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IMPLEMENTATION OF ANALYTICAL TECHNOLOGY APPLIED TO QUALITY MANAGEMENT OF OUTSOURCED BUSINESS PROCESSES

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ABSTRACT

This paper presents a case study developed in a multinational company operating in the business process outsourcing (BPO) industry in different markets. The technological solution implemented includes features like cognitive analytical technologies with artificial intelligence (AI) resources, machine learning, and customer service automation that allow for better knowledge and monitoring of the customer's experience throughout the service provided by the company's contact center. The innovation included natural language processing (NLP) and omnichannel capabilities, which made it possible to acquire new knowledge in applying analytical solutions with AI in customer service. Through a proof of concept (POC), the benefits of the analytical solution were proven – notably, the reduction of costs of monitoring structures, higher quality in the analyses (monitoring of 100% of the samples), and the transfer of greater added value to client services. In addition to presenting the implementation results, the study also presents managerial contributions to those interested in this type of solution.

KEYWORDS

BPO. Analytical Technologies. Cognitive Technologies.

INTRODUCTION

Currently, the concept of quality is widespread in various industrial sectors and business environments: quality manifests itself as a superior satisfaction experience with a product or service, to the point of transforming the customer into a promoter of the

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brands they consume – it's common for customers to discuss products and services energetically and enthusiastically with their family and friends (Reichheld, 2011).

According to Kotler and Keller (2012), customer satisfaction consists of a feeling of pleasure, or disappointment, felt by and arising from the perceived performance of a product in comparison with his expectations when buying it. Therefore, since customer satisfaction is related to the quality of the products and services received, companies have the possibility to win over customers and overcome the competition by improving their customer service and support work, better satisfying their clients' needs, and anticipating their demands.

It is now known that customers tend to remember their bad experiences longer than they remember the good ones. This fact is confirmed by research, such as the one carried out by the company Zendesk (2019), which heard 510 consumers in Brazil and pointed out that 59% of them have memories of poor service within two years, while only 10% remember good experiences.

Customer service represents an important segment of the Brazilian economy. According to a survey carried out by the Ministry of Economy regarding the number of formal employment contracts based on the numbers from the General Register of Employed and Unemployed (known in Brazil by the acronym CAGED), this is the sector with the highest number of formal jobs (Alvarenga, 2019).

The quality of service requires constant monitoring by the teams involved, as the satisfaction and loyalty created by it largely depend on the capacity of the professional who is providing the service, as well as the tools available to perform his or her activity. Freemantle (1994) states that, without some form of control, it is impossible to know how the service is performed. This makes it essential to have adequate digital systems and processes for good quality management in customer service. In addition, the influence of external factors also implicates adjustments to business process outsourcing (BPO) or BPO services.

According to Singh and Alvord (2021), the covid-19 pandemic changed the form of social interactions, shopping behaviors and companies' working conditions, and that, together with the implementation of lockdowns around the world, accelerated the use

of remote work. BPO providers needed to change their status from being technology integrators to service orchestrators, leveraging digital technologies, data analytics software, artificial intelligence (AI), automation, and cloud-based services in order to add more efficiency to processes and reduce labor costs while achieving bigger gains in scale through process automation and service quality improvements.

According to a study carried out by the consulting firm McKinsey & Company (2022), in the past decade, companies outsourced their business processes mainly with a focus on a cost-saving strategy, while technology was primarily used to optimize processes, mainly in basic tasks of automation of these processes

Based on the analysis presented, this study proposes the implementation of automation technologies underpinned by AI, as well as analytical and predictive tools, with the objective of enhancing customer satisfaction, reducing client attrition, and fostering business expansion in a service-oriented technology company specialized in BPO.

To that end, this work is structured as follows: a theoretical framework is presented in its second section, the third section describes the methodology used, and the fourth section presents the development of the solution. In the following sections, the intervention, solution evaluation, and final considerations of the study are presented.

THEORETICAL FRAMEWORK

Business process outsourcing (BPO)

According to Alvord et al. (2021), BPO is a set of service activities that support customers' businesses, outsourced to a provider, and which may include digital services, assisted channel services, technologies and systems integration, infrastructure, software development and projects, analytical and reporting capabilities, business process management, and human resources (HR).

The global fulfillment BPO market accounted for a total of US$ 163.8 billion in 2019 and will grow at a Compound Annual Growth Rate (CAGR) of 2.3% through 2024 (Blackmore et al., 2020). However, when considering the combined effect of

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standardization of processes and cloud systems, it is expected that, by the end of 2022, at least 40% of BPO services will be delivered through the Business Process as a Service (BPaaS) modality (Wilkins et al., 2020).

The customer service BPO is mistaken for the traditional call center service. According to Azevedo and Caldas (2002), call centers are integrated contact centers between companies and consumers, in which contacts are established remotely and/or virtually, using technology, namely telephone, fax, and Internet (email) – whose management pillars are composed of technology, processes, and people (Bergevin, 2005).

The process of choosing a BPO provider involves different decision parameters established by clients. In general, the main factors are the economic feasibility of the proposal, proof of the provider's competencies, and ability to perform and manage the contracted services, as well as its proven ability to deliver the best customer experience and unique business value to clients.

The service-focused BPO modality directly supports customers through the management of calls made to contact centers and offers basic services such as first-level support, direct sales by telephone, offers of services and products, and registration of complaints, among others. That is a low value-added service with high call volumes and whose profitability typically yields limited contribution margins for the service provider.

Even with more flexibility in labor agreements, staff turnover remains one of the main risk factors for the business, as it is an onerous process (Milkovich & Boudreau, 2000) that overloads people management processes, consequently affecting the efficiency of the organization.

Batt et al. (1999) comment that high staff turnover is one of the main obstacles encountered by the call center industry in improving its quality and productivity. In what is conventionally called as interactive service work (Leidner, 1993): it is the employees who manage the boundary between the company and its customers, being the behavior of employees that shapes the attitudes and loyalty of these customers (Mills et al., 1983).

In BPO operations, customer service uses technological – as well as human – resources to provide support to customers assisted by the various service lines, usually

having the support of its own quality control area to guarantee the levels of excellence of services expected for the standards demanded by the client.

Technology as a differentiator for BPO companies

Over time, companies have always faced the need to adapt to the constant changes in their business environment and to reinvent themselves to remain attractive and competitive (Kuwada, 1998). In this context, the constant digitization of society and the emergence of new consumption models made the changes observed in the organizational environment strongly influenced by new information and communication technologies (Chaves et al., 2000; Tapscott, 1997).

In 2021, Gartner Institute presented the main differences between BPO providers and highlighted their most important characteristics: ability to operate globally, industry expertise, availability of digital services (including messaging), chatbots, agent-assisted services, technology expertise, customer project management expertise, business process management expertise, and leadership in innovation and knowledge management.

For Schwab (2017), these important transformations are a consequence of the so-called Industrial Revolution 4.0. For him, the digital revolution is a continuation of the previous industrial revolution. He points to the essential role of new technologies as catalysts for all the great transformations that allowed this process. Those are based on three groups of vectors: physical, digital, and biological. Schwab states that all the inductors of the fourth revolution "have in common a key component: they harness the pervasive power of digitization and information technology. All these innovations are possible and are enhanced by the power of digitization" (Schwab, 2017, p. 14).

The materialization of the fourth industrial revolution requires greater adaptability of companies so that they can benefit from the advantages of transformations produced by digitalization since, for them to survive, they need to adapt to a constantly changing environment (Bakhtiar, 2020). Thus, organizational adaptive capabilities allow, for example, the provision of BPO services through cloud computing to be implemented without the need for physical dependencies for the provision of services, as is the case

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with call centers, in which agents and quality monitors might operate from any connected location, differently from the classic BPO operation distributed in large areas with a high concentration of people.

According to Mehta et al. (2002), channels are the sum of the routes or paths through which a company delivers its products, services, or information to customers. Channels represent "a point of contact or a means by which the firm and its customers interact" (Neslin et al., 2006, p. 96). Today, consumers tend to use an increasing number of channels during their journeys, both in the search for products and during their purchases or in the post-sales phase (Neslin et al., 2006; Weinberg et al., 2007).

According to a study by Bhatnagar et al. (2022), the reduction in the number of voice interactions in customer services and the growing increase in the use of digital technologies, such as web chat, email, telemarketing, and integrated communication with social networks, were responsible for a growth in the order of 30 to 70% in BPO service contracts in the last five years. This scenario has driven new channels of interaction and demanded new resources for monitoring interactions in addition to voice calls.

According to Pollamarasetty and Potti (2016), an omnichannel can be defined as a synchronized operating model in which all channels of a company are aligned to allow a unique and superior customer experience without the need to switch service channels between different platforms during an interaction. In this model, companies can replace many interposing ways of relating to their customers with a unified and integrated interaction, which allows them to respond consistently to customers' needs in their continuous demands.

Another way of analyzing customer satisfaction is the so-called "sentiment analysis", a feature made available by AI through the natural language processing (NLP) technique to identify emotions commonly associated with words and expressions used during an interaction.

According to Moore (2021), sentiment is referred to as a way of measuring emotions in interactions between the customer and the agent during the interaction period. In his analysis, the author explains that there are three reasons why sentiment is measured:

1) to monitor critical issues for customer loyalty; 2) to identify business areas that need improvement; and 3) to evaluate the agents' behavior.

Sentiment analysis refers to the application of NLP techniques aimed at extracting semantic and contextual meaning from content, with the goal of identifying the author's underlying sentiment—whether it be positive, negative, or neutral. The classification categories in sentiment analysis are not confined to polarity alone; they may also encompass nuanced judgments, such as agreement versus disagreement, or evaluations of quality, such as good versus bad (Xiao et al., 2024).

According to a study carried out by the consulting firm DMG, companies need a constant flow of insights and information about the needs and wants of their customers to provide them with a better experience and to improve the performance of the employees responsible for the service. This is especially relevant in the current post-pandemic scenario, in which remote work has also become a reality for contact center agents responsible for service (Fluss, 2021).

The referred study also indicates that the ideal model is one in which the company can obtain both relevant information in real-time and historical data and preferences to be analyzed and used instantly during interactions with its customers, seeking to constantly improve the service model and – consequently – improve performance indicators related to customer satisfaction.

These attributes reinforce the need to adopt digital technologies in BPO as a way to increase barriers to entry for competitors and improve the level of engagement and customer experience at every stage of supporting the company's business.

METHODOLOGICAL PROCEDURES

This article was based on the development of a case study on a world-renowned company that offers BPO services. According to Eisenhardt (1989), a case study can convey the complexity of real situations that companies face every day. Although it is known that any case study has limitations (Gil, 2010) – such as the difficulty of generalizing the results obtained –, it is understood that the objective of this type of study can both

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exemplify, in a real way, the problem situation found in a relevant organization in the segment in which it participates and help the discussion of the exposed concepts. Regarding its means, this study is configured as field research (Vergara, 2012), carrying out the collection of primary and secondary data.

The choice of the organization dealt with in this work is justified due to its characteristics: it is a large multinational company recognized for its global leadership in offering services in digital technologies and business consulting in different markets.

For reasons of confidentiality, the company treated in this work will be called "Company A". It opted for inorganic growth in the corporate telecommunications services market to provide an offer of electronic security and infrastructure services with the purchase of a company specialized in this sector.

In order to seek the validity of the construction of the study, different sources of evidence – based on the assumptions recommended by Yin (2010) – were used in this research: interviews, questionnaire, analysis of indicators, and participant observation in meetings.

One of the researchers coordinated the project and carried out the actions at the company throughout the intervention. However, the participant observation method presents the limitation of preconceived expectations by the observer. These could lead him/her to ignore certain influences on observed behaviors and to exaggerate others, characterizing his/her bias (Kenrick et al., 1999; Mónico et al., 2017). The collection of other sources of evidence for the elaboration of the conclusions of the study was justified by this factor.

It should also be said that clippings of notes were used in the collected data, in the form of keywords and expressions or excerpts of sentences more adherent to each answer and subsequent interpretive text analysis (Flick, 2009).

RESULTS

This section is organized as follows: first, a brief contextualization of Company A is presented, and its current characteristics are investigated, followed by information about the diagnosis

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of the problem situation observed in the organization. After this, the adopted solution is presented. Finally, a description is made of the intervention carried out in the organization, and the evaluation of the results obtained by the implemented actions is presented.

Context and investigated reality

Founded in 1993 in Spain and present in 140 countries, the analyzed company has more than 49,000 employees and over € 3.2 billion in annual revenues. Since its foundation, the company has become a leading supplier of software and radar systems for air traffic control and monitoring in the transport and defense markets. In 2016, it opened a new business area focused on offering digital services with a market strategy based on offering software development services, IT service management, and user support through the outsourcing of business processes and support systems and applications for its main customers.

As of May 2021, Company A employed 7,502 professionals in Brazil. In fiscal year 2020, the company reported revenues exceeding R$ 1 billion, serving approximately two hundred clients nationwide. Its BPO services are structured into two primary segments: Customer Service BPO, which accounts for roughly 55% of its operations, and Back-Office BPO, representing the remaining 45%.

The customer service strategy is based on knowledge management of digital solutions and the dedication of specialized resources in the development of tools and technological solutions to generate greater value and competitive advantages from know-how that is difficult to duplicate, obtained by teams composed of engineers, consultants, data scientists, programmers, and systems analysts.

The work of ensuring and meeting high-quality standards required in the contracts is carried out by the Quality Management area by monitoring calls and with a basic level of digital interactions via video message. From this information, they hope to both obtain insights that allow identifying opportunities for process improvements and automation possibilities, as well as identify best practices and improvement suggestions that allow the creation of products or the reengineering of processes to increase customer satisfaction.

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BPO services represent approximately 23% of Company A's revenues in Brazil. They are considered of great strategic importance for the company's worldwide operation since Brazil occupies a prominent position as its largest international operation, contributing around 25% of the worldwide results of the BPO business.

However, during 2016 and 2018, Company A's results were significantly impacted by the loss of two important contracts for the provision of mortgage credit management and back-office services with two large banks, in addition to the loss of a third contract in the Revenue/Accounting service modality with a leading company in the air transport segment. The loss of these customers represented an impact of more than R$ 100 million in revenue for Company A, an amount which went to its competitors.

The inability to demonstrate new skills to create value through innovations, associated with the challenges of satisfaction with the services received, were presented as the main threats to the continuity of existing contracts and to the generation of new business with customer care services. The evidence found in the characterization of customer losses also pointed to the need to obtain a better understanding of the forces that influence customer dissatisfaction with Company A's BPO services.

Diagnosis of the problem situation

The diagnosis was carried out in four stages, through which it was sought to know the degree of satisfaction of the customers interviewed with the company and its services. In addition, it was tried to obtain relevant information for the improvement of current BPO offers and the processes used in the delivery of these services to Company A's customers, who requested their identity to remain confidential.

The first stage of diagnosis and data collection was carried out using a quantitative approach and used Company A's annual customer satisfaction survey, called *Encuesta de Satisfacción de Clientes* (ESC), – Customer Satisfaction Survey, in English –, carried out between December 15, 2020, and February 15, 2021. It involved multidisciplinary teams from Brazil and Spain, in addition to the area responsible for quality in the company, called *Calidad y Auditoría de la Producción* (CAP) – Production Quality and Auditing, in

English. The annual survey is a direct consultation carried out through a questionnaire containing thirty questions and using a five-point Likert scale, in which a score of 1 means *totally disagree* and a score of 5 represents being *totally in agreement*.

The survey was distributed to a sample of 314 professionals representing 114 active client organizations in Brazil. A total of 116 responses were obtained, corresponding to seventy-five distinct clients operating across the energy, financial services, public administration, manufacturing, and telecommunications sectors. Furthermore, the survey included questions related to satisfaction with the company and the services received, its work processes (correct definition of scope and deadlines, among others), and the perception of the value of Company A in relation to its main competitors. The ESC survey assesses two main indicators: the Customer Satisfaction Index (CSI) and the Net Promoter Score (NPS).

The second phase of the diagnostic process involved telephone interviews with executives overseeing the Energy & Industry and Financial Services sectors identified as the most significant segments in terms of revenue contribution to the company. This stage sought to map the vision of the leaders responsible for the company's relationship with the customers evaluated in the ESC survey. It identified potential convergences and patterns in responses through questions associated with the positioning of offers, differentials in relation to competitors, quality management and monitoring, capacity for innovation and adoption of digital technologies to the business, use of current methodologies in Customer Experience (CX), as well as opportunities to improve offers based on a marketing perspective.

Each interview lasted approximately twenty minutes and was conducted with the support of a semi-structured script; a Microsoft Teams® tool was also used for support. For the treatment of the data obtained from the interviews, note clippings were used in the form of keywords and expressions or excerpts of sentences more adherent to each answer, constituting an interpretive text analysis (Flick, 2009). The social profile of the interviewees corresponded to senior executive level professionals in management positions with higher education; both were males, aged between

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45 and 50 years old, living in the cities of São Paulo and Rio de Janeiro, with working time in the company of seven and nine years, respectively.

The third stage of the diagnostic process was also conducted using qualitative research methods. Interviews followed a semi-structured protocol comprising nine open-ended questions and were held on April 26, 2021, via the Microsoft Teams® platform. The objective of this phase is similar to the previous data collection, namely, a more precise identification of the offending elements of customer satisfaction with BPO services. Thus, the objective was to map which requirements – in the opinion of the leaders directly responsible for the BPO business – are most critical for the delivery of a superior customer experience and the current level of adequacy of Company A's offer in relation to these requirements.

Each interview, lasting approximately forty minutes, was conducted by three members of Company A's BPO management team. The first interview was held with the director responsible for the BPO services area, the second with the manager overseeing quality monitoring and training, and the third with the professional in charge of CX and service teams. Both managers reported directly to the director, who also participated in the research. The social profile of the interviewees in this third stage of the diagnosis was composed of professionals at the executive management level with higher education, two men and one woman aged between 40 and 45 years old and living in the city of São Paulo.

The fourth and final stage of the diagnostic process was conducted between April 19 and 30, 2021, through an exploratory qualitative study involving four BPO clients of Company A. The researched companies are digital natives (Dunn, 2016), notably innovative, born in the Internet age, fitting a select group of companies called unicorns (Lee, 2013) – whose market valuation is higher than US$ 1 billion. The procedure used for the evaluation phase was descriptive research, whose results were obtained using the analytical tool during the proof of concept (POC), which took place between August and September 2021 (an effective period of 45 days for the data collection).

The results obtained in the diagnosis showed an increase in the dissatisfaction of Brazilian customers surveyed in all indicators evaluated in relation to the year 2019,

highlighting those most relevant for consolidating the results of the different data captured, represented by the CSI and the NPS. The decrease in the number of so-called promoters and the increase in the number of detractors – together with the reduction in the probability index of recommendation of Company A by its customers – also represents an important factor of concern regarding the business trends. The data are presented in Table 1.

Table 1 – Participants in the qualitative research with clients in Brazil

Company A	2019	2020	Trend
Number of companies	39	75	↑
Number of professionals	44	116	↑
% of answers	53.9	49.45	↓
CSI result	76	73	↓
NPS result	34	21	↓
Promoters	50	44	↓
Detractors	15.8	23.3	↑
Indication to recommend Company A	81	76	↓
Company A competitors (level of confidence)	4.02	3.68	↓

During the second and third stages of diagnosis, it was possible to map the main critical points identified by managers as essential for meeting the needs of their BPO customers, taking into consideration that sales leaders' perceptions might contribute with valuable insights based on their experience managing the relationship with researched clients.

The surveys carried out with the BPO management team and sales leaders responsible for the relationship with existing customers identified the existence of points of convergence in relation to the problems reported in the qualitative research carried out with customers. The low adoption of technological tools for quality monitoring, low number of monitored interactions, manual procedures to monitor service quality, and the need to review internal processes and implement the use of scientific methods to achieve greater efficiency and quality of services are among the most relevant identified issues.

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In addition, the interviews with customers indicated a certain level of satisfaction with the efficiency of the services provided by Company A, positioning them as acceptable and within expectations. However, seven out of eight customers say that the company's ability to innovate and use technologies is equal to or less than its competitors; therefore, they do not perceive value differentials between Company A's services in relation to its competitors.

Among the main value attributes not currently perceived in the services provided by Company A, the following stand out: the ability of current services to provide high-efficiency gains and promote a greater level of engagement among teams, allow for innovations with digital technologies, AI, and analytical tools in monitoring to improve quality control mechanisms.

Based on the results collected during the diagnosis, there was a misalignment between customer expectations and the value delivery capabilities offered by the company. This was more evident in the results obtained in the ESC quantitative survey of satisfaction, as well as in the comments obtained through the qualitative survey with BPO customers.

The delivery of superior value to the customer and, consequently, their greater satisfaction with the service offered seeks to avoid the loss of customers and the consequent decline in revenues – as observed in the 2016-2018 triennium – which may result from customer dissatisfaction with the services received. It is understood that the construction of value could be made possible through the implementation of operational evolutions and technological innovations mapped in the study.

Adopted solution

As observed in the diagnosis stage, Company A still does not have the technological innovations, processes, and methodologies necessary to offer a superior service experience to its customers – which could allow it to obtain a competitive advantage over its direct competitors in the BPO service.

A lack of innovation diminishes the perceived value of the service offering, thereby increasing the vulnerability of the customer base to competitive threats. In this sense, the automation of the quality monitoring process is presented as a proposal for the improvement of services and as a response to the main concerns demonstrated, with a focus on improving quality control and generating a greater number of business insights, in addition to the increase in productivity and in the reduction of costs of structures of the BPO operation.

The use of the predictive analytics system, with recording capabilities, voice recognition, and speech-to-text tools enabled by AI technologies, will be able to offer a solution to the continuous challenge of increasing customer satisfaction and gaining efficiency. The solution allows sentiment analysis, including feelings and satisfaction trends during the interaction, providing essential information for service improvement and efficiency gains by eliminating errors and inaccuracies resulting from subjective assessments made by quality monitors.

Innovation will be introduced through the implementation of an interactive digital analytics tool enhanced with AI capabilities. This solution will enable automated analysis of omnichannel interactions between customers and service agents, generating productivity gains by eliminating errors typically associated with manual monitoring.

The technology can be defined as a contact center analytics solution that uses AI capabilities such as NLP and sentiment analysis – in addition to other AI-based techniques – to improve customer experience, improve the quality of interactions, and gain greater agent engagement.

Based on this greater ease of access to the resources of the technology provider in the country, and due to the proven benefits of the solution and its innovations, the Interaction Analytics tool (belonging to a leading manufacturer in the market) will be adopted as a digital solution for the technological evolution of BPO services.

The AI capabilities embedded in the analytical tool enable the identification of trends and root causes of nonconformities by monitoring up to 100% of customer interactions across omnichannel platforms, including voice, text, and other digital

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media. This comprehensive monitoring contributes to significant productivity gains and enhances the overall customer experience.

The solution presented in this study can analyze historical data or interactions in real-time and uses a native phonetic neural analysis engine (Neural Phonetic Speech Analytics). This feature includes a large base of speech recognition vocabulary to perform transcription and analysis of interactions (a technology known as speech-to-text). In addition, the tool allows analyzing and scoring up to 100% of the interactions carried out with the application of analytical rules. Its AI capabilities make it possible to analyze feelings through predictive models that consider the explicit use of words, silence, or previously defined phrases to determine the occurrence of some event or behavior that deserves special attention.

The behavior analysis feature also makes it possible to evaluate the performance and skill levels of customer service agents using specific and previously determined metrics, which can be defined by the client itself as a way of evaluating the professionals responsible for the service of users (internal or external) of BPO services. In this case, the solution provides real-time alerts during interactions for agents and managers with guidance on the actions that must be carried out by the agent based on the customer relationship history and can also detect whether the service agents are following the definitions and protocols established as premises for a quality service.

The use of cognitive automation with AI allows automatic monitoring of the quality of interactions and accurately and immediately detects eventual nonconformities in meeting contractual requirements established for service during interaction with agents. It also identifies whether the client's experience with the service is positive or negative based on the analysis of words and phrases – spoken or written – used during interactions.

The cognitive automation solution uses digital interaction analysis tools and has features that provide visibility and detail of all stages of interactions between customers and service teams. This allows the interpretation and understanding of quality levels and the ability to obtain the analysis of up to 100% of the interactions in an automated way, whether through traditional audio channels or through digital channels such as the Internet and web chat (Moore, 2021).

In addition to obtaining relevant information (or insights) in real-time, there is the possibility of recording voice interactions in a unified database using speech-to-text technology. This offers a competitive advantage of high value for business intelligence, as it records in an integrated database the consolidated information that reflects the customer's historical knowledge, such as their preferences, consumption profiles, complaints, and satisfactions, among other strategic information.

It should be noted that the value of the proposed solution goes beyond capturing and analyzing data for better customer experience, as it also enables automatic monitoring of quality management features (Analytics Quality Management – AQM).

Finally, the solution seeks to immediately resolve two concrete limitations of the current quality supervision model based on the use of Full-Time Equivalent (FTE) to carry out monitoring: the low scalability of the model and its little flexibility in the allocation of manpower. The low scalability of the model results from the inevitable dependence on professionals to carry out the tasks of monitoring the quality of interactions with customers, which implies the necessary hiring of HR for each incremental demand for an increase in sampling or monitored interactions or even in the event of a new contracted project.

The flexibility issue, on the other hand, is due to the impossibility of dynamically allocating monitors to meet demand variations, which can be originated from specific needs to obtain a greater number of monitoring data during a limited and specific period – such as during a sales campaign, product launch, crisis management etc.

In this regard, the current model requires the provider to hire professionals for a short and limited period, a cost possibly not provided for in the economic model originally approved for the project. This generates labor charges that encumber the service and directly impact its margins, such as those related to the costs of hiring new monitors and termination costs due to the dismissal of those professionals after completion of the job.

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Intervention

In view of the strategic importance of the BPO for the company's business in Brazil and considering the necessary paths to obtain authorizations for the implementation of the project, meetings were held with its national and international committees. At this stage, the diagnosis of the problem based on the results of surveys conducted with customers was of great value in raising awareness among managers of the need to make new capabilities and technological resources available to BPO services as a way of helping them to be more effective in the creation of customer value.

National managers were not surprised by the results of the diagnosis carried out with their customers, claiming to have received similar information from their commercial teams – which are responsible for the relationship and for generating new business with the surveyed customers. After reviewing the project and understanding its scope and benefits, the leaders at the company's headquarters gave support to the evolution of the discussions and communicated the initiative to the respective leaders responsible for their markets.

With the approvals obtained from the sales leaders and the national director of BPO, the acceptance of the project by the other members of the local committee did not find any major impediments. This was due to the fact that the consensus on the strategic importance of the initiative with the National Executive Committee and its unanimous approval brought the desired strength and support to the project. The support received also gave the BPO director greater confidence to aid the author in the defense of its viability on an international level with the corporation.

The presentation of the proposal to the Executive Committee in Spain took place two weeks after the reviews were carried out with the local committee – the moment when the project was presented in its entirety, with market data, business evolution history, and the challenges identified in this work with potential risks and threats to the maintenance of existing contracts, and to the expansion of sales, in an environment of strong competition and constant changes.

The strategy used to conduct the presentation was to adhere to the project guidelines established by the company for its Brazilian subsidiary. Those guidelines were customer retention through the renewal of existing contracts, margin gains on these contracts by implementing operational efficiencies, expanding the customer base, and delivering the best possible user experience.

The presence of the global CEO on that occasion represented a relevant aspect of the intervention, as her active participation gave the meeting an atmosphere of enthusiasm in relation to the project's perspectives in generating value for the business in Brazil. She proposed to evaluate the possibility of also replicating the project in a controlled manner in Spain and Colombia – provided that the desired results in Brazil were indeed achieved. Finally, the international committee decided to approve the next steps of the project, with the immediate start of its execution.

To demonstrate the effectiveness of implementing analytical technologies in BPO quality control, a POC was conducted through the deployment of the system in a live production environment of an active client – contingent upon prior authorization. This approach allowed the POC to validate the feasibility and potential benefits of adopting the cognitive automation solution.

Moving forward, a strategy was implemented based on the incorporation of a set of actions (or *dynamizers*) considering the importance of the human element for the incorporation of the digital offer in the company to occur successfully, enabling the generation of new business within the shortest possible time. To this end, we considered the incorporation of three actions based on the recognition of certain individuals whose functions are of high relevance for the good positioning of offers with customers. A set of strategic marketing actions was also considered, focusing on the main consumer markets of the offer and encouraging internal teams.

BPO team recognition and increased strategic visibility

The first action seeks to strengthen the BPO team and internally demonstrate the corporation's support and enthusiasm for the new reality of the services offered by its

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team, especially with the prospects of sales results that will be provided with the added value of the new digital functionalities and of the management model implemented in the service.

In this case, the promotion of the current BPO business leader in Brazil (who held the role of senior manager) to the position of Director of Operations was carried out and immediately communicated internally, with its effective date set for the second half of 2022, when the operation formally enters into production. The promotion reinforced the leader's position and offered greater empowerment for strategic decision-making and for sustaining future changes that could prove necessary throughout the different phases of the project. It also reinforced the company's commitment to the BPO teams as an important business area.

Differentiated model of incentive and compensation for the sale of BPO services

The second *dynamizer* establishes a differentiated incentive plan for the commercial teams responsible for managing customer relationships. This action offered the payment of a bonus – for a limited time, during the second half of 2022 – to the seller and the market leader who carried out a sale of BPO services with analytical capabilities to a new customer. The value of this bonus corresponded to a percentage of the profit margin of the newly concluded business, while the eligibility for the program participant to receive the bonus was conditioned to the achievement of performance indicators that demonstrate the quality of that sale – *i.e.*, its margin contribution (gross margin, direct margin and/or EBIT) and contract value, among other attributes.

Strategy for external and internal communication on service innovation

Finally, the third *dynamizer* aimed to communicate both to the market – mainly to analysts and opinion makers – and to customers the differentials of the company's new BPO offer. For this purpose, information was presented on how its analytical resources

with AI and COPC management create a paradigm of services with very high quality and availability to support clients in their BPO projects. The leadership of this action and its implementation was conducted by the company's marketing team, who used three distinct approaches, namely:

- **Communication plan:** jointly develop an integrated communication plan with a marketing agency to create and execute a communication strategy in order to promote the initiative (based on digital media, boosts in search engines, participation in industry events, and the creation of materials to support sales by the commercial teams).
- **Demand creation:** development of promotional campaigns focused on target markets and companies – large users of BPO services, such as banks and insurance companies – inviting them to discover the company's digital services under no obligation. This action would also be directed at opinion makers (market analysts) and decision-making professionals (C-levels).
- **Internal communication or internal marketing in the BPO:** in order to obtain greater team engagement and improvements in the organizational climate – pointed out in the risk analysis and eventually affected by concerns about potential layoffs resulting from the automation of processes and better-quality management –, internal motivational campaigns were created with the teams responsible for serving the different BPO customers. This action began during the second half of 2022 and was led by the Marketing teams, which will have the full support of the BPO manager and the HR area.

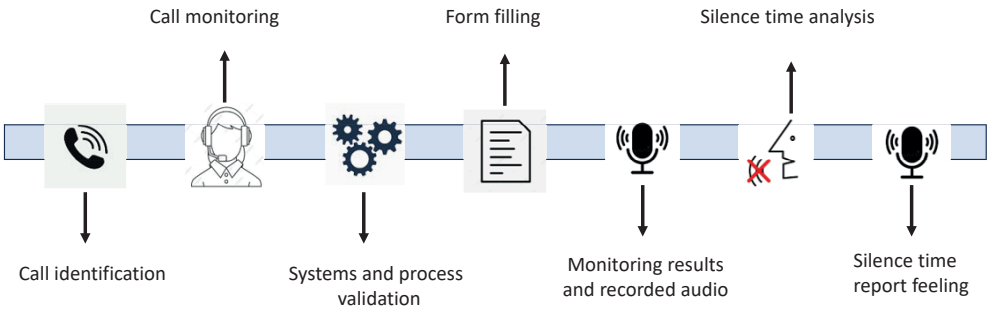
The POC was executed from Company A's BPO client monitoring room at its headquarters located in the city of São Paulo. The selected client participating in the POC is a large insurance company with a comprehensive services portfolio in finance, health, and assistance markets. The company has a global presence and businesses in more than one hundred countries and has been operating in Brazil since 1992, counting on 4,000

employees and over R$ 2.8 billion in total assets under management, making Brazil its main international operation outside its country of origin.

The BPO service delivered to this client involved addressing and supporting customer demands in the automotive insurance segment through a call center operation comprising seventy dedicated service positions. The POC entailed the implementation of an analytical tool within this insurance service environment, with the objective of generating accurate insights into the current performance and operational dynamics of the BPO services provided to the client. To this end, the tool captured data – both structured and unstructured – that were analyzed using the tool's own AI resources in order to generate and identify various insights that can be applied to improve the service to this customer and the BPO operation itself.

Figure 1 illustrates the former model of service quality monitoring for the customer before implementing the analytical solution; it allows a better understanding of the level of dependence on professional resources to carry out the task of monitoring calls and formulating performance indicators of the operation based on manual and subjective processes.

Figure 1 – Legacy model of quality monitoring in BPO

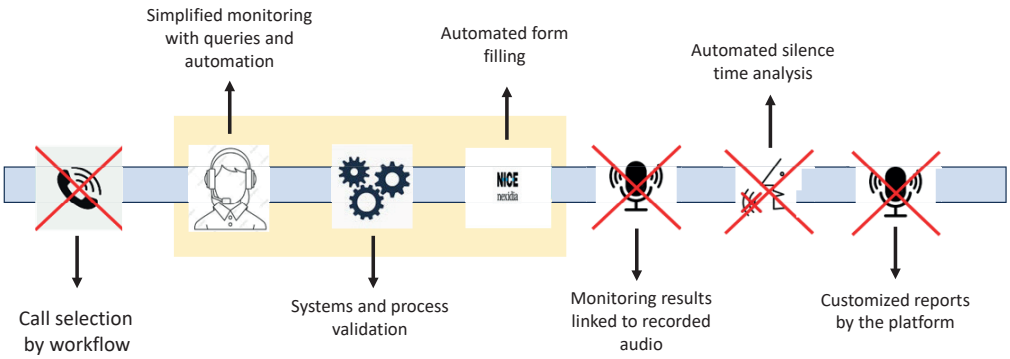


The POC was executed between the months of September and November 2021 – approximately ninety days of tests at the insurer's production environment – under close supervision of both Company A and the client's technical and operations team. During

the testing period, monthly virtual meetings were held with the attendance of executive teams as well as the project team, including the BPO business unit director and the author, with the main objective of reviewing the new architecture performance, project evolution, and available inputs for technical, operational and planning evaluation.

Figure 2 presents the new architecture used in the POC, which allows the observation of how the automation solution with cognitive resources simplifies the structure observed in the previous figure while allowing greater gains in process efficiency and quality in the analysis.

Figure 2 – Automated quality monitoring architecture in BPO



During the POC, two datasets composed of audio recordings from the insurer's operation were analyzed: the first corresponding to the initial phase of the service provision, dated January 2020, and the second collected during the pilot implementation period. The monitoring carried out by the current team of quality monitors was also compared with that carried out by the analytical tool's AI system. The data – which included the volumetric information of the number of monitoring and recordings analyzed – was determined before the start of the operation; their analysis by the tool helped to obtain a significant number of insights to improve the service offered and the operation in general.

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With the conclusion of the POC, the multidisciplinary teams consolidated the results of efficiency and quality gains that were obtained during the different phases of the pilot. This data was shared with the project manager for final consolidation and internal reporting.

Evaluation

Using the analytical tool, each interaction was recorded and scored individually, which made it possible to accurately identify the level of performance of the service provided. The possibility of capturing and analyzing massive amounts of data through the recording of calls and message exchanges made it possible to assess the quality of the service offered to the customers, as well as to map potential risks associated with noncompliance with the levels of services contracted by them, which produces penalties and fines for the service provider.

The pilot study revealed opportunities for improving performance metrics related to interruption and silence – two indicators leveraged by the analytical system's AI to infer customer sentiment during service interactions on the platform. The analysis of interruptions carried out by the analytical tool showed that only 43.8% of the monitored interactions are within the market reference. According to the reference of the team of experts who performed the POC, the market benchmark for the average silence rate of a similar operation is 18%. However, the results obtained during the pilot showed that the average of the operation is far above it, with 41.4%.

Regarding the sentiment analysis, a target was adopted by market experts based on the idea that a satisfactory operation is one whose measured sentiment is at 80% – that is, the "neutral" sentiment must represent 60% of the sample, while the "positive" sentiment must be 20%. The result of the sentiment assessment brought some satisfaction to the team involved in this project since it identified a favorable feeling in relation to the service – 95% of interactions were mapped as "neutral" or "positive", and only 5% fell into the negative ranges.

Automation through the analytical system represented a great advantage over the traditional monitoring model based on the use of analysts since the technology allows the monitoring of up to 100% of the interactions performed (70,093 calls in the POC experiment) – such a number would be unfeasible to achieve in the traditional model when considered the manpower needed to be allocated to perform this task.

Automated monitoring with analytical resources presented very satisfactory results during the POC, as it was able to accurately demonstrate the opportunities for efficiency gains, competitive advantages, and higher quality of service, as it started to monitor 100% of customer interactions.

In order to compare the efficiency between the two monitoring models – the one based on the use of quality monitors and the one which is currently used in the operation – with the automated model using the analytical solution, a comparative evaluation of the productivity of both models was carried out during the POC.

The traditional model is characterized by quality monitors, whose working hours (a maximum workload of six hours per day, or 36 hours per week) are defined by the Brazilian labor law specific to call center service professionals. Bearing in mind the time required of approximately thirteen minutes for each monitoring and considering a six-hour daily workload for each professional, we can say that a single worker has the capacity to produce no more than four monitoring sessions per hour (or 24 monitoring sessions per day).

On the other hand, the use of analytical automation made it possible to increase the current amount of monitoring sessions to seventy-two, which represented a 200% increase in productivity of the area when compared to the daily limit of 24 without the use of the tool.

Finally, POC proved to be an efficient ally to convince the teams about the feasibility of the project and to obtain the necessary support for the implementation of changes.

The results clearly demonstrated the potential for achieving tangible benefits and measurable improvements in both productivity and service quality through the adoption of digital automation and enhanced service management practices. In addition to confirming productivity gains enabled by automated monitoring, the POC also identified 28

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manual activities within the customer service process that are suitable for automation, as well as eight additional tasks with potential for future automation.

The final report of this project was shared with the company's Executive Committee in Brazil and with the CEO responsible for the local operation for their review and approval, being then submitted for final approval by the corporate teams at the company's headquarters. Within the Corporation, the project completed the results validation stage by the same members of the global Executive Committee who participated in the initial presentation, in addition to two consultants in charge of validating the consistency of the results obtained with the POC.

With the validation of the results based on the potential benefits for the business and the absence of doubts regarding the economic and technical feasibility of the project, full approval was signaled for the implementation of the analytical solution in the Brazilian operation.

The expected approval by branch executives and the teams responsible for the pilot was finally granted by the head office in Spain, with the necessary investments authorized for use in 2023. These investments include the acquisition of licenses and services for the deployment of the analytical solution on a larger scale.

CONCLUSION

Today, it is difficult to imagine the creation of a company (or even a new project) in which contemporary technological solutions are not considered important allies in its business support strategy, as well as a vector for accelerating its growth. In many cases, technology is the business itself, as the digitization of society and the integration between the physical and digital worlds have made it possible to virtualize almost all customer services.

The present work was developed considering the current transformations taking place in the BPO service industry while also relying on evidence found in its diagnosis stage that the services offered by the researched company no longer provide, in a satisfactory way, the answers to the challenges of its customers' business.

Based on the resources – technological innovation and management of the BPO offer – and the results presented, this case study offers new perspectives to professionals interested in technological solutions as a way of boosting the results of their business and the quality of their customer services. Furthermore, this work presents the process of implementing a solution to drive business results in a prominent organization in the global BPO market.

As a managerial contribution, the study identified three success factors: (i) the alignment between executive leadership and local BPO management on the strategic relevance of the project; (ii) the accurate identification and effective engagement of key partners essential to its viability; and (iii) the formal approval from the corporate headquarters to proceed with implementation. The approval for the implementation of the solution was a direct consequence of alignment between the different teams and the project's stakeholders. Notably, the company's BPO business leader recognized the project as an opportunity to enhance service quality in Brazil and to position the local operation as an innovation benchmark among the company's global units.

The second main critical success factor is related to the choice of partners for the supply of technologies and for the development of the project. As this is a new technology that had not yet been implemented in Company A, it was decided to work with market-leading suppliers with proven delivery capabilities and a global presence. In this case, the first difficulty identified was facilitating initial conversations with those companies due to the lack of a function dedicated to managing partnerships in Brazil – a problem overcome by the direct involvement of the leadership in the coordination of agreements with partners in the initial phases of the project. The level of commitment and involvement shown by the technological partners was up to the challenge, proving to be an important differentiator for the project's viability.

With the evolution of the negotiations and definition of the scope of the partners' deliveries, its coordination became the responsibility of the project manager, whose role was essential to boost the work – the POC results report was a direct product of its role as partner coordinators. The sound structuring of the partner ecosystem and the identification of a leader responsible for carrying out activities with these companies was a

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great difference in achieving the objectives and meeting the deadline initially stipulated for the realization of the POC. This represents a good practice to be considered in future implementations of the solution in branches of the company located in other countries.

After aligning the understanding of the project among the teams from the Brazilian branch – as well as ensuring the commitment of the strategic partners to support the execution of the project – the strategy elaboration stage followed when it was hoped to obtain the approval of the corporate leadership teams in Madrid for its implementation.

In accordance with Company A's corporate policy, all processes involving technological innovation must be evaluated, approved, and materialized from the company's Spanish headquarters, which has the last word to agree (or not) with its feasibility in creating or modifying a new solution that could be eventually added to its portfolio.

Indeed, this significant challenge was successfully addressed through the implementation of five strategic actions, whose primary objective was to proactively anticipate and respond to potential questions raised by members of the Corporate Committee during the project approval meeting.

a) **Demonstrate the full involvement of local executive teams from the initial phase of the process until the completion of the POC:** the survey done with internal leaders involved recording, compiling, and summarizing the main common points found during the process. These data were compiled and presented to the local Executive Committee for validation of the concept, which was done unanimously. This action represented local validation and gave authenticity and importance to the project as essential for the future of the firm's BPO business in Brazil.
b) **Customer participation in the project during the research phase:** making the customer part of the solution through consultations and understanding the suggestions received during the research phase – and mainly, with the participation in the POC – represented a strong ally to justify the implementation of automation and COPC in the current offer. In this case, the strategy used was to present the project as a result of an effort with customers, supported by internal research and other market

information, this action being essential to preserve current businesses and conquer new opportunities.

c) **Mapping the solution and choosing technology providers:** the process of identifying the technological solution and its providers was based on studies, market research, and the vision of the BPO team itself. With this level of support for the choice made, questions about its legitimacy were avoided. The Purchasing area was also involved in obtaining commercial proposals from suppliers, presented to the Corporate Committee within the company's governance and compliance standards.

d) **Practical validation of expected results with a POC:** the test infrastructure assembly project and the expected results with the POC were presented in a clear and detailed way, which provided gains in confidence and credibility in relation to the data presented.

e) **Demonstration of operational and financial efficiency gains:** it was presented how the implementation of automation provides improvements in the quality of monitoring and eliminates the occurrence of fines for SLA failures due to human errors. In addition, the potential reduction in execution time associated with a monitoring task represented an important decision factor. This is because the efficiency gains provided by the cost reduction can become an increase in the project's margin or even in competitiveness gains when these efficiencies are passed on to the client.

The present study allowed for the understanding that companies, with their complex structures, do not act alone; they need the support of their employees and business partners to identify opportunities for their continuous improvement.

Among the lessons learned, this work confirms the idea that the capacity for innovation in multinational companies can be impacted when centralized decision models are superimposed on a culture of innovation and the creation of branches. In the specific case of Company A, it was demonstrated that a certain level of flexibility to allow the creation of value in a decentralized way can represent a great advantage for the business.

It was also possible to confirm that the adoption of digital technologies is essential for customer service companies to compete and continue to add value to their customers.

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It is understood that leading companies in customer service have in common a high level of customer satisfaction, as they provide continuous value to the business through an efficient management model and through technological innovations that make it possible to create competitive advantages and gains in efficiencies by gaining business insights.

As the next steps towards the implementation of the BPO automation solution in Brazil, the company intends to prove the positive impact of its adoption, observing the gains obtained with the generation of new business and with the renewal of current contracts, in addition to observing the benefits of its customers' satisfaction through annual surveys.

The company also intends to replicate the project in three other countries where BPO services operations have similar challenges: Spain, Colombia, and Peru. It is expected that these operations will benefit from the knowledge and learning obtained during the current system implementation, which will allow the rapid implementation of the project and the achievement of immediate results.

Finally, new research that broadens the understanding of the impacts of using automation technologies, AI, and machine learning resources beyond customer support services in the BPO are proposed as important steps in the evolution of this work.

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