Nordea

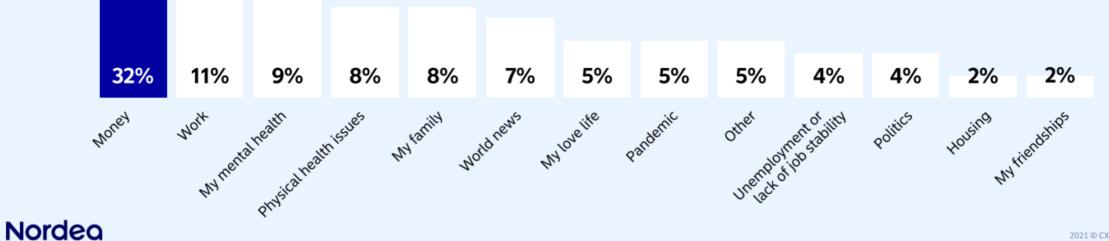
Applied Generative Al Nordea Virtual Assistants Dansk IT Arkitekturdagen

Mikkel H. Brahm, Head Architect | Nordea Group Architecture

Top sources of stress in 2022 (US)

Problems with money are a major cause of stress

From work pressure to a global pandemic and health issues, people still worry more about their finances, which is damaging to their overall wellbeing



+10%

from 2021

.....

2021 © CX&Design One Digital Source: ValuePenguin survey of 1 537 consumers, conducted in March 2022 Nordea 2022-25 Updated business plan with higher target

2019-21

A strong and personal financial partner

New strategic direction and targets

Grow credibility and retake lost ground in business

2022-25

The preferred financial partner in the Nordics

Raising the bar

Firm financial target bringing us to best-in-class in the Nordic and European markets

Best-in-class omnichannel customer experiences and further value creation for shareholders

Meet and exceed customers' expectations and deliver competitive shareholder returns with firm focus on capital excellence

Well equipped for the future

Accelerate development of focus areas and ensure stable and well-diversified credit portfolio

2025 financial target

Return on equity >13%

Assumes CET1 requirement of 15–16%, including management buffer

Supported in 2025 by

Cost-to-income ratio 45-47%

Loan losses Normalised ~10bp

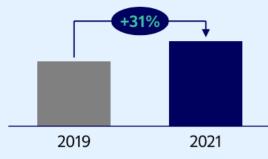
Capital and dividend policy

60–70% dividend payout ratio; excess capital distributed through buy-backs Management buffer of 150–200bp above regulatory CET1 requirement

Personal Banking 2022–25 Digital is a key enabler in our relationship model

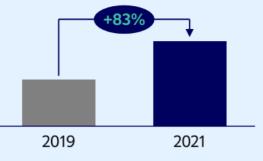
Increase in digital customer interactions ...

of mobile bank log-ons



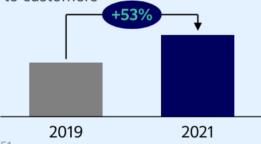
... and the majority of our human advisory is virtual

Share of online meetings



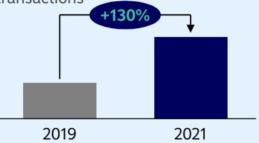
Significant increase in number of personalised digital messages ...

of analytically driven 1:1 messages to customers



... as well as in digital initiated sales

Digitally initiated funds sales, transactions



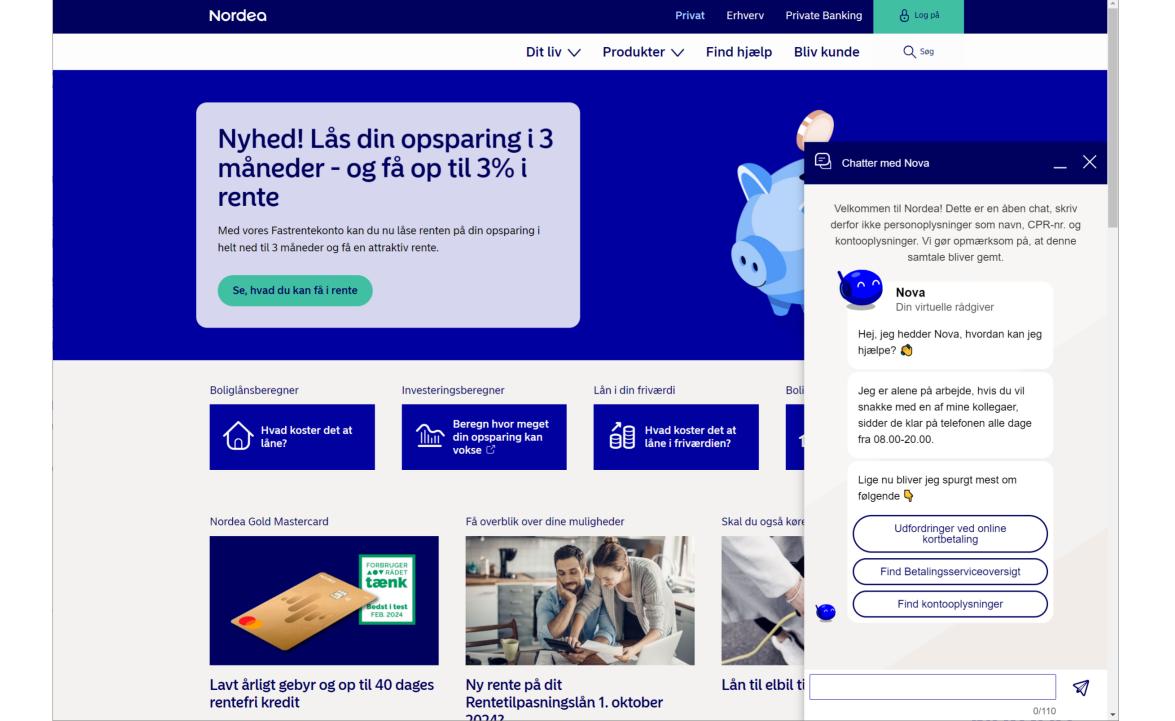
Making banking easy through

Fast and engaging **digital onboarding**

Personalised experience in digital channels

Actionable insights to improve financial well-being





Target Architecture Virtual Assistants Design Principles for Virtual Assistants

- reflect and mimic the logical functions performed by human workers, making it a gradual (step-wise) and distributed approach possible for replacing or augmenting the human workers, and benefit from reusing existing infrastructure.
- ensure appropriate transfer or escalation of tasks from virtual
 assistant to human worker, where the virtual assistant cannot effectively resolve the user's intent or the required actions.
- keep user interfacing, interaction logic separated from the functional logic, to better prepare for future changes and extensions to the range of interfaces (e.g. voice assistants).

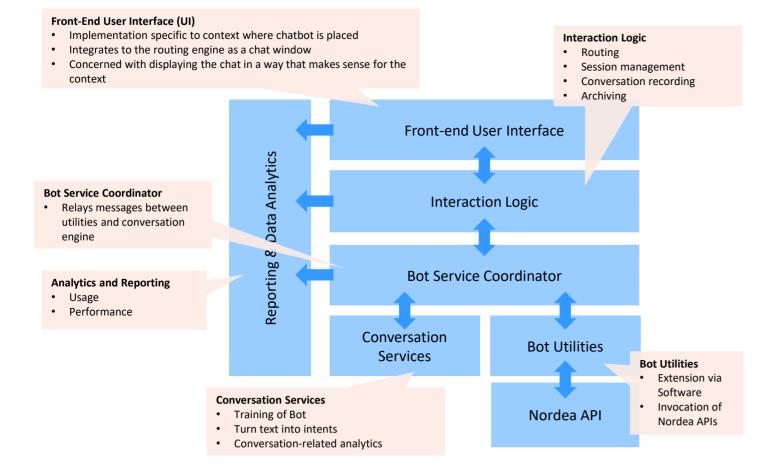
logic and rely on configured data (knowledge base) and interfaced services (e.g. NDF), to maintain content agnostic.

- have appropriate support processes and tools in place for developing and maintaining the information (knowledge) content of the solution.
- allow for exploratory discovery work, in areas where the technologies are maturing, and ensure that sustainable and valuable findings are continuously incorporated and consolidate into the master architecture, prior to scaling the implementation.

• keep functional *business logic* separate from conversation



Al Supported Conversational UI Conceptual Target Architecture



- Nordea Virtual Assistant (NoVA) is a conversational interaction framework combined with actionable banking service.
- Various virtual assistant (chatbot) technologies have been explored and utilised for offloading case volumes from manual servicing.
- The target architecture enable Nordea to source generally available and generic functionality, and free up competence in-house to develop on strategically important differentiating solutions.
- To enable scale and reduce risk, experts will develop conversations ("fine tune").

Figure 1: Generative AI Deployment Approaches

Generative AI Deployment Approaches

Provider-Managed Self-Managed 543 볛 Ø (1)Embed Extend Build Consume Extend **Custom Models** Generative Al Generative Al Generative AI Generative Al Embedded in APIs in a Custom Models via Data Models via From scratch Apps App Frame Retrieval Fine-Tuning Application Application Application Application Application Data Retrieval Data Retrieval Data Retrieval Data Retrieval Data Retrieval and Prompt and Prompt and Prompt and Prompt and Prompt Engineering Engineering Engineering Engineering Engineering Fine-Tunina Fine-Tunina Fine-Tuning Fine-Tunina Fine-Tunina Foundation Mode Foundation Mode **Foundation Mode** Foundation Mode Foundation Model Build Buy Source: Gartner 794559 C

Source: How to Choose an Approach for Deploying Generative AI 7 July 2023 - ID G00794559

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AI will augment (not replace) Software development

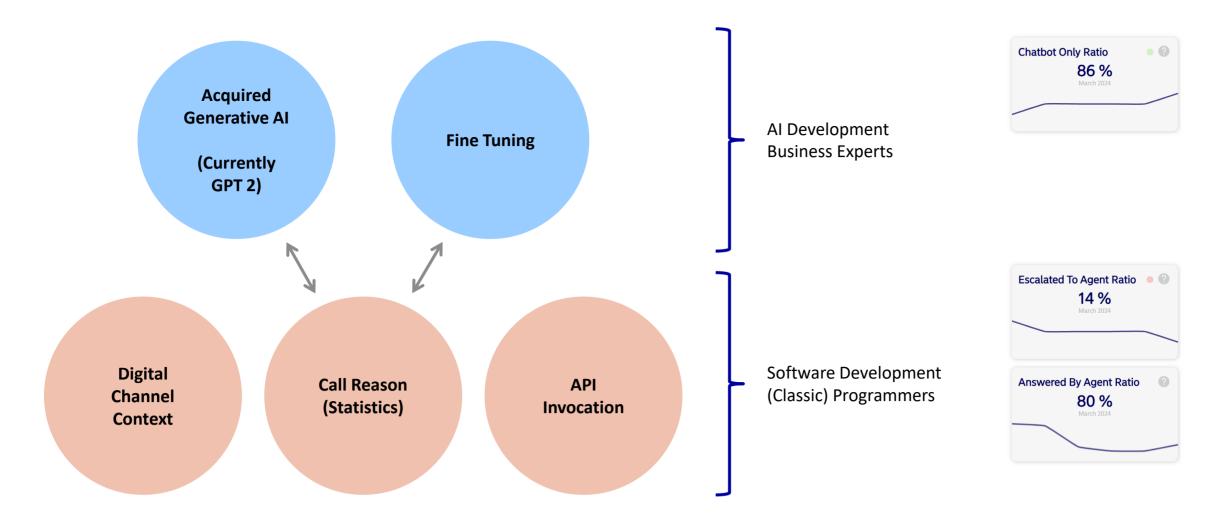






Figure 2: Comparison of Generative Al Deployment Approaches

Comparison of Generative AI Deployment Approaches

		Approach				
		Consume	Embed	Extend	Extend	Build
		Generative Al Embedded in Apps	Generative Al APIs in a Custom App Frame	Generative Al Models via Data Retrieval	Generative Al Models via Fine-Tuning	Custom Models From scratch
Decision Factors	Cost	\bigcirc				
	Organizational/ Domain Knowledge	٢			•	
	Security and Privacy					•
	Control of Model Output	\bigcirc				•
	Implementation Simplicity				\bigcirc	lacksquare

Source: Gartner 794559 C

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How to Choose an Approach

for Deploying Generative AI

Source:

Nordea

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