CASE NORWEGIAN
INF3290

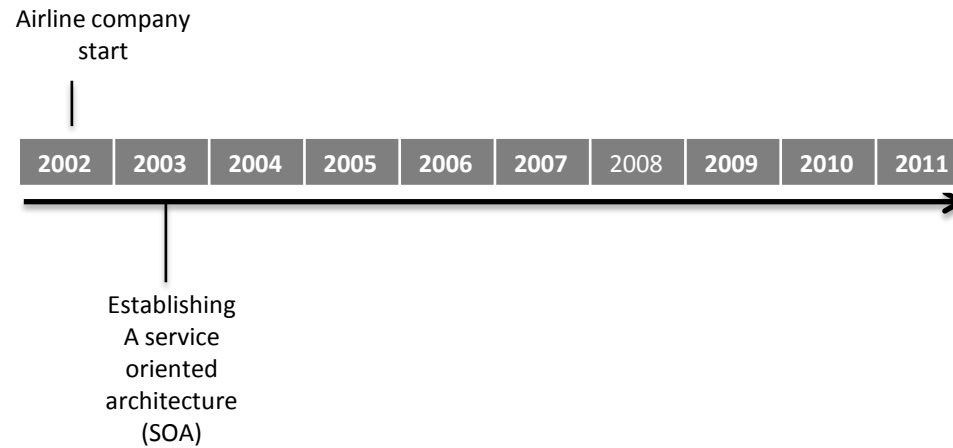Bendik Bygstad

IFI 1.November 2013

Case: Norwegian
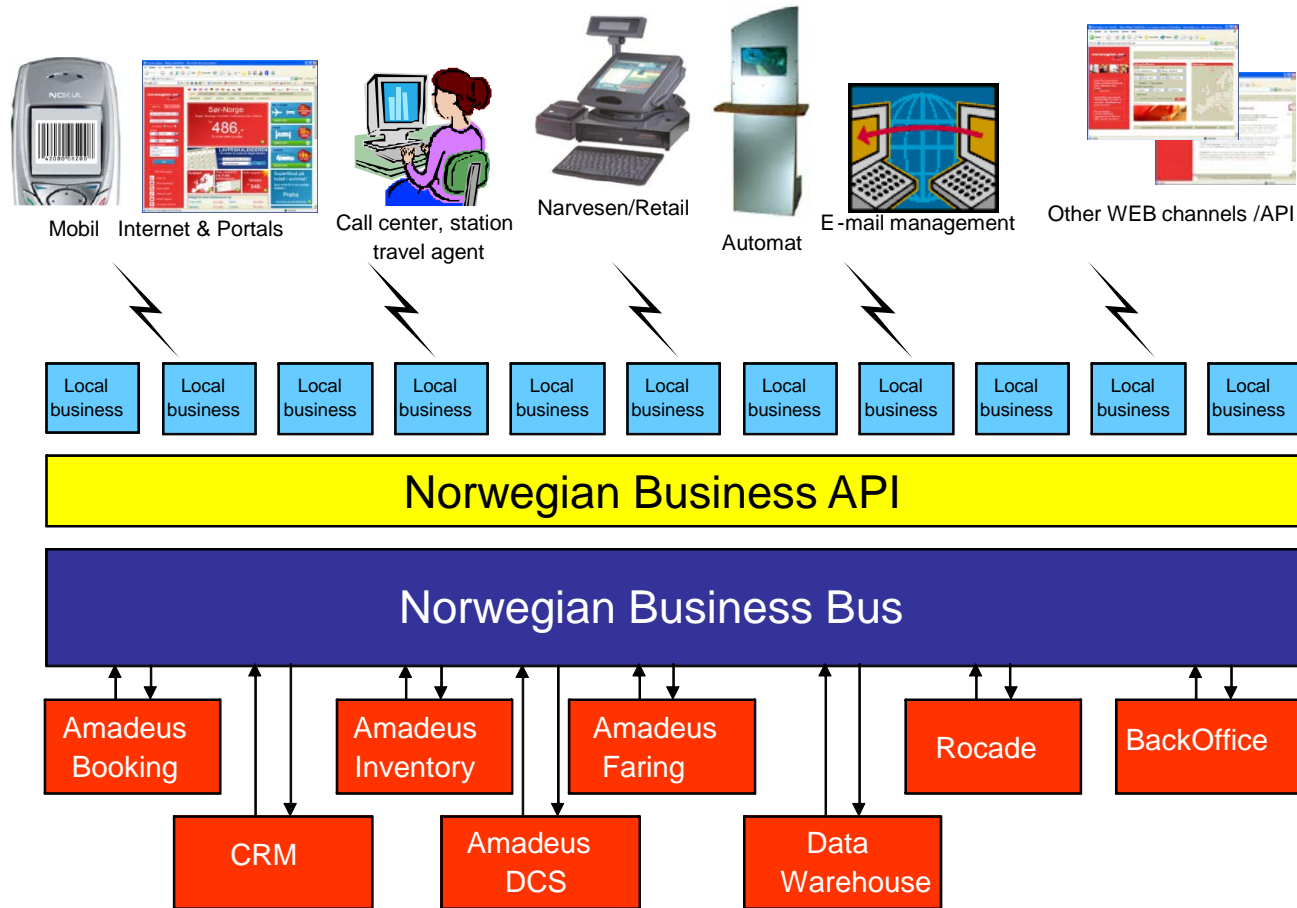
- Starting in 2002
- Deregulation of air traffic

Today:
- 383 routes to 122 destinations in Europe, Middle East, Thailand og USA.
- 17 mill passengers in 2012
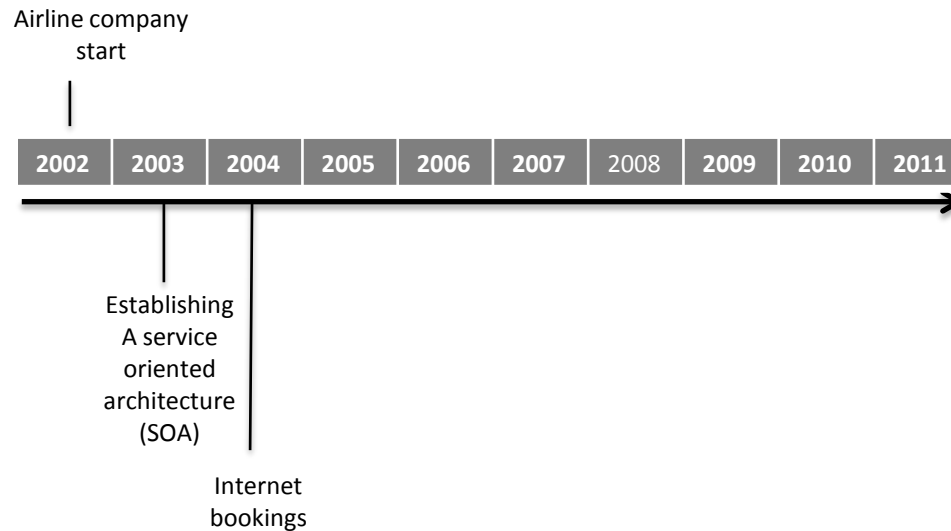- 3000 employees
- Revenues 1.5 bn US dollar
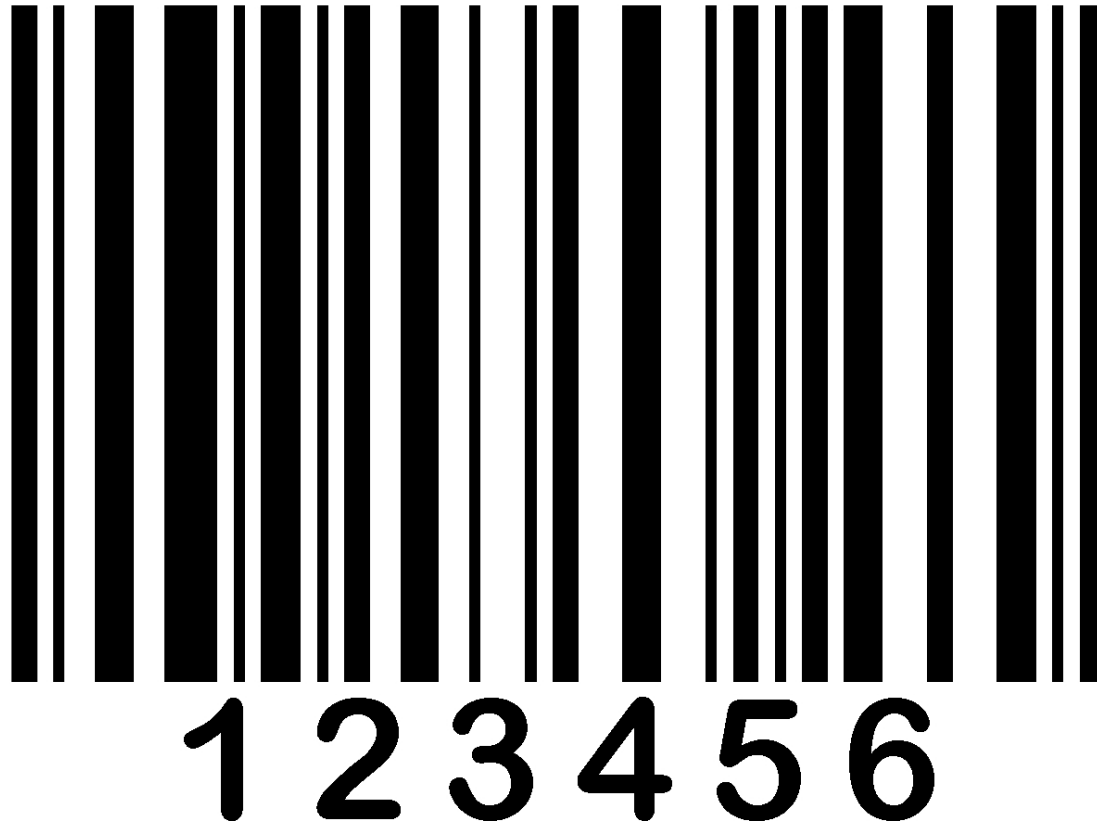
Norwegian timeline: SOA

Airline company
start
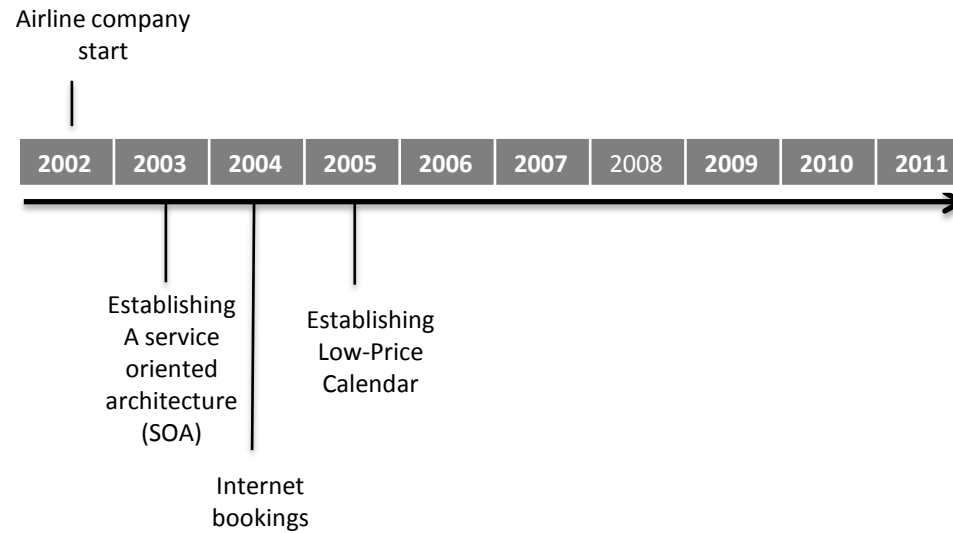
| 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |

Establishing
A service
oriented
architecture
(SOA)

2002: IT architecture

Mobil | Internet & Portals | Call center, station travel agent | Narvesen/Retail | Automat | E-mail management | Other WEB channels /API

Local business (×11)

Norwegian Business API

Norwegian Business Bus

Amadeus Booking | Amadeus Inventory | Amadeus Faring | Rocade | BackOffice

CRM | Amadeus DCS | Data Warehouse

Norwegian: Internet bookings and tickets – bypassing travel agencies

Airline company start

| 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |

Establishing
A service
oriented
architecture
(SOA)

Internet
bookings

2003: Bar code on tickets

123456

Norwegian timeline

Airline company
start

| 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |

Establishing
A service
oriented
architecture
(SOA)

Establishing
Low-Price
Calendar

Internet
bookings

2005: Low Price Calendar

Norwegian timeline

2007: Bank Norwegian

Internet bank
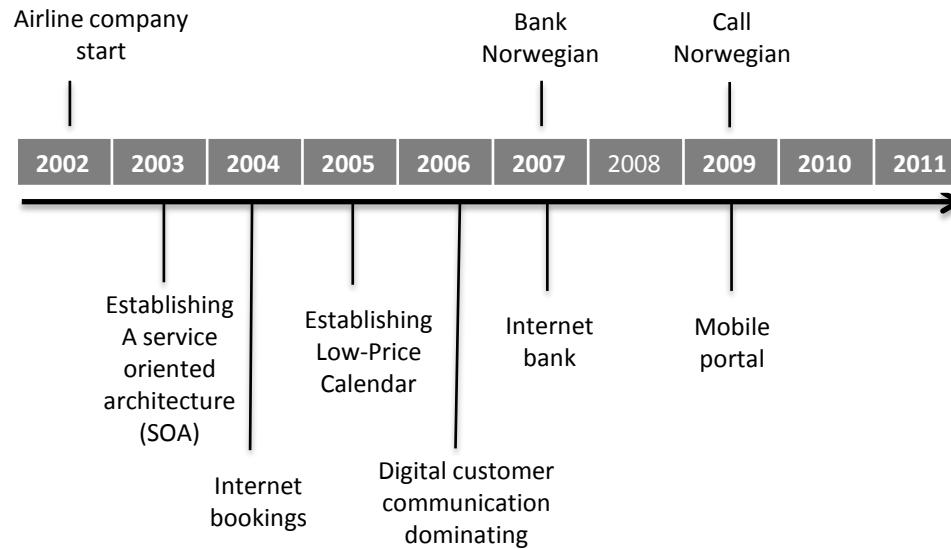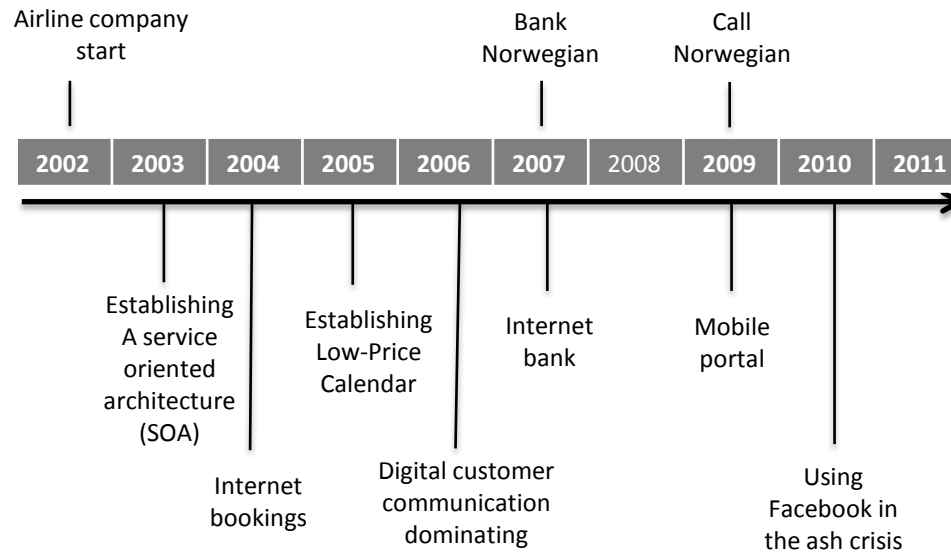Handles Norwegian's FFP system
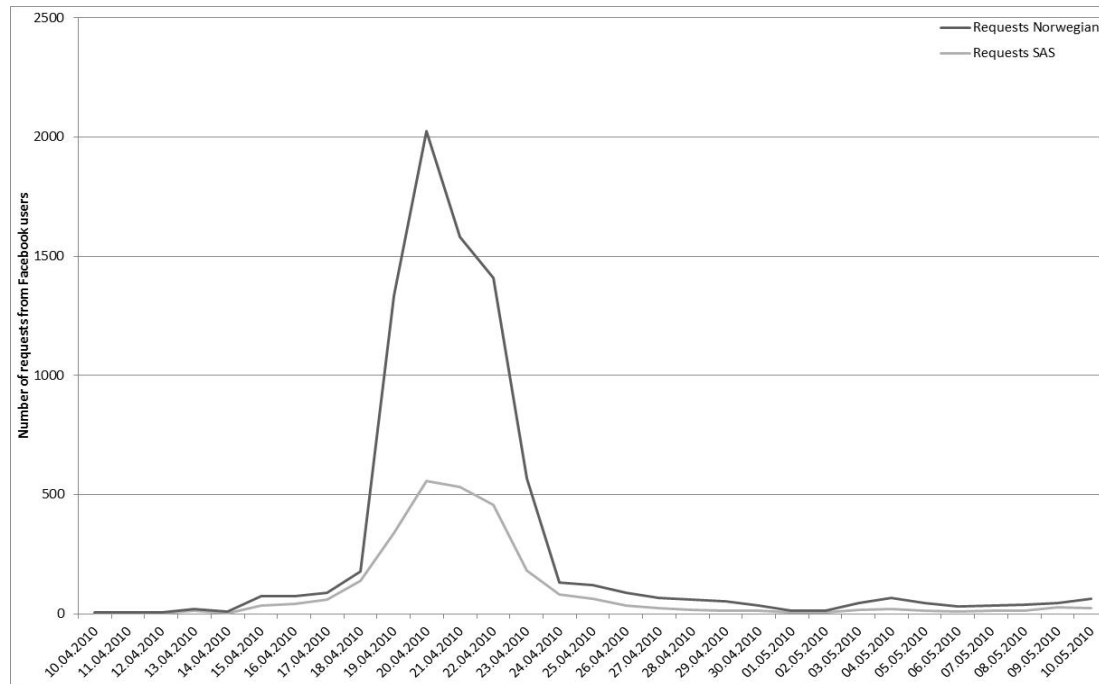Profits 2012: 165 mill NOK
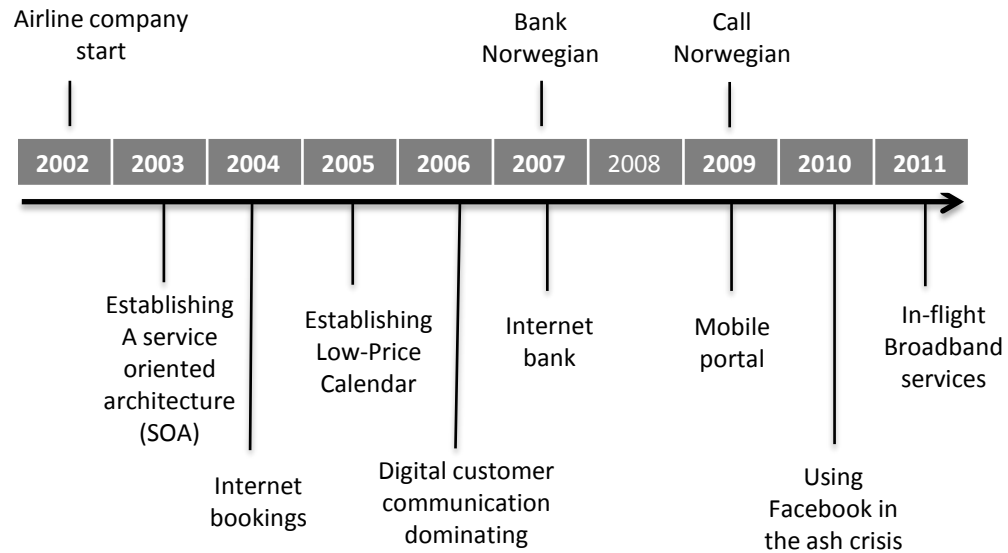
Norwegian timeline

Norwegian timeline

Ash crisis in 2010

Number of requests for SAS and Norwegian during the ash crisis

Norwegian timeline

Recent developments at Norwegian

- 2012: Largest airplane order: Norwegian purchases 122 fly from Boeing

- 2013: Start of long-haul operations to Thailand and USA

Innovation

Case Analysis

Level	Decription	Innovation aspect
Level 1: Technical infrastructure	A service bus architecture, based on an opensource bus with web service interfaces.	Enables the extension of new components at low cost, within a business unit.
Level 2: Service innovation infrastructure	An innovation mechanism, based on combinations of resources on the bus.	Enables the innovation of new business services.
Level 3: Organizational structure	A lean and flat organization structure, structured on business units.	Enables creative cooperation and fast decisions.

Conclusion

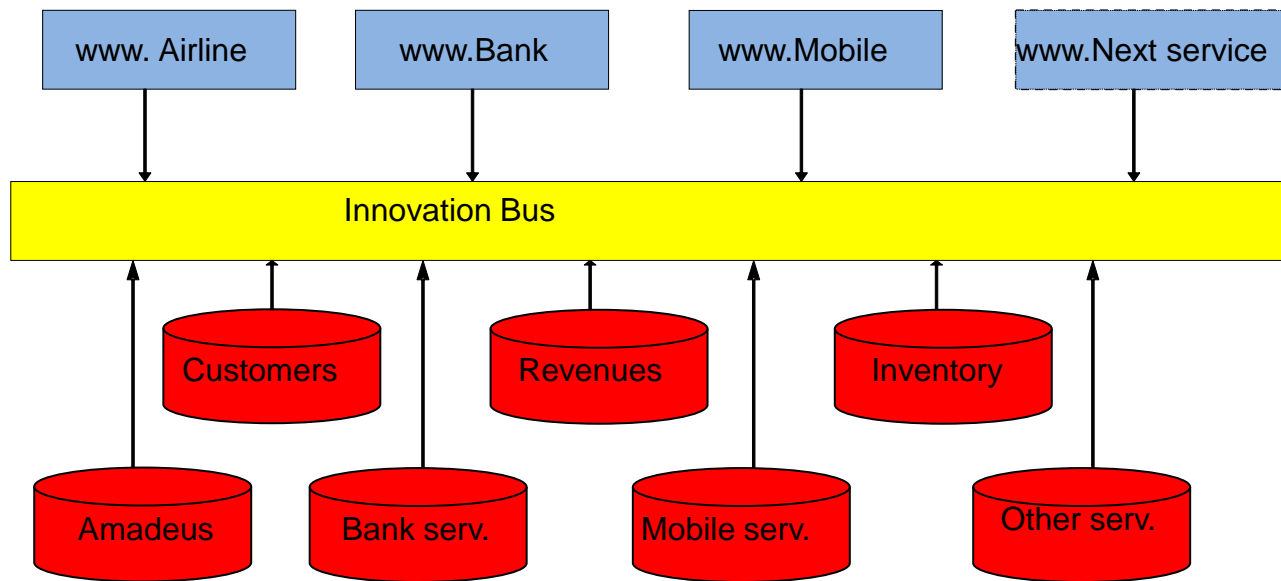| Level	Benefits	Concerns
Level 3: The Bus as Organization Structure	• Supports an agile and innovative organization. • Low costs	• May not be sustainable as organization grows into an international diversified company • Dependent on a culture of trust, vulnerable to power games
Level 2: The Bus as Service Innovation Infrastructure	• Enables innovation in horizontal expansion, with short time to market • Supports reuse of business components	• Synergies may be harder to harvest with further growth • Dependent on managers who understands the three level structure
Level 1: The Bus as Technical Infrastructure	• Supports a flexible systems architecture • Enables fast extensions of services at low cost	• Increased technical complexity may threaten flexibility • Depending on key personnel with deep knowledge of architecture

The Bus Architecture

Mobil Internet & Portals Call center, station travel agent Narvesen/Retail Automat E-mail management Other WEB channels /API

| Local business | Local business | Local business | Local business | Local business | Local business | Local business | Local business | Local business | Local business | Local business |

Norwegian Business API

Norwegian Business Bus

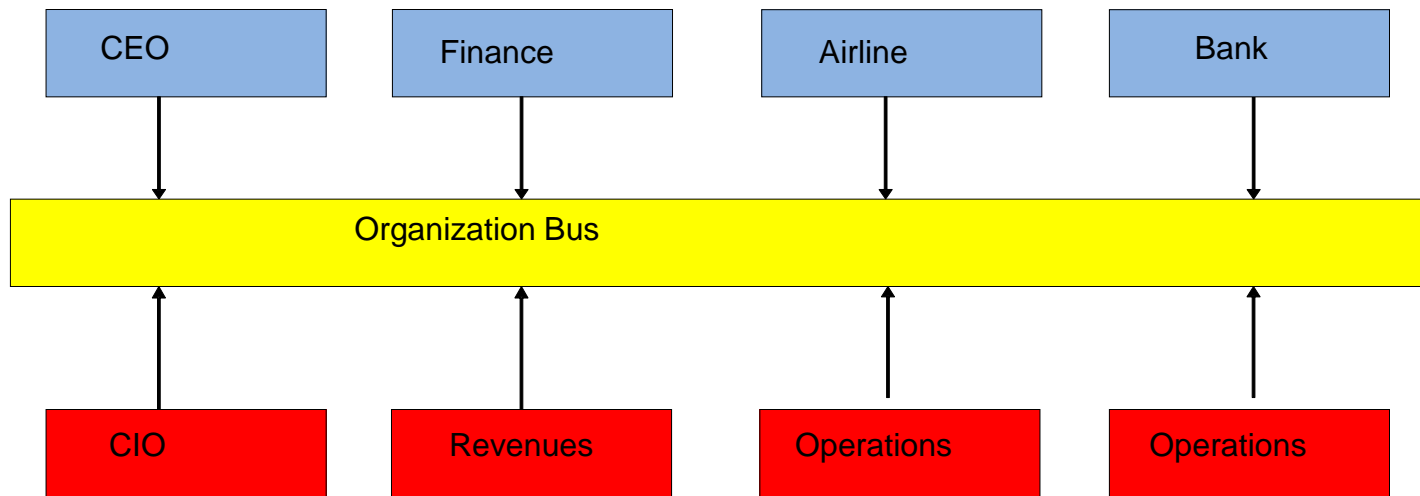| Amadeu Booking | | Amadeu Inventory | Amadeu Faring | | Rocade | BackOffice |

| CRM | Amadeu DCS | Data Warehouse |

The Innovation Bus

The Organisation Bus

Conclusions

- Three mechanism explain digital infrastructure evolution: **Innovation Adoption, Scaling**
- A configurational view
  - The **interaction** of mechanims (and contextual conditions) explain outcomes
  - Loose architecture and distributed control are triggers for the AIS configuration, but not for AS
- Critical Realism offers a powerful lens for understanding infrastructure evolution