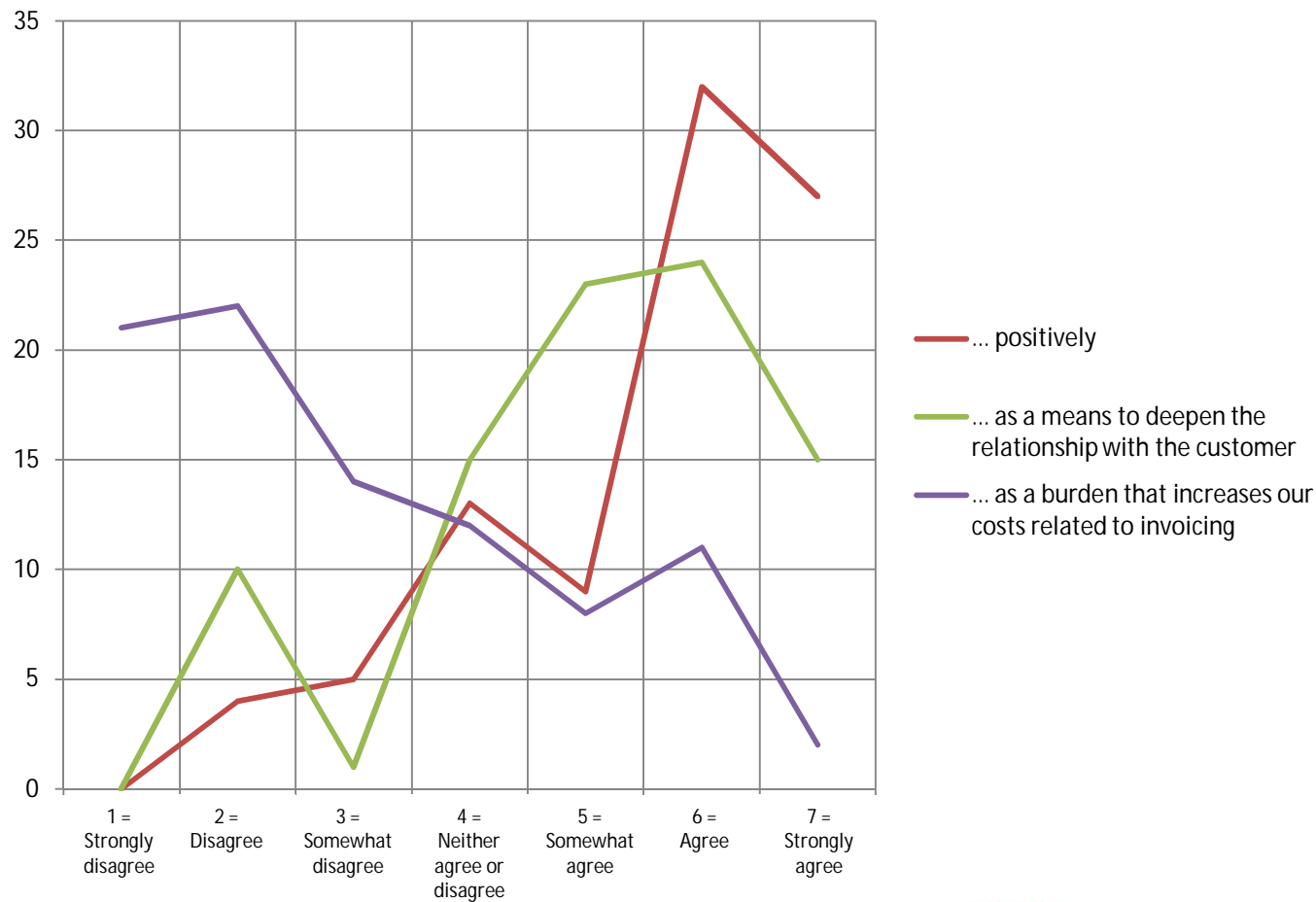
1. AFA – Automated Financial Administration
2. FAR – Fully Automated Reporting
3. ERM – Enterprise Risk Mitigation
4. SIM – Sustainability Intelligence Management

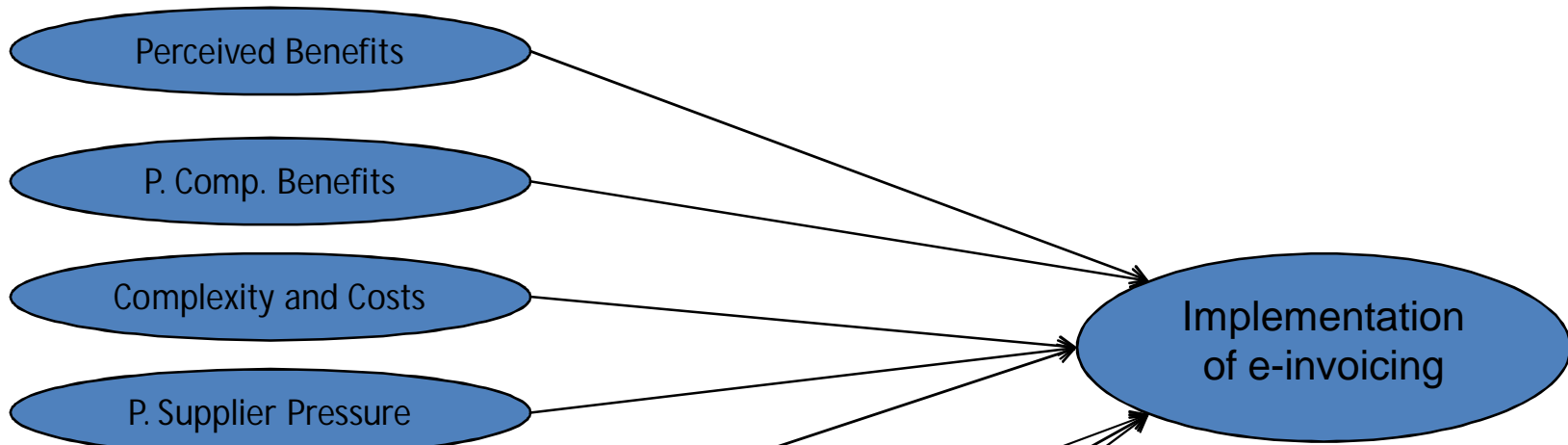


How to onboard? Sticks or carrots?

- Follow-up survey on enforcement letters by UPM-Kymmene, Tieto and Hansel
- Testing the effect of eight factors on pace of adoption of e-invoicing implementation
- 108 responses from Finnish companies

Suppliers perceived the enforcement letters sent by the customer company...





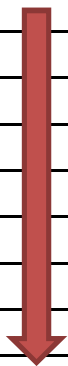
According to this study, carrots might not work so well...

E-invoicing is not considered complex, however the company needs to assign organizational resources (technical and financial)

Enforcement letters work!

Network effects!

Model	Significance	
Constant	0,000	
PC1: Perceived benefits	0,083	*
PC2: Perceived competitor benefits	0,100	
PC3: Complexity and costs	0,133	
PC4: Perceived supplier pressure	0,005	***
PC5: Perceived customer pressure	0,733	
PC6: Extent of adoption among ecosystem	0,004	***
PC7: Organizational readiness	0,000	***
PC8: Perception of the enforcement letters	0,001	***



How to choose the e-invoice operator?

- What are the most important criteria companies appreciate when choosing the e-invoice operator?
 - Reach
 - Economic Viability
 - Flexibility in Technology Consolidation
 - Project Management Ability
 - Customer References
 - Long Term Total Price
 - Relationship
 - Service Development
 - End-user Usability
- 287 responses from Finnish companies

Discrete Choice Analysis

Most important criteria

Level 2 is enough for these criteria

Please choose the most preferred option of these three options:

Criteria	Option 1	Option 2	Option 3
Reach	Many are left out	A few are left out	All
Economic Viability	Precarious	Excellent	Fairly good
Flexibility in Technology Consolidation	Both tailor to compatibility	We tailor for operator's needs	Tailors for our needs
Project Management Ability	Could be improved	Good	Top class
Customer References	None	Several similar to us	Few
Long Term Total Price	About average	15 per cent above average tender	15 per cent below average tender
Relationship	We receive special treatment	We are one among others	We are less important than others
Service Development	Does not develop the service	Proactively	If requested
End-user Usability	Average usability	Quick and easy to use	Slow and difficult to use

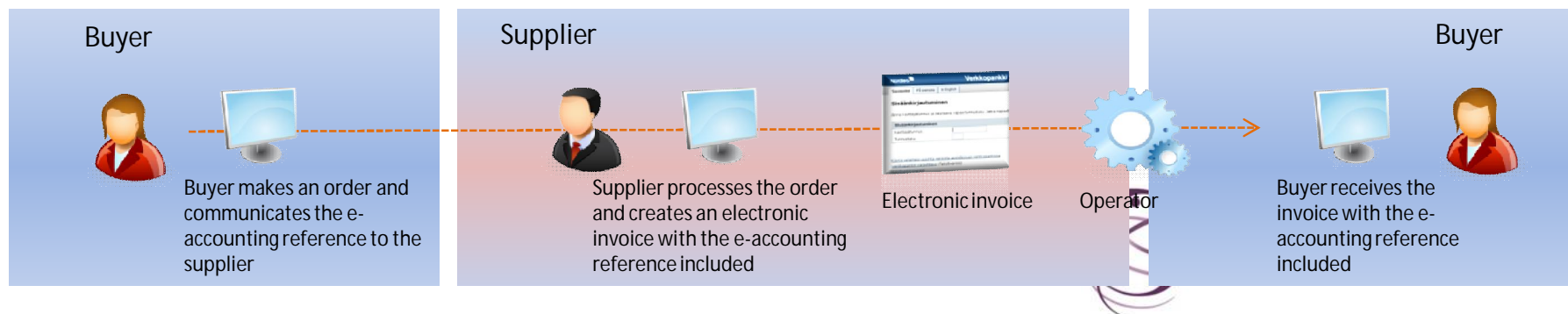
The respondent chooses the most suitable profile among the three alternative operator profiles

Looking beyond e-invoicing

- Value added services built on e-invoicing
 - E-accounting reference and cash flow estimates

Electronic accounting reference

- Electronic accounting reference is inserted onto the electronic invoice (on invoice level or row level) to automate the posting of incoming invoices to accounting systems at the buyer site
- Current real-life examples of the inclusion of accounting information on the electronic invoice include e.g. contract-based invoicing such as telecom and leasing
 - However, these practices in different organizations vary greatly (e.g. form of accounting information, field used in message descriptions etc.)
 - → Aim of the e-accounting reference concept is to harmonize these practices
- In Finland, the most common electronic invoicing message descriptions are TEAPPSXML and Finvoice. Both of these support the use of electronic accounting reference
 - TEAPPSXML 2.7.1: Account_Reference
 - Finvoice 1.3: AccountDimensionText
- E-accounting reference is created by the buyer and can include several accounting dimensions (such as general ledger, cost pool, project number etc.)
 - Length of the reference is limited to 35 characters, no separator marks allowed



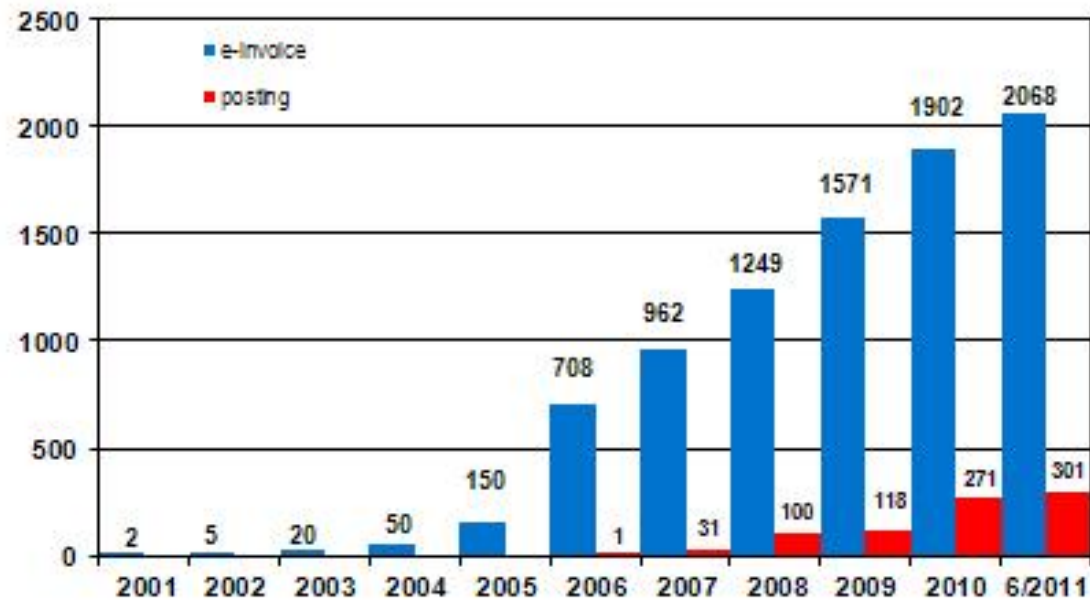
Automated posting of electronic invoices – Case ALD automotive

- ALD Automotive has been sending invoices in electronic format already since 2001
- Electronic invoicing helps in reducing the burden of financial administration and outsourcing activities
- Invoices are no longer inserted manually in the system -> no need for clerk -> who posts accounting information?
- Invoices may contain over 10.000 rows of information to be posted to the accounting systems
- Customers “demanded” accounting information on the invoice

Case ALD



Increase of e-invoices and invoices with posting



- “The future of Real-Time Economy is co-created” (at realtimeeconomy.net and at www.hse.fi/rte)
- Material at www.hse.fi/rte
- Contact Esko Penttinen at esko.penttinen@aalto.fi

