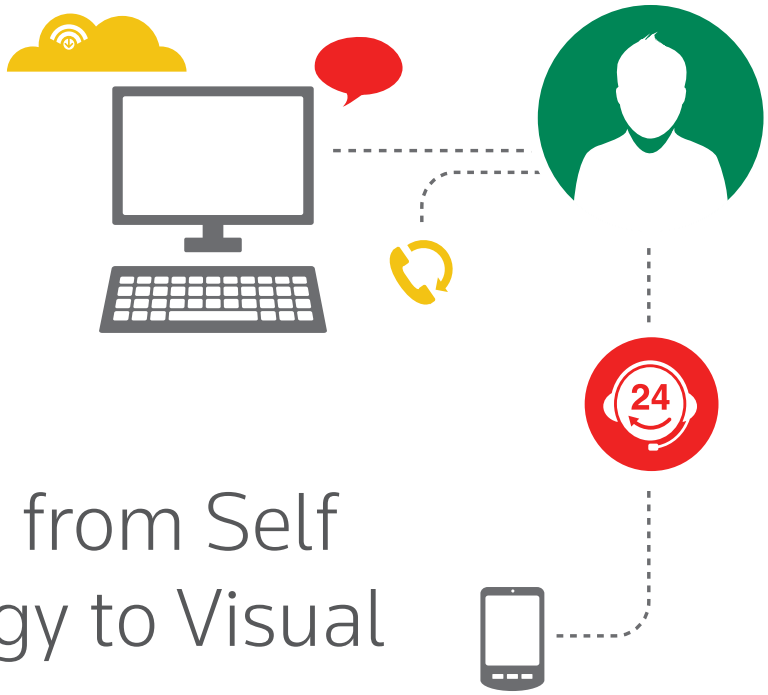

The Natural Shift from Self Service Technology to Visual Connectivity

Part I
The Evolution, Promised Benefits and Poor Strategy of Self Service Technology

Customer Service. Simplified.

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NOTE: A timeline of the evolution of self-service can be seen at the boarder of the paper. It gives a historical perspective of the progression of how self-service has transformed over the last 125 years. Highlighted are various inventions that have driven innovation, developed the technological innovations and lead us to where we are today.[1,2]

Section A: The Evolution of Self Service Technologies

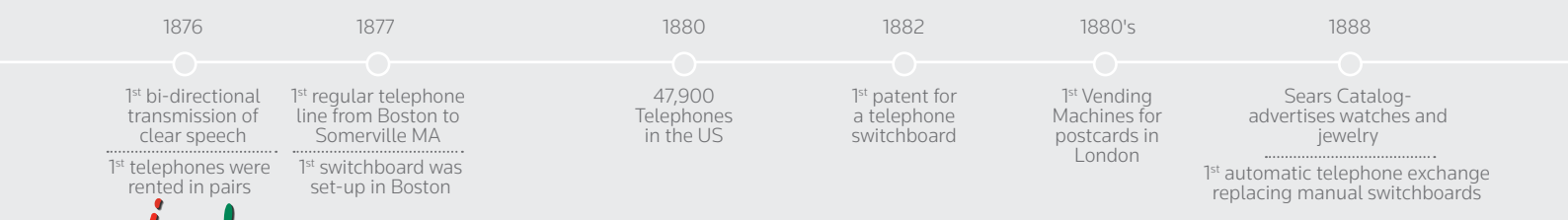
Self-service technologies are interfaces that replace the person-to-person interactions with technology. The intention was to make service transactions more convenient, faster and provide higher customer satisfaction. But its taken over 125 years to get to customer-centric technological advances that deliver great customer experience and save companies money.

Speech Synthesis, Talking Robots, Touchscreens and DTMF

At New York's World's Fair on April 30th, 1939, with 206,000 people in attendance, President Franklin D. Roosevelt gave an opening day address. His speech described the technological innovations featured in the parade. That speech was not only broadcasted over radio, but also televised.

The World's Fair featured Elektro, a robot created by Westinghouse with a voice created from Bell Telephone Laboratory's Voder Machine. The Voder, Figure 1, was the first attempt to synthesize human speech by breaking it down into its component sounds and reproducing them electronically. Bell engineer's later came up with the first robot voice in the 1960's, which gave way innovations in computer "speech" and laying the ground work for voice recognition of today. Voice recognition, which encodes the human voice into digitized information, was a key component needed to develop modern day IVRs.

Another key component of IVRs, revealed in 1963, was the DTMF (Dual Tone Multi-Frequency) signal. The first touch-tone phones used DTMF (dial tones) to route customers interactions without a human operator. Prior to this, answering, connecting and transferring customers to the right person or choice required a switchboard operator.



The Original, 1939, Voder Machine

The 1967 first ever touch screen,
Invented by E.A.Johnson of the Royal Radar Establishment in the UK.

Figure 1: The 1939 Voder Machine and the 1967 First Touchscreen

Automated Attendant to Voice Response Units to Interactive Voice Response

The Automated Attendant (AA) technology allowed callers to be automatically transferred to an extension without a switchboard operator / receptionist or customer service agent. Along with an AA, a Voice Response Unit (VRU) gave customers menu options, and companies scripting tools. Those scripting tool were used to direct callers to a specific queue or provide them with information, with minimal interaction by the company, reducing the cost per interaction.

Evolution to Interactive Voice Response (IVRs)

Interactive Voice Response (IVRs) integrated enterprise information systems with the ability to interact with callers to customize questions and responses. As speech recognition improved, some companies began to use it as part of their IVR application. However, adding voice recognition to an IVR was not a simple enhancement.

Many companies discovered that they could not just take their touch-tone, IVR application and convert it to speech. This was in part because voice recognition systems offered the ability to create a conversational IVR application. A conversational IVR application is vastly different from a simple " Press 1 for... " application.

In addition, the use of IVRs evolved beyond just routing customers without human interaction. For instance, customers could use the IVR to pay-by-phone, via debit or credit cards. This evolution increased the benefits of an IVR from just reducing agent-assisted calls to driving revenue and cash flow for the company.

1892 — Phone Service was established between New York and Chicago

1894 — 1st battery-operated switchboard

1905 — Self-Service Gap Pumps-in St. Louis, Missouri

1915 — Transcontinental telephone service by overhead wire was inaugurated

1937-1939 — Elektro- the robot built by Westinghouse, could walk by voice command & speak ~700 words using a Voder Machine

1939 — Voder Machine - the first attempt to synthesize human speech by breaking it down into its component sounds and reproducing them electronically

Development of Speech Recognition and IVRs

Companies next began to offer both speech and touch-tone IVRs concurrently. Companies were interested because of the potential benefits it promised. But customer adoption only happened if the application was strategically designed correctly and the speech recognition engines could interpret a wide range of customer's requests, accents, speech patterns, etc... Unfortunately when some companies combined speech recognition and IVRs, especially in a mobile world, the results were costly and only partially effective in delivering on the promised benefits and cost reductions.

The Future of Touchscreen Interfaces

Today it's difficult to imagine life without a smartphone or tablets without a touchscreen. Touchscreen technology first appeared in the tech world in 1965, nearly 30 years after the Voder, Figure 1. 1971 marked the release of the University of Illinois's PLATO IV, Figure 2. It was one of the first touchscreen computer used in a classroom. It allowed students to touch the screen to answer question.[3]

The inclusion of touchscreens in Star Trek: The Next Generation in 1987, paralleled the advancements in the technology. 1993 marked two important developments in touchscreens. One was the first touchscreen phone, the Simon Personal Communicator was launched by IBM and BellSouth. And the second was Apple's touch-capable Newton PDA.[3] In Today, touchscreens are everywhere: homes, cars, restaurants, stores, planes... And its time for companies to use them to improve their customer experience strategy.

Figure 2.
1965 technology allowing students to answer questions by touching the screen

1941 — 1st touch-tone phone using tones

1946 — Credit Cards- "Charge-It" was introduced. The $1 Buckaroo Buffet was established

1947 — Beginnings of cellular phones; AT&T proposed the FCC allocate radio frequencies for widespread mobile phone usage

1962 — Bell developed a new way to dial area codes using DTMF

1963 — 1st touch tone phones – mobile car phone model introduced

1965 — Touch screens were developed

Section B: Why Self-Service Didn't Always Deliver on the Promised Benefits

In 2007 IBM conducted a study on self-service applications: 69% of customers said they experienced technical difficulties with self-service.[4] Jump forward in time and not much has changed with respect to customer satisfaction and self-service. A 2011 study on customer perceptions of Interactive Voice Response (IVR) Systems found that 83% of customers still feel IVR systems provide either no benefit at all or –only a cost savings benefit to the company.[5] This same study also found that the majority of consumers (67%) still prefer live-agent service. That presents a problem to companies, because agent-assisted service is the most costly option of service.

The Promise of Self-Service

When self-service was created, it promised many benefits. Most companies added an IVR because they wanted to:

- Offer a user-friendly, practical, self-service channel to customers to lower inbound, agent-assisted call volume
- Improve call center efficiency and capacity and free-up Customer Service agents to tackle calls that couldn't be solved through the IVR system
- Lower average handling time & minimize holding time for calls that do make it to the call center
- Drive more accurate routing, directing the customer to the right agent, the first time
- Reduce costs; downsize telephony, training costs and agent frustration, stress and hence attrition.

1967 ATM's Touch Screen UI

1968 Donald Wetzel created the idea of the ATM network

1970 1st cordless phones

1971 Southwest Airlines introduces the ability of the passenger to pick their own seats

1977 HP introduced a programmable computer that fits on top of a desk

1982 Internet protocol suite was standardized

1986 QVC –allowed customers to shop from home

FCC granted the frequency range of 47-49 MHz for cordless phones

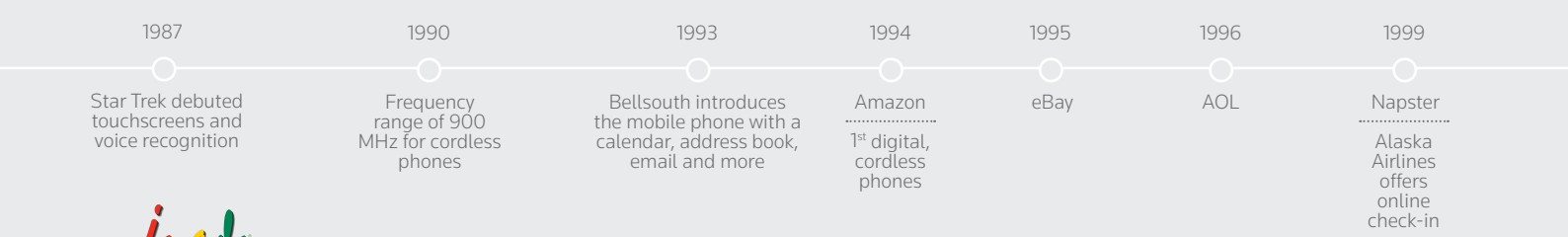
Why Customers Get Frustrated With Push-Button Phone IVRs

Typically a customer would call the company's 1-800 number and the IVR recording would say something like, "Thank you for calling TravelSpot. Please listen carefully as our menu options have recently changed.

- Press 1 for English
- Press 2 for Spanish
  - Press 1 for Reservations
    - Press 1 if this is for an existing reservation
    - Press 2 to make a new reservation
      - Press 1 for a car
      - Press 2 for a hotel
      - Press 3 for a flight
  - Press 2 to Billing
  - Press 3 for Travel Insurance
- Press 5 to make changes to your account
- Press 6 for cancellations
- Press 7 to check your flight status
- Press 8 to change your address on your account
- Press 9 to hear this list again
- Press 0 to reach an customer service representative."

While meaning well, these lengthy call menus required customers to remember which button corresponded to the service they needed. Sometimes customers would try and listen to the IVR list again. Still unsure of which option to choose, they'd opted to talk to a Customer Service ("zero-out.") And even when customers spent a long time listening and navigating the IVR maze, the system sometimes randomly disconnected them. In other cases, customers would just hang-up on the company because of sheer frustration. All of this defeated the point of self-service.

Often only best-in-class companies tested their IVRs to validate the scripting, the prompts, and confirm that the menu options offered were helpful to customers and didn't result in customers opting to speak to an agent. So, while initially designed to reduce call length, if the customer experience wasn't as helpful, IVRs did not always result in lowering agent-related interaction costs. And even today, with agent salaries being one of the largest costs in a contact center, this is still an issue.



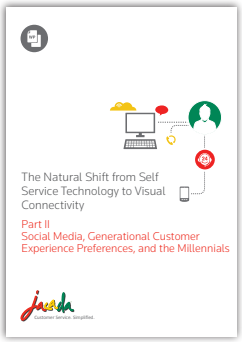
Investing in the best IVR technology is only part of the solution. IVR systems need to be simple and user-friendly so that customers will choose its self-service over live agents. Many companies are still in search of a good way to take their current IVR and improve it to get the value from technology-assisted self-service or replace it with something that delivers on the promise.

In the following parts to this series we will explore Visual IVR which is the latest technological advancement designed to address such requirements.

Summary: How The Wrong Strategy Can Result in IVR Customers Frustration

For an IVR to deliver on its promise, it may not be just the technology causing customer frustration. Often technology, whether it is self-service or otherwise, is implemented from the company's point of view. It's very important to not only to take inventory of the technology and its capabilities you have today. But it's also important, prior to buying and implementing more technology, to do day-in-the-life-of-your-customer's journey studies to know if the current technology is delivering on its promise and "What would be better if..." from the customer's point of view. What companies most often find is that the strategy to deploy the technology needs to be more customer-focused, as are the technology choices themselves.

Continue reading section II and III of this series to learn more about consumer behavior and expectations today and how technologies like Visual IVR bridge the gap between self service and connecting to the call center by providing the option to bypass the traditional IVR experience.



Next in this Series:
Part II: Social Media, Generational Customer Experience Preferences and the Millenials

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