

UiO • **Department of Informatics**
University of Oslo

CASE NORWEGIAN

INF3290 STORE OG KOMPLEKSE SYSTEMER

Bendik Bygstad
25. SEPT 2017



Case: Norwegian

- Starting in 2002
- Deregulation of air traffic in Scandinavia and Europe

Today:

- 472 routes to 130 destinations in Europe, North America and Asia
- 29 mill passengers in 2016
- 3000 employees
- Revenues 2.9 bn Euro (26 mrd NOK)



Bjørn Kjos

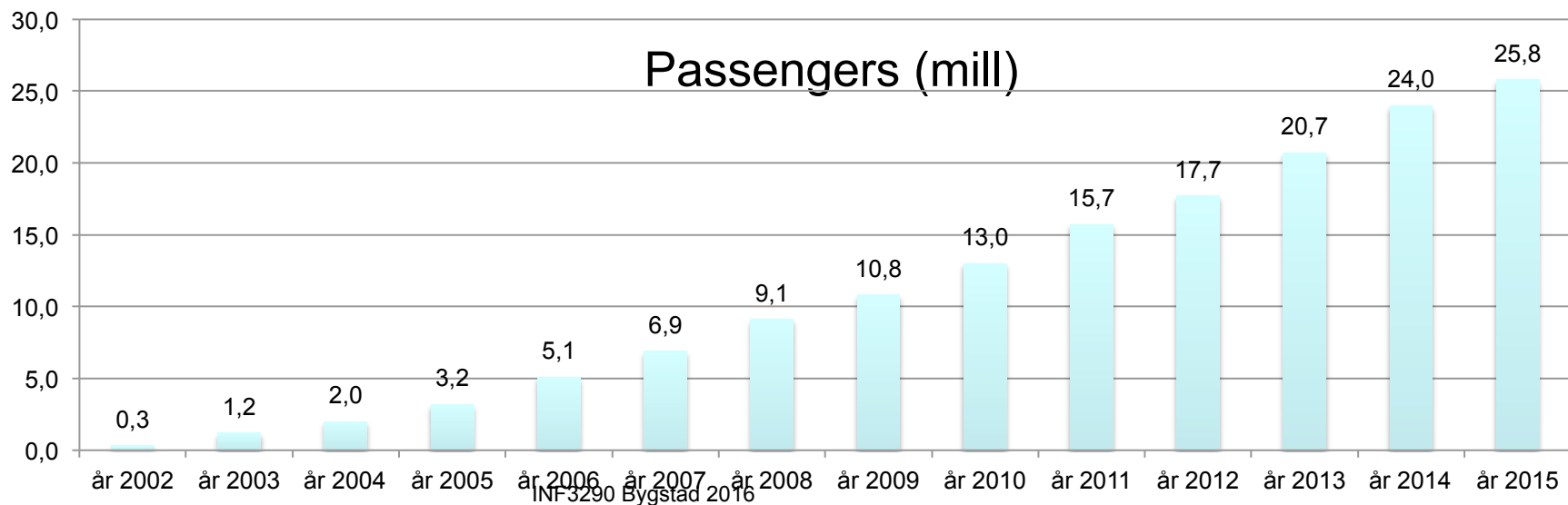


Hans-Petter Aanby

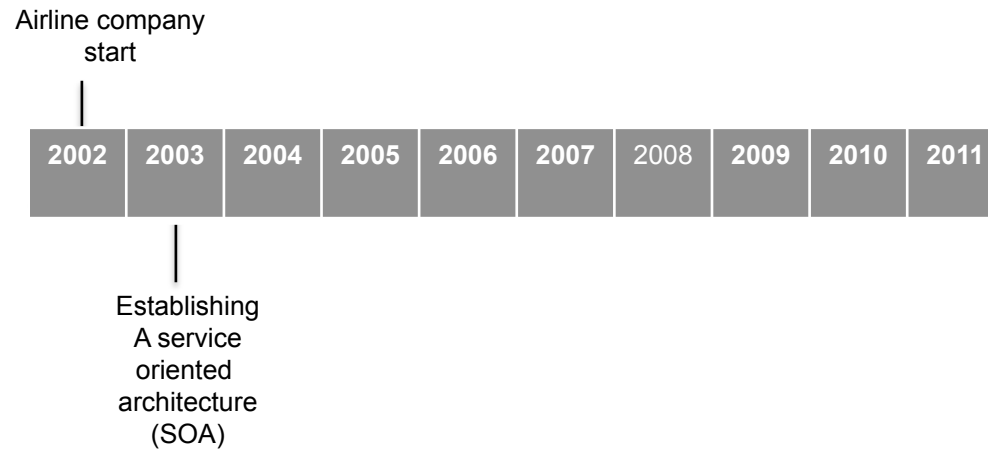


Key Figures Norwegian

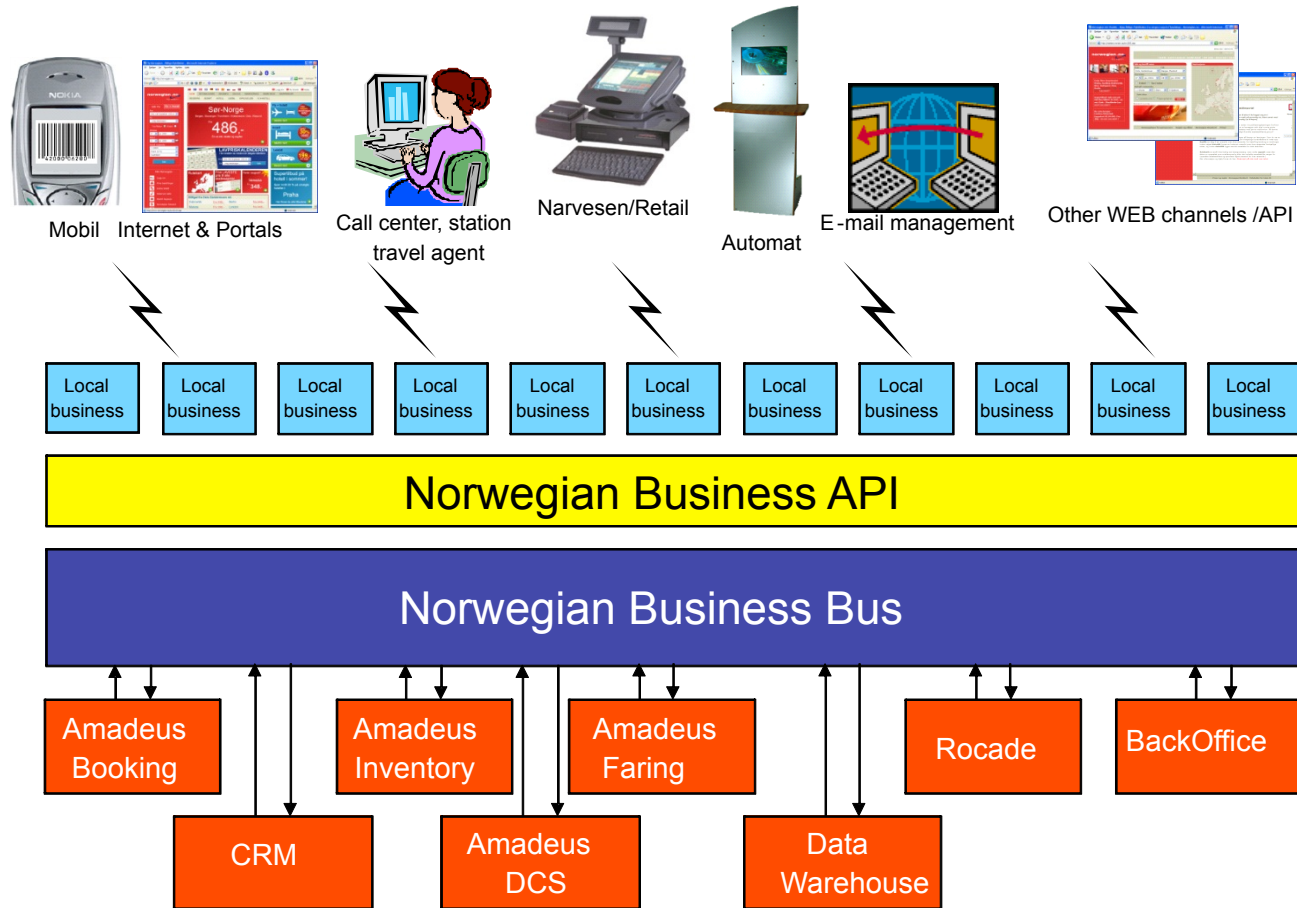
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Revenue (MNOK)	0.3	0.9	1.2	1.9	2.9	4,2	6,2	7,3	8.5	10.5	12.8	15.5	19.5	22,4
Load factor	52	62	67	78	79	80	78	78	77	79	78	78	80	86
Routes	5	18	43	54	86	114	170	206	249	271	308	391	402	447
Aircraft	7	8	12	14	22	32	40	46	57	62	68	85	95	99



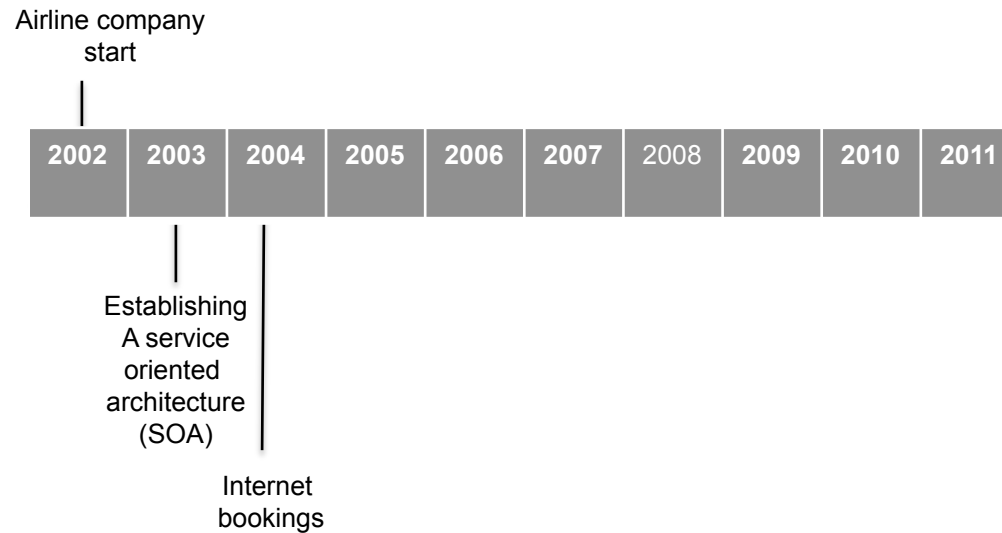
Norwegian timeline: SOA



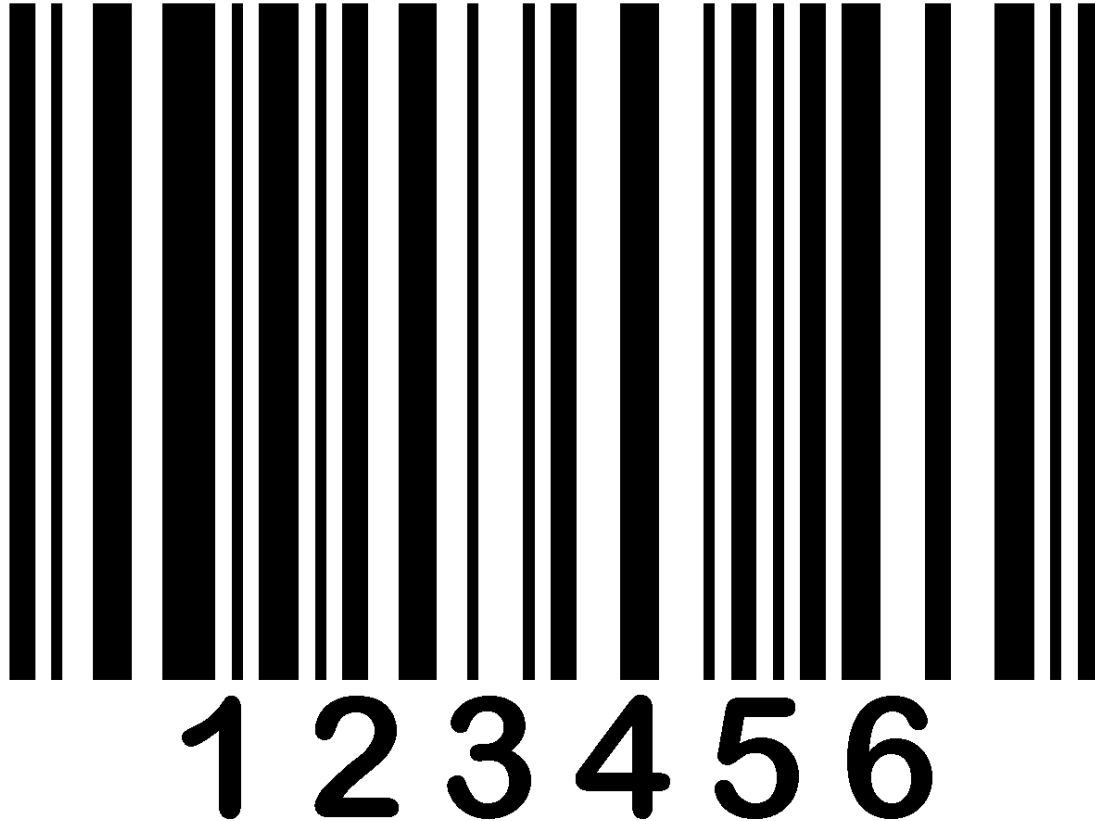
2002: IT architecture



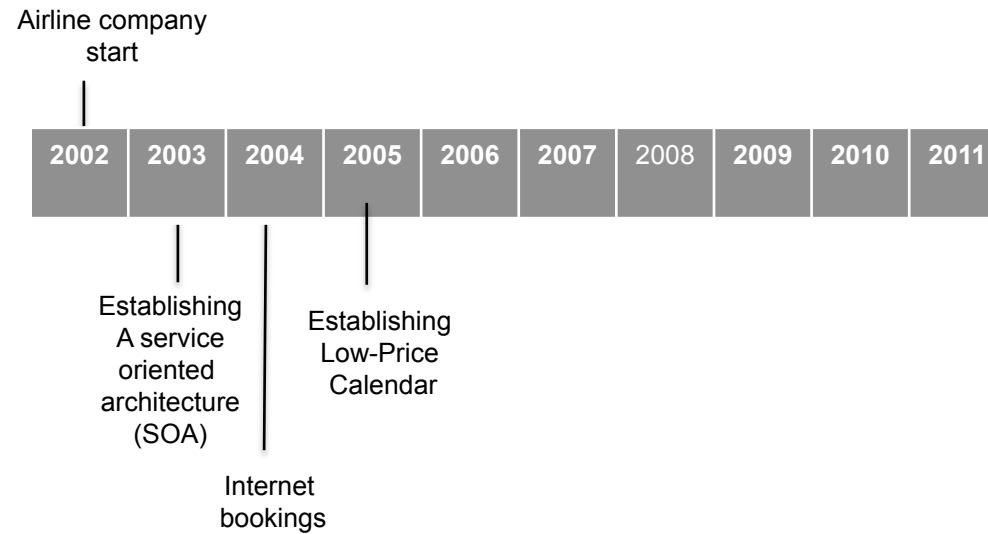
Internet bookings and tickets – bypassing travel agencies



2003: Bar code on tickets



Norwegian timeline



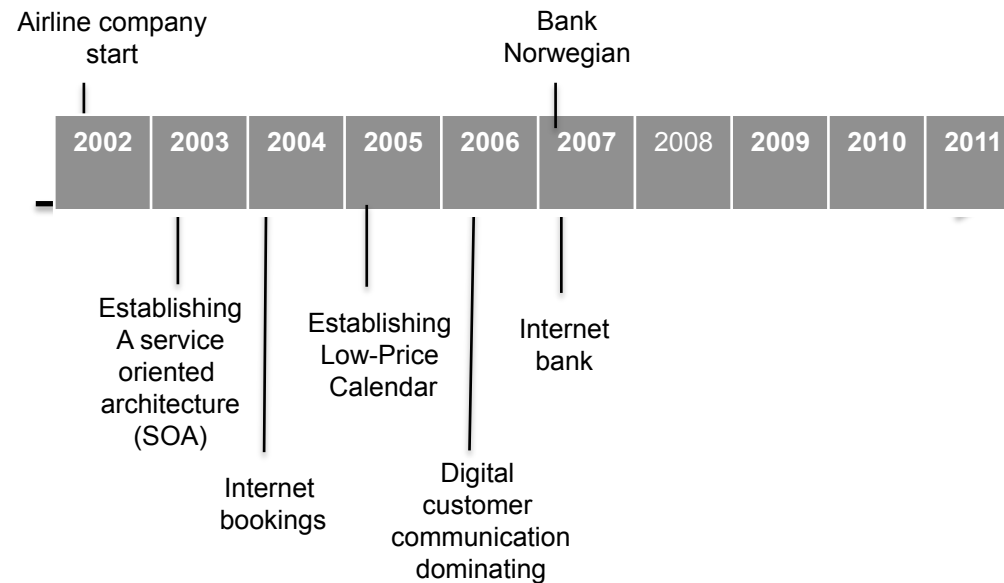
2005: Low Price Calendar

The screenshot shows the Norwegian Airlines website interface. At the top, there is a navigation bar with the logo and menu items: Bedrift, Reisebyrå, Grupper, Fordelsprogram, Charter, Mine reiser, Logg inn, and Norsk. Below this is a secondary navigation bar with tabs for Fly, Hotell, Leiebil, Fly+Hotell, Feriehus, Reiseråd, Nyttig på reisen, Kundeservice, and Om Norwegian. The main content area is titled "Alle destinasjoner - Billige flybilletter fra Oslo-Alle flyplasser" and includes a search form with fields for "Fra" (Oslo-Alle flyplasser (OSLALL)), "Til" (with radio buttons for "Alle desti...", "Norge", "Snø og ski", "Sol og Bad", "Storby"), "Direkte/Flybytte" (with checkboxes for "Kun direkte"), "Reiseperiode" (Velg periode), "Makspris" (- Vis alle -), and "Valuta" (NOK). Below the search form is a calendar view for the months of November, December, and January. The calendar displays flight prices for various destinations:

Destination	Nov	Des	Jan
Fly til Agadir fra Oslo-Alle flyplasser Marokko	599	599	599
Fly til Algarve-Faro fra Oslo-Alle flyplasser Portugal	399		
Fly til Alicante fra Oslo-Alle flyplasser Spania	349	349	399
Fly til Alta fra Oslo-Alle flyplasser Norge	399	399	399
Fly til Amsterdam fra Oslo-Alle flyplasser Nederland	299	299	299
Fly til Antalya fra Oslo-Alle flyplasser Tyrkia	399	399	699
Fly til Barcelona fra Oslo-Alle flyplasser Spania			

At the bottom of the screenshot, there is a search bar with options for "Neste", "Fjorrige", "Marker tekst", and "Skill mellom store/små bokstaver", along with icons for Internet Explorer, Word, and PowerPoint.

Norwegian timeline



2007: Bank Norwegian

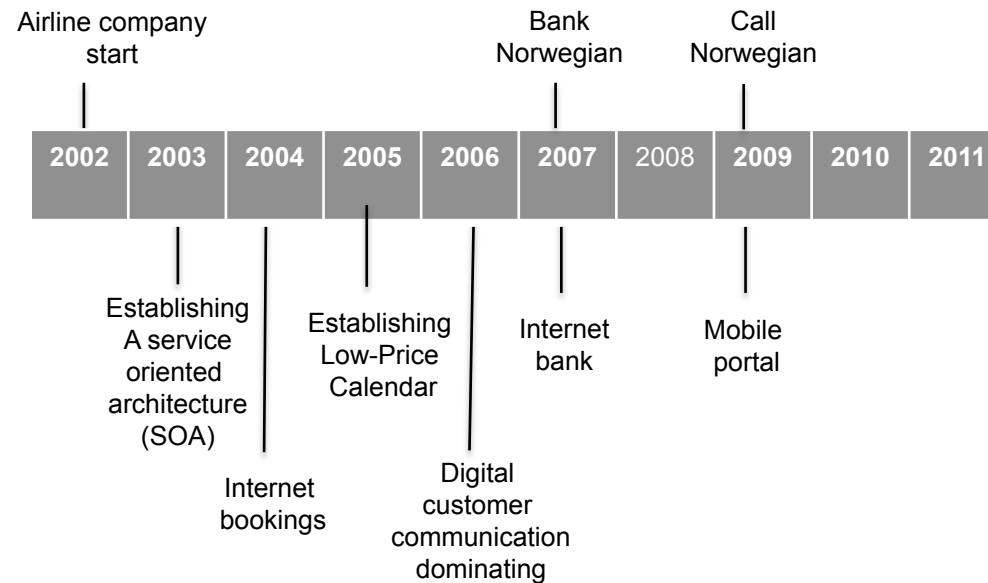


Internet bank

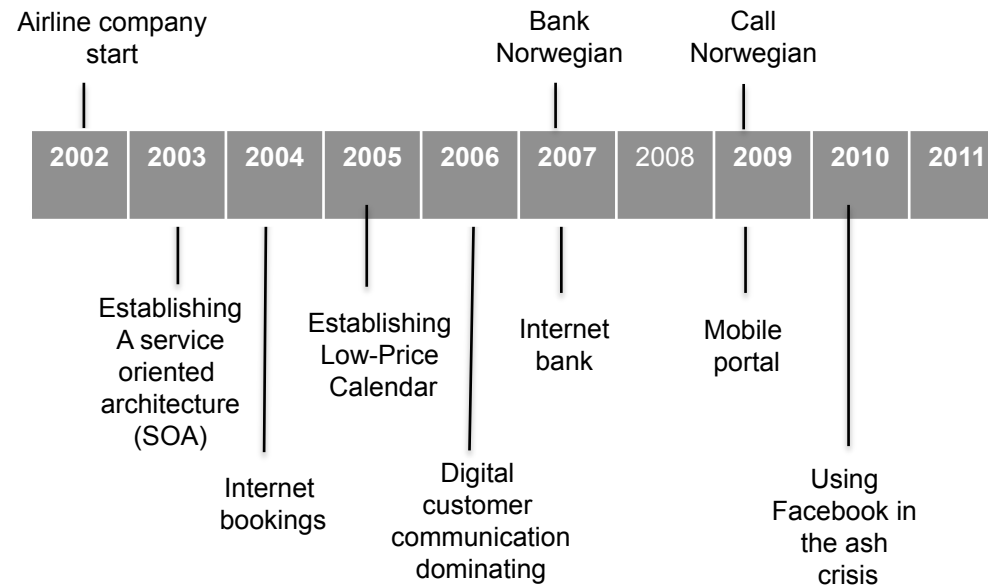
Handles Norwegian's FFP system
Profits 2015: 539 mill NOK

Stock exchange value (summer 2016):
- Norwegian. 10 BN NOK
- Bank Norwegian: 12 bn NOK

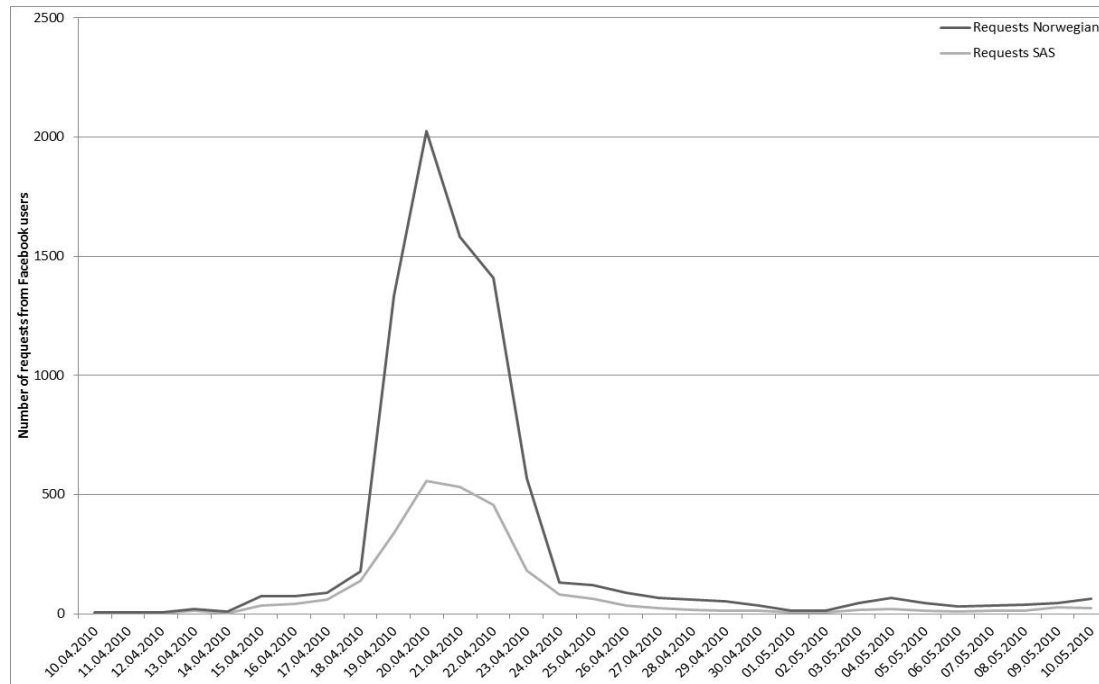
Norwegian timeline



Norwegian timeline

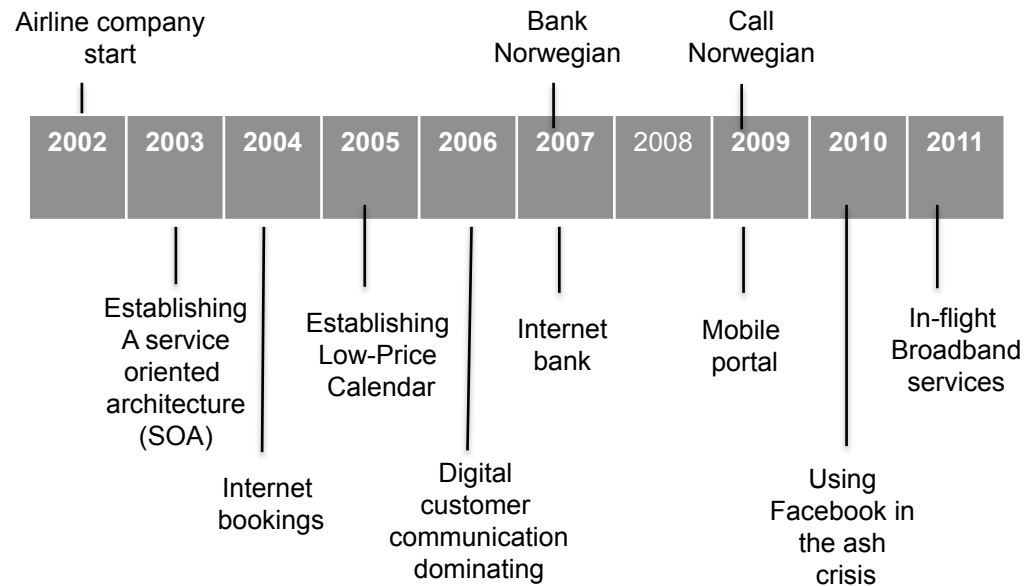


Ash crisis in 2010



Number of requests for SAS and Norwegian during the ash crisis

Norwegian timeline

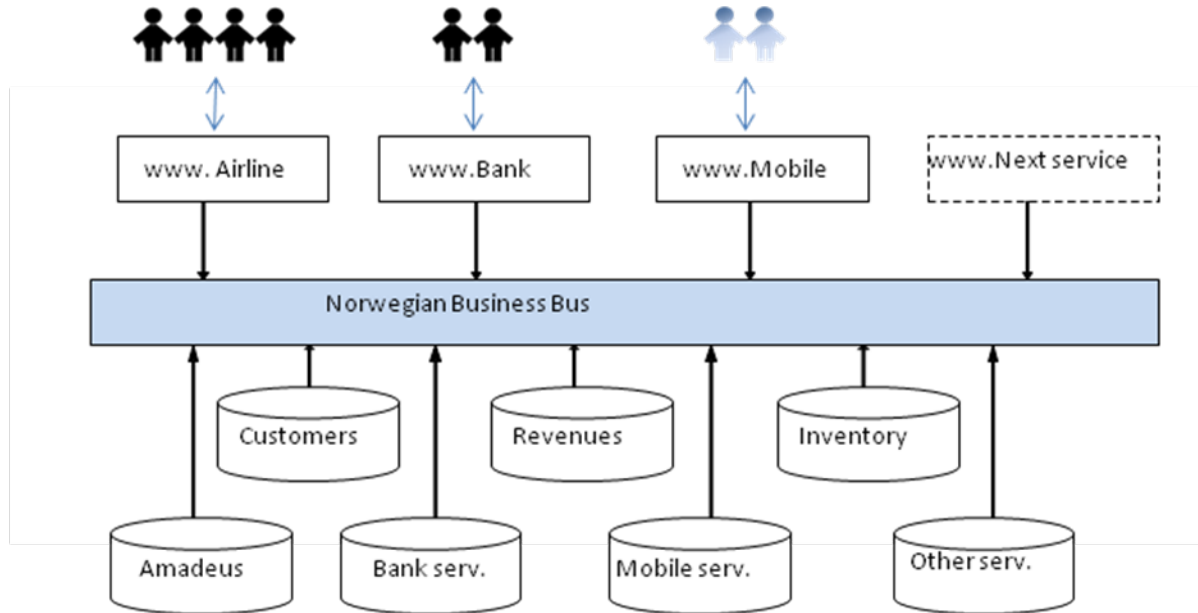


Recent developments at Norwegian

- 2012: Largest airplane order in Europe (ever): Purchases 22 Boeing 737-800, 100 Boeing 737 MAX-8 og 100 Airbus A320neo.
- 2013: Start of long-haul operations to Thailand and USA with Boeing 787-8 Dreamliners. Established new bases outside Scandinavia.
- 2014: International expansion: More intercontinental routes.
“Best Low-Price Airline” in Europe.
- 2015-17: Conflicts with pilot and crew unions on employment contracts.



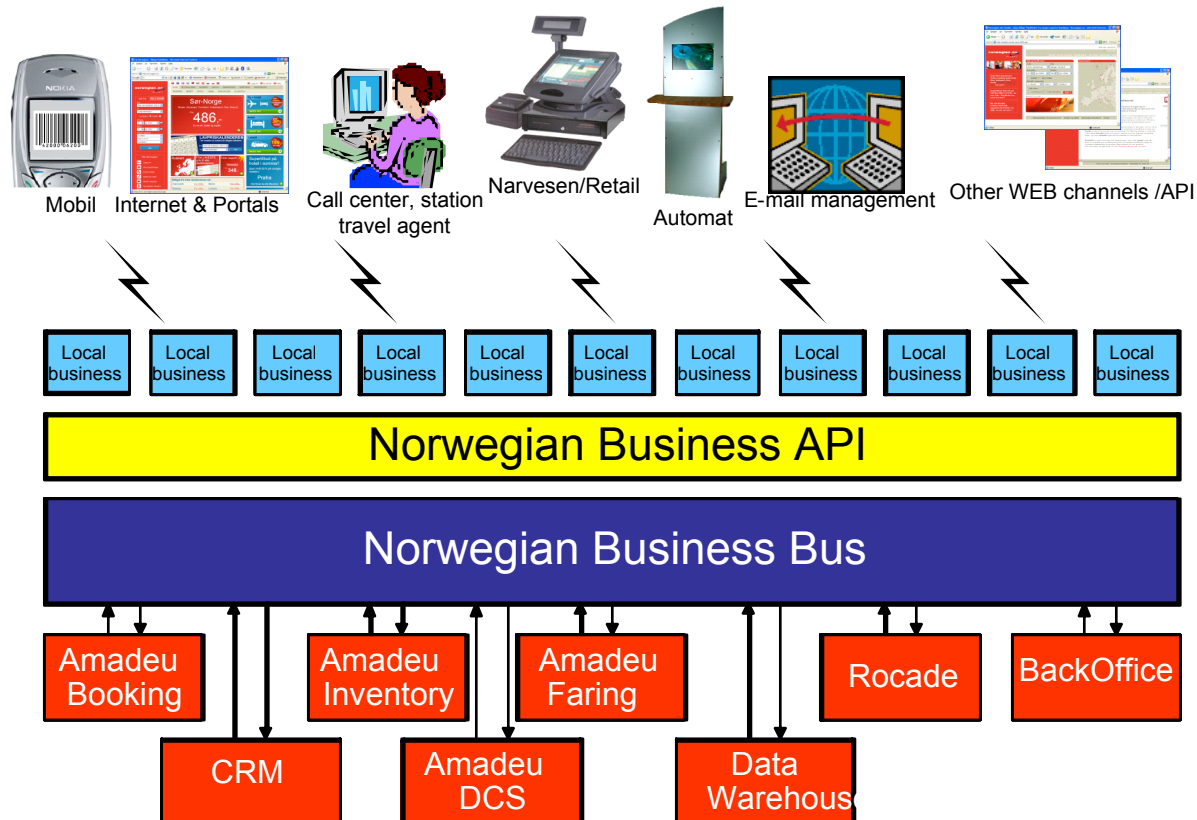
Innovation



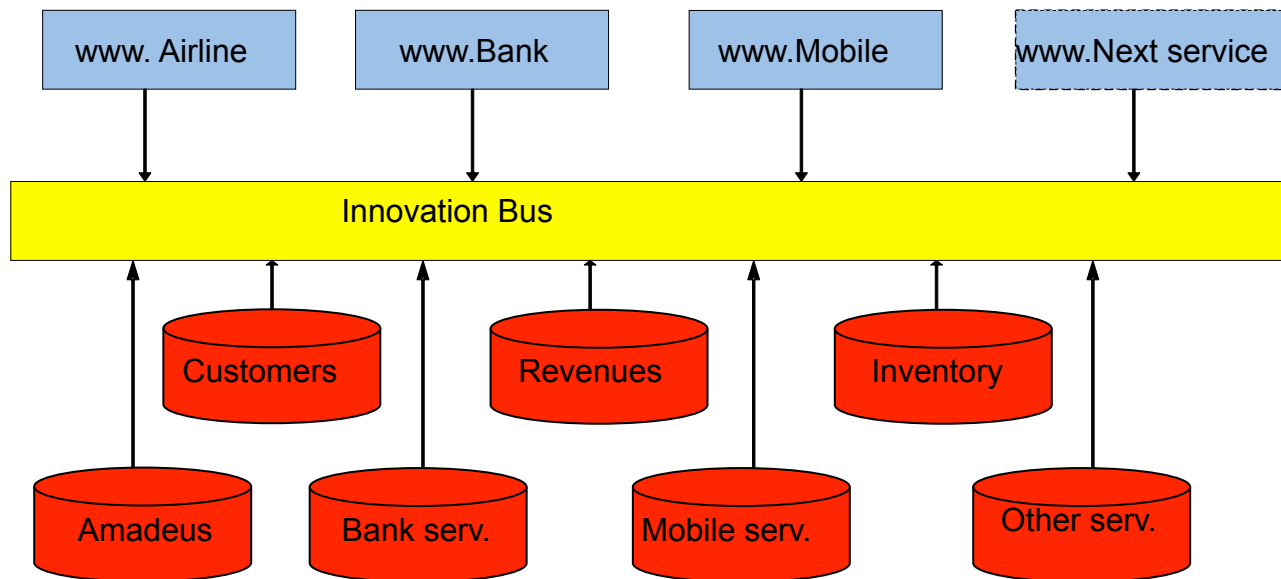
Case Analysis

Level	Description	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.

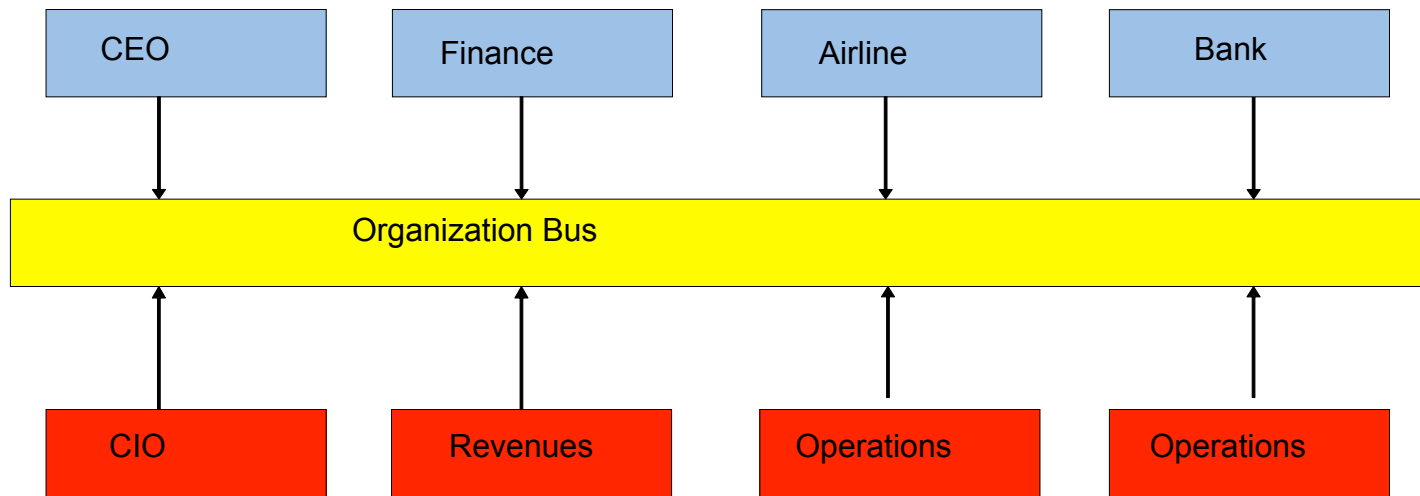
The Bus Architecture



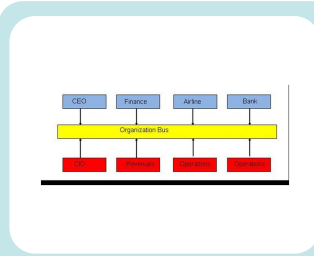
The Innovation Bus



The Organisation Bus

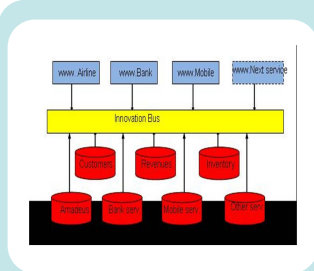


Conclusion: Three layers of innovation



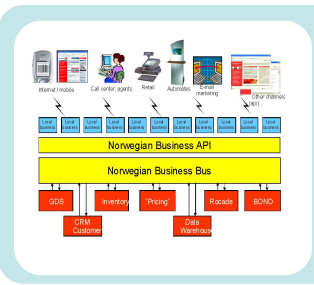
Level 3: The Bus as Organization Structure

- Benefits:
 - Supports an agile and innovative organization
 - Low costs
- Concerns:
 - 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

- Benefits:
 - Enables innovation in horizontal expansion, with short time to market
 - Supports reuse of business components
- Concerns:
 - 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

- Benefits:
 - Supports a flexible systems architecture
 - Enables fast extensions of services at low cost
- Concern:
 - Increased technical complexity may threaten flexibility
 - Depending on personnel with deep knowledge of architecture

Gruppeoppgave

1. Vil disse “buss-strukturene” kunne vare over tid, når selskapet vokser?
 1. IT-arkitektur?
 2. Innovasjonslogikk?
 3. Organisasjonsstruktur?
2. Hva kan andre selskaper lære noe av Norwegian?
3. Internasjonaliseringen av selskapet – er den etisk problematisk?