Intelligent assistants in practice
Examples of deployed systems and their impact
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Intelligent Assistants (Digital Assistants)

Interaction by voice or text
“Natural Language”

Ask Verizon
For instant answers type your question here... Ask Verizon
Reaching the user

- **Single-channel**
  - Mobile phone digital assistants, home speakers, Facebook Messenger, automobiles

- **Direct**
  - Web site
  - App for smartphone
  - Customer service line

- **Multi-channel**
  - Build basic Natural Language Processing once
One core development, multiple channels

Welcome back to Franklin Retail, Jason. Are you contacting us about the order you placed on Tuesday, March 15th?

Yes - can I change my shipping address?

Sure, no problem. What is the new address you would like your delivery sent to.

It's 45 Rio Vista Drive, San Diego, CA 92110.

OK. I can update that for you. Is there anything else I can help you with?

Ok Google, ask Franklin Retail what my current rewards balance is.

You currently have 575 points in your Franklin Retail Rewards account.
One core development, multiple channels

Welcome back to Franklin Retail, Jason. Are you contacting us about the order you placed on Tuesday, March 15th?

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human assisted understanding
The user

- Customer
- Employee
Vodafone Group chatbot

- TOBi, a chatbot able to complete a customer transaction from start to end
- Based on IBM Watson technology

Meet TOBi
The first live chatbot in UK telecoms
**From 2018 annual report**

**Our goal: to lead the industry in the transition to digital**

<table>
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<th>Digital customer management</th>
<th>Digital technology</th>
<th>Digital operations</th>
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| **CVM campaigns enabled by Big Data**
  Better targeting of the base¹ | 15% (March 2017) | 35% (March 2018) | 100% (March 2021) |
| **Digital channels share of sales mix²**
  Reduce reliance on indirect channels | 9% (March 2017) | 11% (March 2018) | >40% (March 2021) |
| **My Vodafone app penetration**
  Improve customer engagement | 55% (March 2017) | 60% (March 2018) | 95% (March 2021) |
| **Chatbots (% of contacts)**
  Moving from mostly human to mostly digital | 0% (March 2017) | 1% (March 2018) | 60% (March 2021) |
| **Frequency of contacts³**
  Blending the best of digital and human interactions | 1.9 (March 2017) | 1.7 (March 2018) | 1.2 (March 2021) |

**Notes:**
1. Average of EU4 (Germany, Italy, UK and Spain).
2. Mobile and Fixed acquisitions and upgrades.
3. FOC requiring human intervention per year.
Dirty Lemon

+ Healthy drinks
+ Text-to-order
+ Co-founder Zak Normandin:
  + “While other brands are exploring the further development of e-commerce, we think c-commerce, which is conversational commerce, is the future.”
Bank of America mobile app

- Virtual assistant Erica
  - Interaction in natural language using voice or text
  - Search for transactions, view bills, get credit scores and account balances

- Available to its 25 million mobile clients since May
  - More than one million users within two months of completing its phased rollout
A direct connection: Bank of America mobile app

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Planned enhancements:
Shopping suggestions, digital wallet, Advantage Rewards
AVG Technologies

- Security software (e.g., anti-virus)
- Used **NoHold** SICURA platform
  - Web-based self-service solutions that support natural-language interaction
  - Includes speech recognition and speech synthesis (text-to-speech) with multiple language support

"The use of noHold technology for both sales and support has resulted in a cleaner, enhanced customer journey and is a revenue generator. We are pleased with the Customer Satisfaction rating the virtual assistant sustains."

Garry Schultz  
VP of Customer Care
Admissions Assistant for higher education

- Pearson North America
  - On behalf of more than 15 universities
- Engage prospective students at scale
- Based on Conversica AI Sales Assistant
  - Two-way email and SMS-text conversations
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26% increase in engagement rate
35% increase in conversion rate
Virtual assistant for healthcare providers

- Primary care physicians spend more than half of their workday at a computer screen performing data entry and other tasks with EHRs

- Nuance Communications’ Dragon Medical Virtual Assistant
Republic Wireless

+ **Directly** platform used for technical support
  + Directly “experts” work where and when they want
  + Paid by problem solved

+ Generates “answers” for technical questions that can be used in NLP systems

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Hello,
Are you seeing a network error message? If so, this issue can almost always be resolved with a simple credential reset. You can do this by dialing "+88647" and then don’t hit send, but just wait for the screen to clear. When it does, restart the phone.

--Louis

2 comments

Metviamott
Totally worked! Thank You!!!

Louis D. ★
REPUBLIC WIRELESS • 6626 ANSWERS • 100% HELPFUL

No problem. Please let me know if there’s anything else I can help with.
Vail Resort’s digital assistant

snow conditions, lift line wait times, parking, and where to snag a late night cocktail, a family-friendly meal or a more fashionable ski jacket.
Order groceries for pickup from Kroger

- Voice interaction through iOS, Android, and Google Assistant devices
- Fred Meyer, Fry’s Food and Drug, QFC, King Soopers, City Market, and Ralphs
Lufthansa: Conversational ads

- General airline questions
- Travel content across 15 European destinations
- “Where in the world would you pause time?”

Based on IBM Watson natural language processing
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Truly ENGAGE prospects
Lego conversational advertising

- LEGO
  - After they've answered a few questions, customers are guided to the best matching LEGO gifts
- Based on IBM Watson technology
  - IBM Watson Ads
Chatbot “Blue Guru” tripled engagement compared to traditional banner ads
- On average, users interacted with Blue Guru at least three times
- Within 24 hours from the cognitive ad launch
  - 1,200 email addresses were collected
  - 2,500 new followers were added across several social media platforms
Autodesk chatbot sells software on the web site

- Computer-Aided Design (CAD) software
- Chatbot based on machine learning and Google technology
- Results compared to previous automated info solution
  - Three times the chat engagement
  - 109% more time spent on a page
Swedish Ferry company Stena Line

- Chatbot “Stena”
- UK market in English
- Departure times and prices and FAQs
  - “Can I bring a pet on board?”
  - “How do I change a booking?”
  - “What time do I need to check in?”
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  - “Can I bring a pet on board?”
  - “How do I change a booking?”
  - “What time do I need to check in?”
- Stena asks for confirmation it provided accurate info
  - If not, used to improve the coverage
Tencent Holdings’ digital assistant for WeChat

+ “Xiaowei” for WeChat helps the Chinese messaging service’s billion-plus users with simple tasks
  + Such as playing music and hailing a ride

+ Link to many of Tencent’s own services such as QQ Music

+ Also to apps from third parties such as Meituan Dianping (food delivery and ticketing) or Didi Chuxing (ride-sharing)
The Medical Concierge Group (TMCG), Uganda

- Free triage and care advice for health symptoms in Facebook Messenger
India-based Grofers

- Low-price online supermarket
- Problem: Major sale expected to overwhelm human agents
- Solution: Haptik built and deployed a conversational Support Bot in two days (adapting it after deployment)
- FAQs
  - About the Sale
  - Cashback/Refund Issues
  - How to Redeem 100% cash back
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- Solution: Haptik built and deployed a conversational Support Bot in two days (adapting it after deployment)
- FAQs
  - About the Sale
  - Cashback/Refund Issues
  - How to Redeem 100% cash back
- Result: Handled 75% of customer queries without the need for human intervention
Orange (Formerly France Telecom)

- Digital assistant Djingo
- Includes buying products through Amazon
A digital assistant can help employees as well as customers

+ Human Resources
+ Access to enterprise software
Salesforce “Einstein Voice”

- Employees
  - Personalized daily briefings
  - Conversational updates to Salesforce via
    - Salesforce Mobile App
    - Smart speaker

- Customers
  - Customer-facing Einstein Voice Bots connected to Salesforce

“Okay, give me my Salesforce daily briefing …”

- Start your morning with a voice-activated briefing
- Customize and highlight the actions you care most about
- Access your briefing through Siri, Google, or Alexa
The technology is beyond the “tipping point” of utility

- Speech recognition and Natural Language Understanding
  - Conversational systems

- Driven by availability of data and computing resources
  - Machine learning and Deep Neural Networks
  - Continuing investment by deep-pocketed firms and startups
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A virtuous cycle
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A virtuous cycle

Companies learn by deploying
Questions?

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