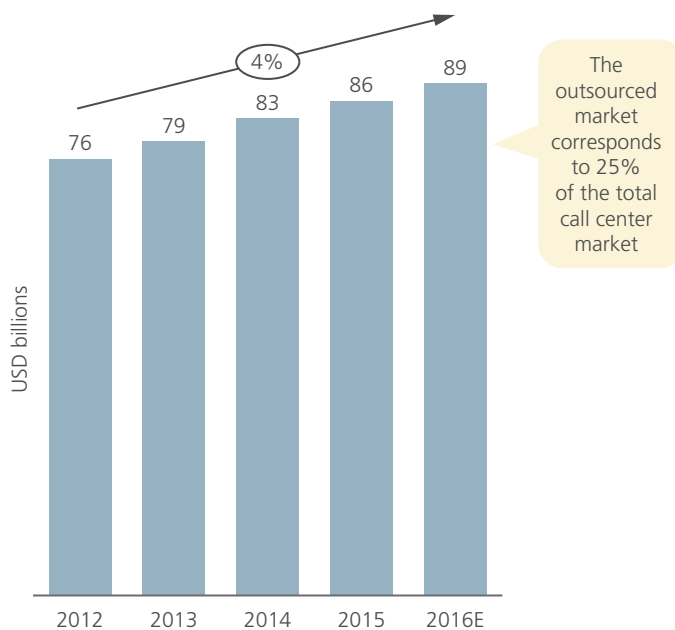# Why Call Centers Will Not Disappear as Soon as You Think

Many of today's largest call center companies were created between 1980 and 2000. The number of call centers around the world increased during the 1980s and 1990s, and by the end of the '90s, the internet had begun to contribute to even further growth, with call centers handling customer service and technical support issues for websites. The early 2000s' trend of offshoring services to reduce costs gave further impetus to the outsourced call center.

Today, the outsourced call center industry represents approximately USD 90 billion in revenues worldwide (see Figure 1). Some developing countries rely on outsourced call centers to provide a relevant part of their economies. In the Philippines, for instance, the call center industry generated approximately USD 10 billion in revenues in 2012, representing about 4% of the country's gross domestic product (GDP). Call centers are an important source of jobs, even in developed countries: Approximately 1% of the total employed population in Europe works in call center roles.

The industry, however, might be at a tipping point. Despite recent industry growth, call centers are at risk of disappearing altogether. And what's to blame for this potential extinction? Digitalization, along with voice automation and artificial intelligence (AI).
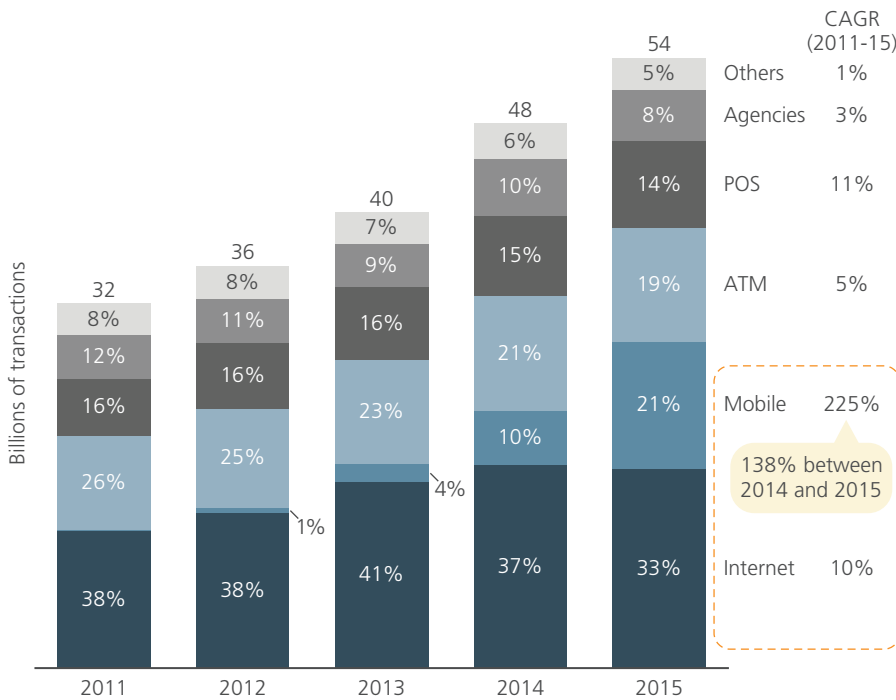
Figure 1
Global outsourced call center market[1] (2012-16E)

4%

| 2012 | 2013 | 2014 | 2015 | 2016E |
| 76 | 79 | 83 | 86 | 89 |

USD billions

The outsourced market corresponds to 25% of the total call center market

Note: (1) Includes customer relationship, customer acquisition, debt collection and technical support
Source: L.E.K. analysis of IDC, Teleperformance and Everest Group reports

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Why Call Centers Will Not Disappear as Soon as You Think was written by **Maurício França** and **Paulo Vandor**, Managing Directors, and **Fabio Zaffalon**, Principal, at L.E.K. Consulting. Maurício, Paulo and Fabio are based in São Paulo.

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L.E.K.

Figure 2
Example — Bank transactions per channel in Brazil (2011-15)

Source: L.E.K. analysis of Febraban reports

Will technology kill call centers?

Digitalization. Mobile phones — especially smartphones — have changed how we communicate. As a consequence, many people, and in particular the younger generations, are using voice communication much less frequently and instead relying on digital channels such as mobile apps, email and social media.

Examples of this digitalization trend abound. Uber's platform is optimized to work on mobile devices, and digital channels dominate the company's customer service relationships, giving riders the instant ability to complain about a driver, contest the amount charged and ask whether they left something in a vehicle.

Banks, too, are getting in on the digitalization trend. Customers are demonstrating their growing preference to communicate with their banks via mobile. Figure 2 shows the evolution of bank transactions in Brazil, by channel. The mobile channel is rapidly increasing its volume against other channels.

Is digitalization truly a threat to the call center industry? It would make sense that as customers use more digital channels to communicate with companies, there would be less need for voice interactions and call center operators. But the reality of this correlation isn't quite so simple. As Figure 2 shows, the number of bank transactions increased across all channels, including voice, which is part of the "Others" category. Another point to consider is that growth in mobile transactions came to a large extent from transactions (e.g., checking an account balance without having to go to the bank or an ATM) that didn't exist before, and therefore did not cannibalize voice interactions.

Finally, digitalization by itself does not make human interaction with a company's employees obsolete. In many cases, there is a human being behind a digital transaction, be it an email message, live chat, videoconference or social media post. As such, the demand for an "operator" is not eliminated; the nature of its work simply changes. Figure 3 shows the new result: growing revenues for the outsourced call center industry, with voice

An industry is born

Although Alexander Graham Bell invented the telephone in 1876, the call center industry as we know it today took a while to develop. Internal call centers started to appear in the mid-1960s and early 1970s, with the invention of the PABX[1] and the ACD[2]. Some of the first call centers were created in 1972 by Barclaycard and British Gas, and in 1973 Continental Airlines created a call center to run its telephone booking system. The use of call centers became more common during the '80s and '90s, when the term "call center" began to be used. By the end of the '90s, the rise of the internet spurred growth, as websites became the central point of contact and sales for many companies and call centers became essential to deal with customer service and technical support issues. Companies focused on providing call center services became more common, and in the early 2000s the trend of offshoring as a way to reduce costs gave further impetus to the outsourced call center. Many of today's largest call center operators were created between 1980 and 2000, including Teleperformance (1978), TeleTech (1982), Capita (1984), Convergys (1998) and Atento (1999).

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growing at 3% per year and other channels growing at much higher rates (between 20% and 50% per year).

Voice automation and AI. If digitalization does not seem to be so strong a challenge (at least so far), what about voice automation and AI? Banks installed the first interactive voice response units in the early 1970s, and since then call centers have used automation and voice recognition technology to streamline their functions. Voice recognition technology has substantially increased the usefulness of automation to call centers, and AI represents another step change in companies' ability to automate call center functions.

Unlike digitalization, voice automation and AI indeed have the potential to transform the call center industry immensely. For example, IBM's Watson is a computer capable of answering questions posed in natural language. It became famous in 2011 after winning a man-versus-machine tournament on "Jeopardy!"[3] against former champions. In 2016, IBM launched Watson Virtual Agent, a platform created to answer questions through various communication channels. The system starts as an assistant to the operators, but once it handles sufficient data and "learns" through machine learning, it can, theoretically, replace the operators.
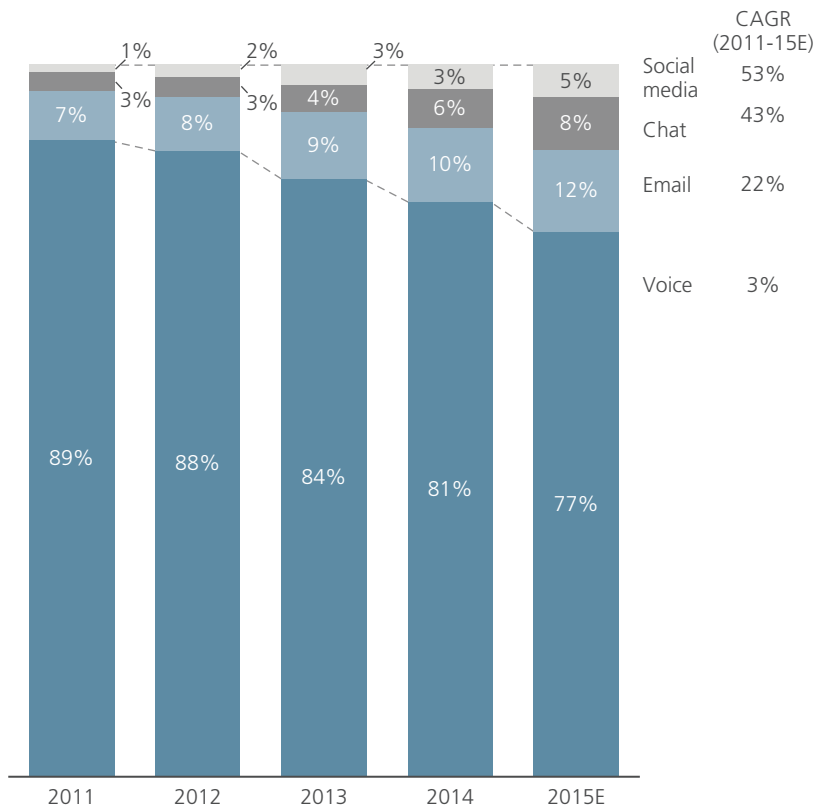
Figure 3
Global outsourced contact center revenues

Source: L.E.K. analysis of Everest Group reports

Many in academia agree that automation and AI are leading the way toward imminent change. In their seminal paper "The Future of Employment,"[4] Oxford University's Carl Frey and Michael Osborne assess jobs by their probability of automation over the next 20 years. Their assessment for call center functions? A more than 95% probability of automation.

We do not disagree that voice automation and AI present longer-term challenges. But does this mean that the call center industry will disappear in the short to medium term? We do not think so.

Barriers to digitalization and voice automation, and other trends protecting the industry

Although digitalization, and in particular voice automation and AI, might significantly affect the call center industry over the longer term, several factors are actually protecting or even boosting the industry in the short to medium term, including (i) behavior resistance to digitalization, (ii) technological barriers to voice automation, (iii) continued proliferation of ecommerce as a source for additional call center demand, (iv) outsourcing under-penetration, and (v) implementation and organizational barriers.

Behavior resistance to digitalization. Digitalization is limited by what customers want. Customer preference for digital instead of voice channels is strongly correlated with age (see Figure 4). According to current projections, in 2030, 27% of the population will still prefer to speak with someone on the phone to resolve issues.

Technological barriers to automation. Not all tasks run the same risk of AI automation. The automation of three types of tasks has proven especially challenging: (i) perception and manipulation tasks, (ii) creative intelligence tasks, and (iii) social intelligence tasks. Even though it is beyond the scope of this paper to address these tasks (see "The Future of Employment" for a more complete discussion), the last type of task is the most relevant to the purpose of call center operations. Social intelligence is important to many call center functions, including negotiation, persuasion and care. Even though Watson can "learn" and can answer unstructured questions, it cannot comprehend or respond to emotion. As such, for the foreseeable future, it's unlikely a computer will handle interactions that involve elements of emotion.
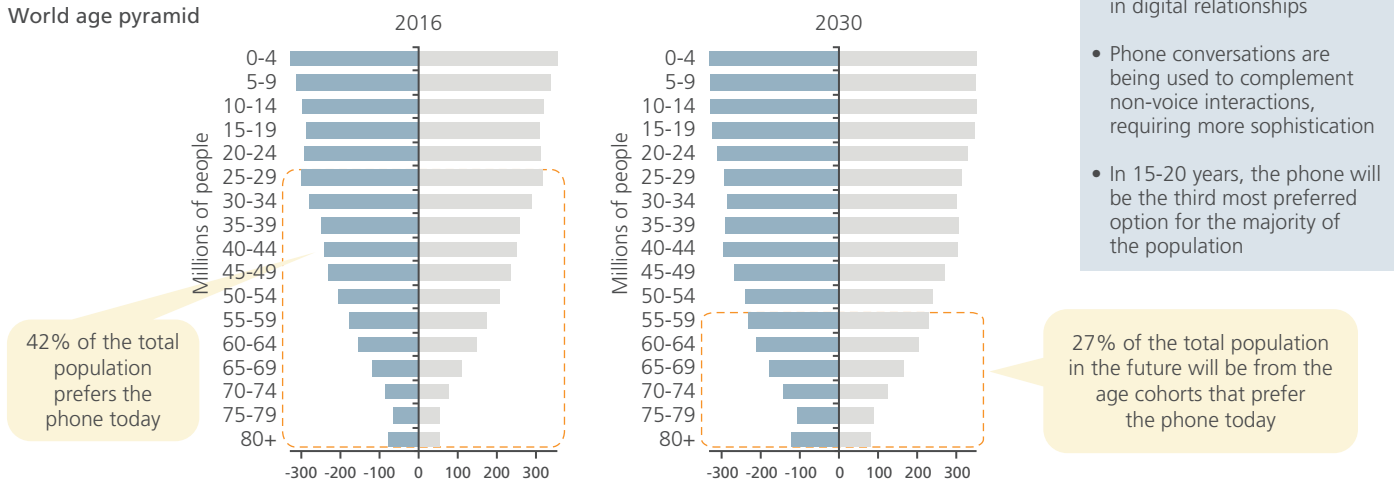
Figure 4
Evolving preferences for communications channels

Preferred channel (2016)

Age	1st option	2nd option	4th-5th option
<25 years	Social media	Mobile	Phone
25-34	Email	Mobile	Social media
35-54	Phone	Email	Social media
55-70	Phone	Email	Mobile
>70	Phone	Email	Social media

- Younger generations are more at ease using digital channels of communication

- The human touch (e.g., agent assistance) is still critical, even in digital relationships

- Phone conversations are being used to complement non-voice interactions, requiring more sophistication

- In 15-20 years, the phone will be the third most preferred option for the majority of the population

World age pyramid

42% of the total population prefers the phone today

27% of the total population in the future will be from the age cohorts that prefer the phone today

Source: IBGE, L.E.K. analysis

Beyond the challenges inherent in the automation of social intelligence tasks, other difficulties abound, including the following:

- There is a lack of transparency about how systems like Watson determine a certain answer. It may not be clear why the answer should be trusted, and in the case of a mistake, it may not be clear how to fix the problem so it does not happen again.

- Because Watson "learns" by itself, it is difficult to assign accountability for its mistakes to someone in the organization, which creates accountability challenges.

Continued proliferation of ecommerce as a source of additional call center demand. As commerce continues to move online, there is an increase in the demand for all types of remote interactions (voice, email, chat, social media), which were previously done face-to-face. This trend, which should continue in most of the world, will provide call center operations everywhere with sustainable demand growth for years to come.

Outsourcing under-penetration. Even though the call center industry seems mature, most call center functions are still done in-house. The global outsourced call center market represents

only 15–25% of the total call center market,[5] but the rising complexity of call center operations and economies of scale are creating a clear trend toward outsourcing.

Implementation and organizational barriers. Even if the technology allowing for voice automation and AI were to be perfected, use of this technology would not necessarily be simple. For instance, in 2013, the University of Texas MD Anderson Cancer Center launched its Oncology Expert Advisor (OEA) R&D project to use Watson on its mission to eradicate cancer.[6] In 2016, however, after having spent three years and more than USD 62 million on the project,[7] MD Anderson decided to abandon it.

A case analysis seems to indicate three main problems with the project:

- The technology was experimental, with shifting expectations and goals, which caused project delays. A special review by UT System Administration noted that the project team missed several deadlines, and the MD Anderson Cancer Center later noted that "the research and development nature of the work inevitably led to goals and expectations that shifted over time."

- Senior personnel at MD Anderson Cancer Center became overly committed to the project's success, to the point of not following procurement policies (awarding projects without competitive bidding, with development costs set just below the amounts that would require board approval, and paying services in full without clear indications that the results were being achieved).

- The project had difficulty integrating with other MD Anderson systems (MD Anderson changed its system for medical records mid-project and OEA couldn't handle the new system).

Although both IBM and MD Anderson consider the project technically successful (Lynda Chin, the scientist who ran the project, said "If the issue being raised is that OEA is a failure, I disagree"), it seems clear that the project did not deliver on its promises. Lynda left MD Anderson in April 2015.

Some of the most important call center clients, such as banks and telecom firms, have complex organization and myriad legacy systems. It is likely that, once AI and automation technology are ready, the migration process will be a difficult and lengthy one.

Conclusion

Many believe the call center industry is at a tipping point. Digitalization as well as voice automation and AI are seen as threats to the industry, harnessing the potential to destroy call centers in the long term. But investors and executives in the industry should not yet despair: In the short to medium term, call centers will likely continue to thrive. Automation and AI are real threats, but it will be a long time before they make a significant impact on the industry.

Sources

[1]Private Automatic Branch Exchanges, which allowed calls to be routed internally in a company.

[2]Automatic Call Distributor, a device that distributes calls to certain agents based on certain criteria.

[3]"Jeopardy!" is an American television game show created by Merv Griffin.

[4]Carl Frey and Michael Osborne, "The Future of Employment," Oxford University, September 2013.

[5]2015 Global Contact Center Benchmarking Report – Dimension Data.

[6]The University of Texas System Administration Special Review of Procurement Procedures Related to the MD Anderson Cancer Center Oncology Expert Advisor Project.

[7]"MD Anderson Benches IBM Watson in Setback for Artificial Intelligence in Medicine," *Forbes*, February 2017.

About the Authors

Maurício França is a Managing Director and Partner in L.E.K. Consulting's São Paulo office. He has nearly 15 years of management consulting expertise in strategy, board governance, M&A and regulatory issues, as well as an additional five years' experience in private equity and telecommunications, media and technology.

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