

Call center service level: A customer experience model from benchmarking and multivariate analysis

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Abstract

Objective: This paper aims to study the experience of call center service customers from the academic and corporate perspectives; it proposes a management model focused on looking after the customer's experience during a phone interaction.

Methodology: The methodology of this article adopts the internal Benchmarking process as a diagnostic tool and describes the user's perceptive of internal corporate operations and key performance indicators established in a call center's balanced scorecard. It uses an exploratory factor analysis to reduce dimensions and a confirmatory analysis to validate the statistical model proposed.

Results: The results determine the existence of gaps between the key performance indicators implemented to assess the customer's experience and satisfaction, they show organizational opportunities characterized for the necessity of transforming production methods into simple processes, aimed to give solutions to the customers within the timeframes specified in just one phone interaction.

Limitations: The constructs used are limited by the instrument and metrics implemented by the company under study for evaluating the quality of customer interaction when a customer reaches a customer service's call center.

Practical implications: This study is useful in the marketing, marketing relationships, and customer service areas, since it allows the establishment of an inflection point that proposes an integrated balanced scorecard construction from the customer's experience analysis.

Keywords: Benchmarking, customer experience, key performance indicators, customer satisfaction, management model.

JEL codes: M10, M31.

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呼叫中心的服务水平： 从标杆分析和多变量分析客户体验模型

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文章摘要

研究目的： 本文章从业务和学术角度研究呼叫服务的用户体验，提出一套以电话交互过程来完善客户体验的管理模式。

分析方法： 研究采用内部标杆分析(Benchmarking)诊断工具，描述用户对内部操作的感知以及呼叫中心中全面指挥框架内的特定关键绩效指标。研究更使用探索性因子分析法减缩维度，和验证性因子分析来验证所提出之统计模型。

研究结论： 结果指出用于评估客户满意度的关键绩效指标与实际客户体验之间存有差距，同时显示出组织在需要将生产方法转换为在特定时间内一次性为客户提供解决方案的简单流程中，有哪些方面能进一步优化。

研究局限： 本研究所使用的结构，因受访企业的评估呼叫中心之交互质量工具及其度量标准而有所限制。

实际应用： 本研究在市场营销、关系营销和客户服务领域都能发挥其用途，让人能通过对用户体验的分析获得一些重点，以建立一套拥有全面指挥框架的结构。

关键词： 标杆分析法、客户体验、关键绩效指标、顾客满意度、管理模式。

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1. Introduction

Customer experience is a topic that demands to be studied using the correct information to satisfy the customer's requirements (Vinayak & Kodali, 2013; Maklan, Antonetti & Whitty, 2017). This phenomenon is a wide construct that embraces correlations between customer satisfaction and service quality, to create value to firms; value determined by users that are comparing an experience received as a result of the interaction with the key performance indicators assigned by one enterprise (Nobar & Rostamzadeh, 2018; Komulainen & Saraniemi, 2019). "The challenge of implementing experience successfully is that it is defined so broadly—so "holistically"—as to exclude almost nothing [and turn it into] the theory of everything" (Maklan, Antonetti & Whitty, 2017, p. 93). Thus, customer experience is a concept that involves the transformation of numeric information into cultural changes to locate the customer in the core of the critical operations of a firm (Bendle, Bagga & Nastasoïu, 2019).

Many companies, call centers included, seek for diverse pathways to prevail in the markets by adopting administration methods focused on placing the customer in the heart of the business activities; however, as a consequence of unceasing changes between the services offered and the user's expectations, hardly any company makes it (Parmenter, 2007; Cárdenas, 2009; Lemon & Verhoef, 2016; Homburg, Jozić & Kuehn, 2017; Laurensy, 2019).

Academic literature has multiple theoretical approaches to reduce the disparities between corporate's viewpoint and consumer's perspective, focusing research works on the study of Balanced Scorecard and Benchmarking as tools of administration. Whereas the Balanced Scorecard identifies the gaps between corporate position and customer's perspective, Benchmarking allows a comparison between managerial and operational actions to obtain a general view for business administration; however, there is little academic evidence that supports the application of both instruments together (Cárdenas, 2009; Beltrán & Burbano, 2002; Hernández & Cano, 2017; Marciniak, 2017; Quesado, Guzmán & Rodrigues, 2017; Aureli, Cardoni, Del Baldo & Lombardi, 2018; Kim Anh Vu Thi, Thuy Duong Vu & Khanh Van Hoang, 2018). This study seeks to highlight the inequalities between "customer experience (corporate)", and "customer experience (user)" in one call center, it proposes a simple management model by using the customer approach and the study of the key performance indicators implemented in the company and established in the evaluation tool used to assess the quality in phone interactions.

2. Call center's work model

Call center business initially began to be developed around the decade of the 70s; they started operations to satisfy the needs of the multiple firms looking for affording large-scale attention and contacting potential consumers. The customized information provided between the phone services user and the customer representative is consolidated and governed under the main call center objectives; objectives as the number of calls handled by a customer representative, the speed developed on the phone call and the longest hold time a customer has to wait for being attended by an agent or executive (Michelli, 2007). Taking a large vision, call centers are the owners of substantial portfolio services linked to automated information technologies to develop outbound or inbound calls committed to informing by using a disciplined workforce (Graciosi, 2014).

Currently, call centers perform a significant role in almost every enterprise, their physical infrastructure and human capital structure define their capacity to respond to the customer's information requisitions by using a serial manufacturing model (Raffo, Ráez & Quispe, 2012). Considering that personnel management is a priority operational factor that ensures the availability of enough workforce to afford response to customer phone calls demanding the fastest answer without delay. The implemented strategies by various enterprises in the same business sector place in the background the quality of the phone interaction, the customer's experience and the genuine resolution of customer's issues, focusing all the efforts and priorities on reaching the service level agreement hired and productivity costs stated as key performance indicators (Klie, 2016; Rumburg, 2017; Montarcé, 2018 & North American Quitline Consortium, 2019). Consequently, Mayol (2013) explains that these types of organizations standardize processes and disable some activities by assuming the theory of work organization aimed to increase production using the serial manufacturing system proposed by Frederick W. Taylor.

3. Customer Experience

Customer experience lies on offering a customized and clear message through all the existing channels as a response of stakeholders' demands who are looking for one identity more than the right services (Melero, Sese & Verhoef, 2016). This multidimensional concept that creates value in the companies is based on the customer's perception, psychological issues, and cognoscitive thought for making decisions, and it is closely linked to customer's satisfaction and quality of service (Lemon & Verhoef, 2016; Nobar & Rostamzadeh, 2018). According to Maklan, Antonetti & Whitty (2017), customer experience complexity is grounded in analyzing the correct data and the gaps located in the commitment with the customer to understand how the stakeholders evaluate the goods and services performance. Although this approach tries to understand all the internal and external links that the customer has with a brand as a communication symbol that associates name, logo, and value, in a customer service

call center, all customer interaction results in linguistic rapprochements (Homburg, Jozić & Kuehn, 2017; Jagodziński & Archer, 2018; Escudero, 2019).

4. Call Center Key Performance Indicators

Key Performance Indicators (KPIs) have been well-defined as a set of metrics addressed to good practices that have a significant effect on the strategic behavior in the corporate internal areas (Parmenter, 2007). Likewise, KPIs represent essential quantitative data, that upon being collected; computed and applied correctly in specific cycles, they can offer explicit measurements to reach organizational objectives manifested within a balanced scorecard (Rozner, 2013; Frank, 2014). Authors as Galar, Berges, Lambán & Tormos (2014) suggest using KPIs to show the most important organizational values, to promote the good asset flow proposed by the managerial team. However, for the progress of any organization, it is necessary to manage the corporate objectives established by using the statistical analysis of the indicators with significative correlations between corporate goals and strategic management considering the construction of customized processes focused on customer experience (Jacobs, 2016; Bedgood, 2017; Engle, 2018; Crane, Koch & Wei, 2018).

Call centers are among the few industries that allow a rigorous quantification of metrics and organizational indicators to design short and medium-term plans (Dyalogo, s.f). Although the “service level agreement” is the worksheet involving from operational approaches to multilevel viewpoints; managing a call center demands to analyze and determine budget-sensitive KPIs, an example hereof could be: controlling the number of calls handled by each customer representative, the correct time setting of specific minutes or seconds or ideal time to handle an inbound call, average call handling time (AHT) and adherence among other production variables (Cleveland & Harne, 2003; 31West Global Services, 2019).

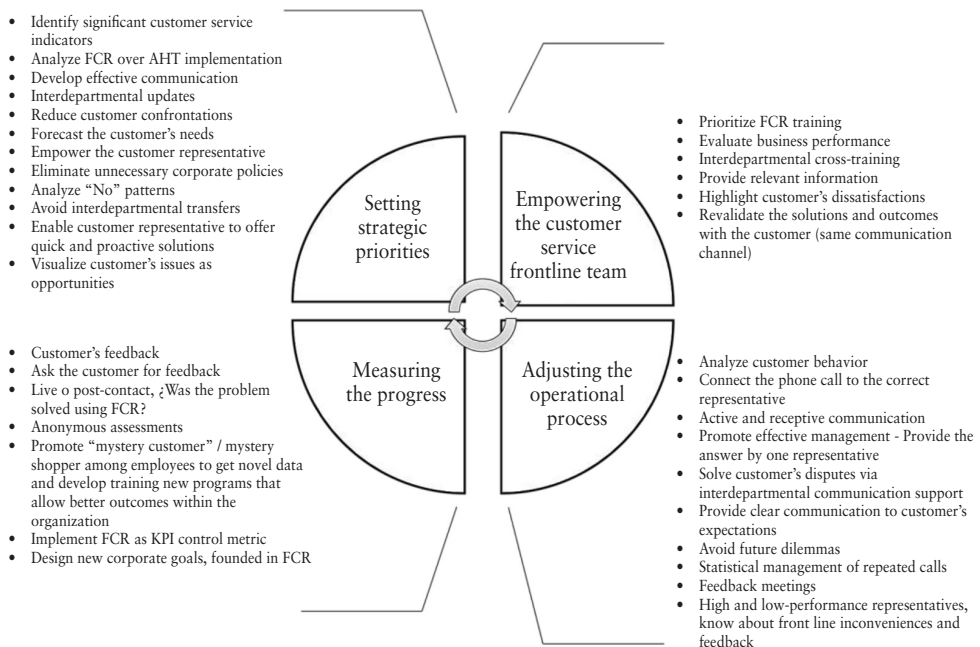
With the markets’ development, customers’ demands and behavior have changed, call centers have evolved in to contact centers; the main idea of managing a call center as a cost center is passing away and the perspective of considering quantitative and qualitative metrics as the holistic vision to administrate a call center is coming surrounding the customer-company relationship (Specialty Answering Service, 2019). Meanwhile, Sahai (2020) explains that while the call handling centers still exist as operational centers focused on care productivity metrics and costs, other contact centers are exploring and working with innovative KPIs looking for the balance of operational efficiency and user’s expectations by looking after the customer’s experience.

Despite the advances, taking care of costs without the correct monitoring of the Customer Satisfaction indicator (CSAT) and First Contact Resolution (FCR) is a reality. FCR studies the percentage of contacts solved in just one phone interaction, and it is determined by the available tools, the experience, skills, effectiveness, and the quality of the training afforded to the customer representative (Soft Evolution, 2018). In addition to afford supporting the identification of ineffective processes and

to encourage high revenue strategies, it also allows the appreciation of patterns to develop new management methods (Cranwell, 2018). Also, different authors have suggested that to improve the customer service department performance, reduce costs, unnecessary expenses and customer turn over, it is necessary to evaluate the customer experience construct and the customer's easiness to get a solution via Net Promoter Score (NPS) and Customer Effort Score (CES) (Dixon, Freeman & Toman, 2010; Koladycz, Fernandez, Gray & Marriott, 2018).

Rachmawati & Mohaidin (2019) explain that the CSAT indicator searches to learn from the user's emotions, perceptions, and expectations to afford satisfaction in the long term. On the other hand, if FCR and NPS are correctly managed, they can give access to higher levels of customer satisfaction while evaluating the experience acquired through the interaction with the contact center, resolutions reached in just one phone contact, percentage of customer loyalty and the customer's willingness to recommend services (Reichheld, 2003; Florea, Tănăsescu & Duică, 2018; Stanley, 2017). Furthermore, in the same way, NPS is a high influence indicator adopted by some companies that have located the customer in the core of the operation of the relationship "experience-customer happiness" (Koladycz, Fernandez, Gray & Marriott, 2018; Bendle, Bagga & Nastasoiu, 2019). Figure 1 illustrates an approach to phone service focused on the customer.

Figure 1. Approach to the phone service focused on Customer FCR-NPS



Source: Adapted from Cranwell (2018).

According to Rumburg (2017), organizational key performance indicators may only be exploited through a holistic execution added to the record of their implementation, and the balanced scorecard (BSC) is the tool that gathers and communicates the current organizational state of an enterprise giving access to diagnose, manage and taking Benchmarking actions. Nevertheless, the “*customer experience balanced scorecard*” gathers the NPS, CSAT, FCR and CES indicators as factors focused on assessing loyalty, customer satisfaction, percentage of solutions reached in just one phone contact, the service quality offered and the customer effort to get solutions (Dixon, Freeman & Toman, 2010; Irizarry, 2019). As a result of the prior information, Kang, Zhao, Li & Horst (2016) suggest shaping strategies based on a balanced scorecard to develop operational tactics to afford flexible and quick answers to the user.

5. Balanced Scorecard and Benchmarking

A balanced scorecard properly implemented can identify the gaps between the customer’s perspective and the commercial perspective (Kim, Thuy & Khanh, 2018). The BSC is a system of administration and strategic assessment that combines qualitative and quantitative variables simultaneously with innovative and learning indicators for decision-making addressed to accomplish the corporate mission and vision (Lawrie & Cobbold, 2004; Cárdenas, 2009; Coe & Letza, 2014; Aureli, Cardoni, Del Baldo & Lombardi, 2018). This instrument categorizes information provided from high levels of administrative positions to operative positions at the same time that records possible deviations from the organizational objectives by using specific metrics in defined cycles (Díaz & Marrero, 2013; Zapata & Castro, 2016; Kuhfahl, Sehlke, Sones & Howard, 2018). Furthermore, Quesado, Guzmán & Rodrigues (2017) emphasize that the advantages of implementing the BSC are established in studying the critical points of a company.

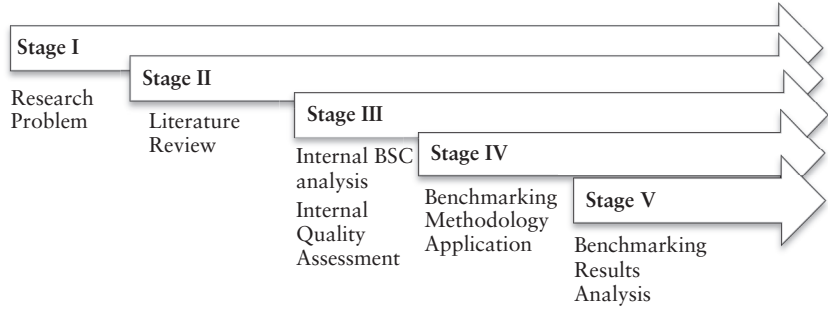
By contrast, the customer’s satisfaction depends widely on identifying stakeholders’ requirements and their transformation into evaluation strategies (Vinayak & Kodali, 2013). The Benchmarking model is considered the most effective producer of competitive advantages; it is established in the observation of the customer value chain to compare and assess continuously the methods afforded by the enterprises with the best practices within the same sector, getting the current overview, the desired status and the improvement plans to be developed so as to gain market positioning (Beltrán & Burbano, 2002; Goncharuk & Getman, 2014; Silveira & Cabeza, 2015). This technique is founded on the comparison of the practices and methods usually used in the similar operations among the leading competitors, and then develop, adapt and assume the most competitive and functional practices previously studied (De Abreu, Giuliani, Kassouf & Alves, 2006; Vinayak & Kodali, 2013; Marciniak, 2017). Nonetheless, it is necessary to confirm its importance as a result of the possibility of comparing gaps between operational and administrative techniques of

a company with the best practices existing anywhere in the world or from its internal perspective using a limiting way (Hernández & Cano, 2017; Riva & Pilotti, 2019).

6. Method Description

This research is founded on multiple procedures. Figure 2 shows the five stages developed to reach the results.

Figure 2. Stages to get results



6.1. First stage: Research Problem

It is quite complex to know the customer’s perception about services afforded by one company; however, to know the customer’s perception related to customer satisfaction, customer experience metrics and KPIs executed by a call center involves a very close rapprochement because this process includes the customer representative, the organization and the final customer as figures in interaction.

6.2. Second stage: Literature Review

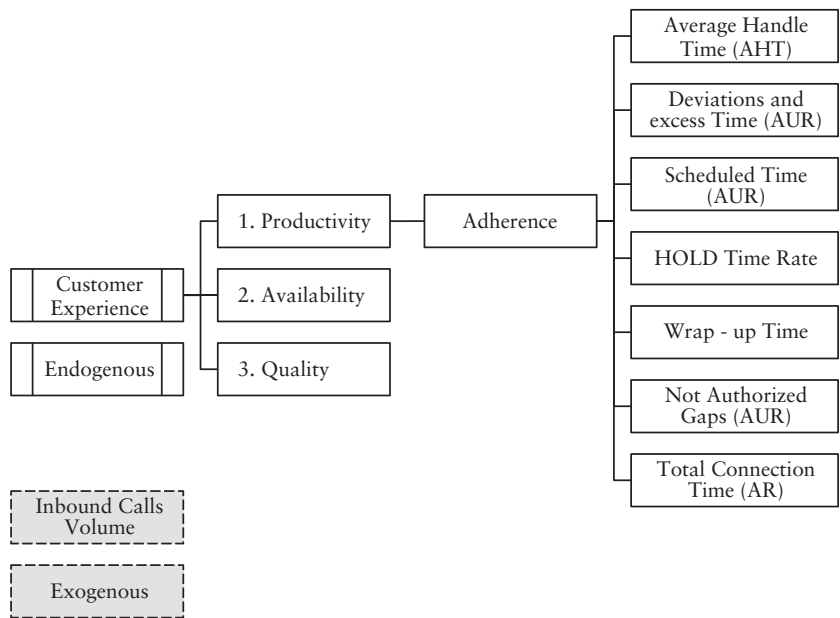
To develop this research, there were used the customer experience balanced score-card KPIs from one call center, call center’s work model, the metrics of customer experience in phone interaction and the key performance indicators used by several enterprises in the same sector: productivity, Average Handle Time (AHT), inbound calls volume, Calls Answered per Hour (CPH), hold time rate, Average After-call Work Time (wrap up time), Repeat call rate, Adherence to Schedule Rate (AR), Average Agent Utilization Rate (AUR), quality afforded in the customer phone call, among others (Annex 1).

6.3. Third stage: Internal Balanced Scorecard Analysis

In the call center business, the customer representative is usually the only contact between customer and supplier, the BSC of this type of firms revolves around employee performance and CSAT index.

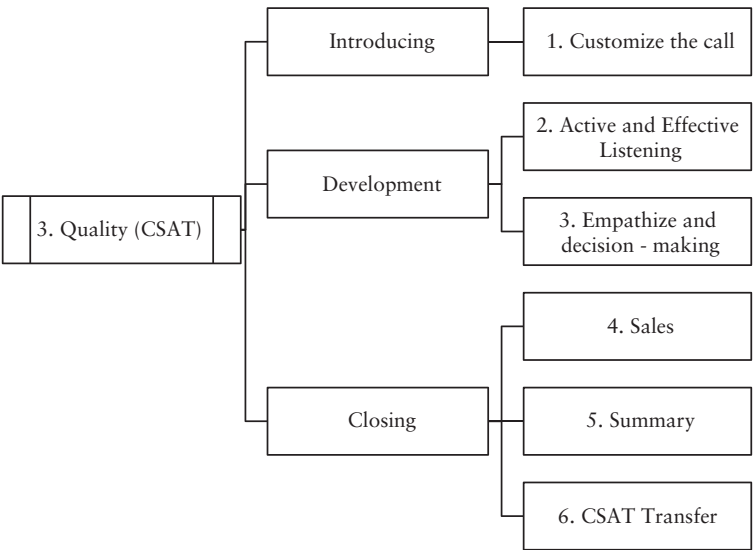
Through the development of in-depth interviews with the managerial call center team, figure 3 illustrates the metrics and KPIs from the “customer experience balanced scorecard” used for this research. Managers determined that to afford an exceptional experience to the customer, it is necessary to take care of the service level assigned to handle as many calls as possible considering a structured quality speech. At the same time, the managers categorized endogenous and exogenous phenomena due to the business environment explaining in the one hand the irregularities with possible control by the call center, and on the other hand, the anomalies with service disruption or out of the hands of the operative center.

Figure 3. Key Performance Indicators in the corporate Balanced Scorecard



For the evaluation and control of the CSAT indicator, the contact center applies a 17 items questionnaire to be looking after and monitoring the Customer Satisfaction-Customer Experience relationship. In this way, the call center hub expects to afford an exceptional experience to the customer; by reaching the productivity and quality metrics previously established. Figure 4 details the six mandatory sections to be fulfilled as components of the quality construct.

Figure 4. Quality in the Customer Experience



6.4. Fourth stage: Benchmarking methodology application

To show the gaps among the implemented KPIs by the company and the customer’s expectations, the 17 items previously mentioned were considered as metrics and were split into different factors: Introducing, Development and Call closing; that means, the three elements were also adapted in a questionnaire to collect data and modeling the three Benchmarking phases applied.

Planning: This stage defines the main areas to be evaluated and improved by the implementation of Benchmarking, it draws and specifies the lines to stipulate the objectives to be reached (Hernández & Cano, 2017). This research tries to study the disparities among call center KPIs used to provide an exceptional experience to the customer and the final user expectations. The sample takes 80 customer service users from the 100 people provided via the enterprise database. A simple transversal and correlational study was considered by adding a simple random system method to determine the sample made up by confidence 95%, error range 5%, and response rate 98%.

Analysis: This stage determines the current firm performance and particularizes what can contribute to the company (Hernández & Cano, 2017). Accordingly, this research seeks to highlight the differences between customer experience (corporate) – customer experience (user) criteria by analyzing the call center organizational KPIs. The 17 metrics implemented by the company to assess the customer satisfaction – customer experience relationship were changed into bipolar semantic differential scale questions using three and five points (nothing important – extremely

important). The data collection was achieved through phone surveys. Using this method, it is possible to determine the importance of productivity, availability, quality relationship, and the customer's perception. Table 1 presents the instrument built with 17 variables allocated to 3 dimensions.

Table 1. Variables and dimensions of quality in the phone call

Dimension	Subdimension	# item	Metric
Introducing	Customize call	1	Introduce the company
		2	Introduce the customer representative
		3	Ask the call reason with positive attitude
		4	Frequent customization of the phone call
Develop ment	Active and Effective Listening	5	Be attentive and without distractions
		6	Keep the client informed about all action taken
		7	Identify the reason of interaction (effective listening)
		8	Truthful information
	Empathize and decision - making	9	Empathy
		10	Alternatives and Solutions
		11	Specific time for each action
		12	Professionalism, kindness, and courtesy
Closing	Summary and Sales	13	Back up or Additional support
		14	Sale additional services
		15	Call summary and branding
	CSAT	16	CSAT Preparation
		17	CSAT Transfer

Integration: This stage informs the reached results, strategies, and objectives to be achieved based on the Benchmarking discoveries (Hernández & Cano, 2017). However, it is imperative to clarify that this stage just allows us to show the expected results because of the research nature. For this reason, once the analysis is completed, it is expected to show the gaps between customer experience (corporate) – customer experience (user) criteria to communicate a replicable cyclical study and planning model.

6.5. Fifth stage: Benchmarking results

In Figure 5 we can observe the customer's perception concerning productivity when reaching the call center, 84% of the surveyed customers seek to solve their requests with a single interaction (FCR), 74% suggest the development of a quick

phone call and 58% of the surveyed customers do not agree in constantly having to communicate or redialing to solve the same request.

Figure 5. Customer productivity expectations

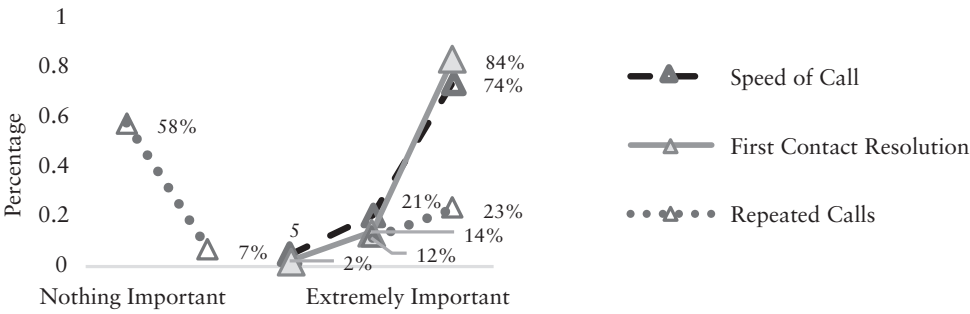
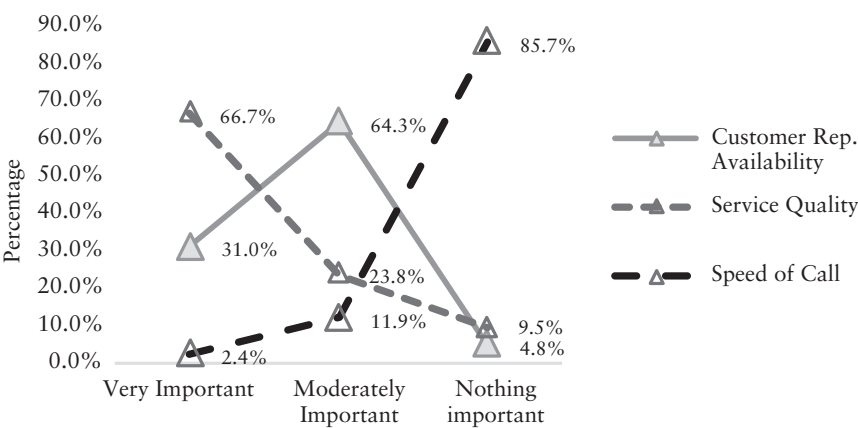


Figure 6 shows the difference in perception between the customer's experience (company) and the customer's experience (user) based on the comparison of the KPIs and other metrics from the used balanced scorecard. 85.7% of the surveyed customers suggest that the phone call duration is not important, 66.7% consider that the most important thing is the quality service during the phone call interaction; additionally, 64.3% describes the agent's availability as moderately important.

Figure 6. Productivity Expectations from the Customer Experience Balanced Scorecard



In Figure 7, items 1, 16, 4, 15, 17, and 14 with values 4.16, 3.72, 3.70, 3.51, 3.23, and 2.35, are shown respectively and below the tolerance line traced by the customer. We can easily discard the personalized greetings to introduce the company

to each customer, as well as to offer additional services or make use of Branding to remind the existence of an evaluation process at the end of the phone call interaction. These measures can allow us to build a simple model of an exceptional experience through the use of Benchmarking.

Figure 7. Corporate Balanced Scorecard, Customer's expectations

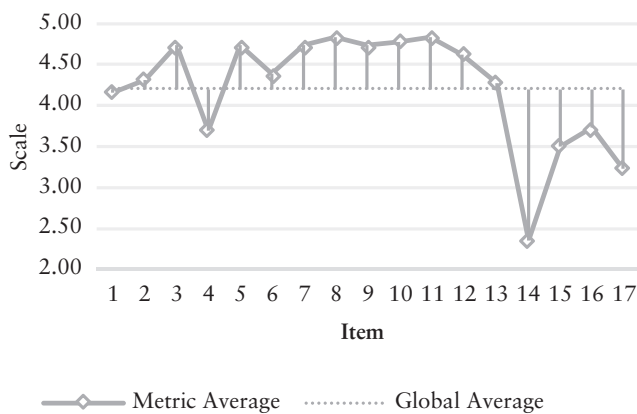
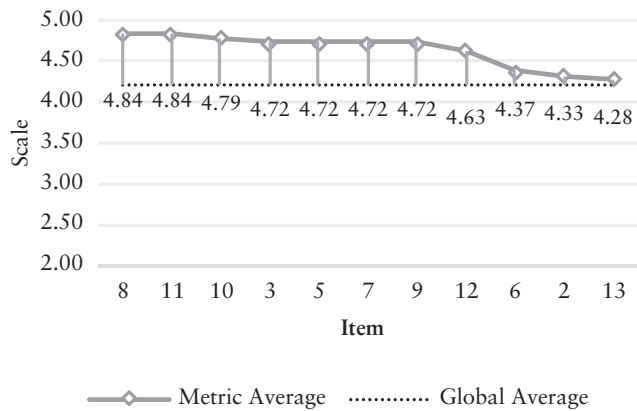


Figure 8. Customer's priorities



We can graphically see in Figure 8 a descriptive model based on customer experience obtained through our Benchmarking results. The information here presented is shown in descending CSAT metric conditions with values > 4.21. The items 8, 11, 10, 3, 5, 7, 9, 12, 6, 2 and 13 presented an average of 4.84, 4.84, 4.79, 4.72, 4.72, 4.72, 4.72, 4.63, 4.37, 4.33 and 4.28, respectively. Therefore, this model integrates truthful information variables such as specific times, alternatives, and solutions. Likewise, having a positive attitude, empathy, professionalism, kindness,

and courtesy. For example, by keeping the customer informed of every action, introducing the phone agent, and providing additional support.

To test the statistic robustness of this Benchmarking-derived model, we determined the association level among the metric residuals of the CSAT evaluation tool. We classified the P values into highly significative correlation values (≥ 0.6), moderately significative correlation values (≥ 0.4 , ≥ 0.5), and low significative correlation values (≤ 0.3). Annex 2 contains the corresponding *Benchmarking* model correlation matrix for items 8, 11, 10, 3, 5, 7, 9, 12, 6, 2 and 13.

The analysis and metric reduction were performed through the principal component factorization and varimax rotation. Table 2 shows the factor matrix which identifies the statistic directionality and components present that cluster the customer's experience variables during the phone interaction. The factorial loads were discriminated against, taking into consideration only high significative values (≥ 0.6) or moderate ones (≥ 0.4). In this manner, we expose the phone call characteristics based on offering (alternatives and solutions (0.916), remaining attentive and undistracted (0.896), showing a positive attitude (0.896), facilitating truthful information (0.852), conveying empathy ((0.810), identifying the key client's problem by effective listening (0.738) and by being specific in timing actions accordingly to find a solution (0.450).

Alternatively, the opening of a phone call involves: Introducing the phone agent (0.913), professionalism, kindness, and courtesy (0.768). However, although the metric of introducing the company's name descriptively as part of the Benchmarking strategy and the correlation matrix was excluded for not having a significative value, this was retaken and entered in the principal component matrix as a result of being an essential factor in the institutional company's policies. Therefore, presenting a value of (0.641).

Table 2. Rotated component matrix Customer experience metrics

Metric	Sub dimension	Component	
		Develop- ment	Introdu- cing
10. Alternatives and Solutions	Empathize and decision - making	<u>0.916</u>	0.207
5. Be attentive and without distractions	Active and Effective Listening	<u>0.896</u>	0.245
3. Ask the call reason with positive attitude	Customize the phone call	<u>0.896</u>	0.245
8. Truthful information	Active and Effective Listening	<u>0.852</u>	0.271
9. Empathy	Empathize and decision - making	<u>0.810</u>	0.082
7. Identify the reason of interaction (effective listening)	Active and Effective Listening	<u>0.738</u>	0.011
11. Specific time for each action	Empathize and decision - making	0.450	<u>0.384</u>
2. Introduce the customer representative	Customize call	-0.090	<u>0.913</u>
12. Professionalism, kindness and courtesy	Empathize and decision - making	0.315	<u>0.768</u>
1. Introduce the company	Customize call	0.207	<u>0.641</u>

For the resulting elements of the principal components clustering (Table 2), we determined and deleted duplicated items and items which denoted collinearity. After this process, we used the items 10, 5, 8, 9, 11 and 12 to determine the acceptability, significance, and reliability indexes; considering that the KMO indicator sets a regular acceptability model with values from 0.7 to 0.8, Bartlett's Sphericity Test allows P values ≤ 0.05 (Hadi, Abdullaha & Sentosa, 2019).

Table 3 shows the six resulting variables of the ten-clustered metric original rotated matrix. It presents KMO values 0.844 and $P = 0.000 \leq 0.05$; a remarkable applicability model, statistically significant and α reliability value=0.872 admitted with values bigger than 0.700 (Hernandez-Armenta & Dominguez, 2019).

Table 3. Matrix of acceptability, significance, and reliability in Customer service metrics

10. Alternatives and Solutions	Cronbach's Alpha	Cronbach's Alpha	Number of elements	
5. Be attentive and without distractions		0.872	6	
8. Truthful information				
9. Empathy		Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.844
11. Specific time for each action	KMO & Bartlett tests	Bartlett's Test of Sphericity	Approx. Chi-Square	362.493
12. Professionalism, kindness, and courtesy			gl Sig.	15 0.000

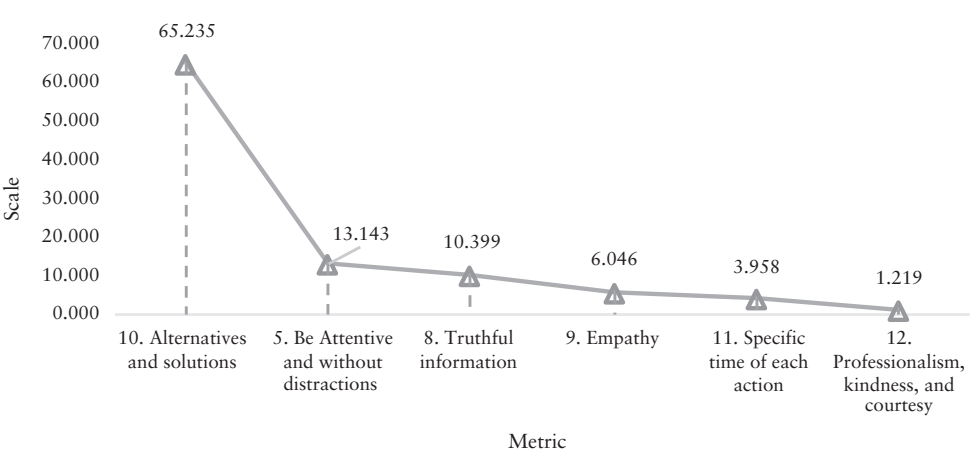
Once we have done the acceptability, significance, and statistic reliability tests, we proceeded to factorize the items 10, 5, 8, 9, 11 and 12. Nevertheless, taking into account the existence of two different dimensions, we determined the use of fixed elements extraction. As a result, we continued with the creation of a new element named *Integrity*, formed by professionalism, kindness, courtesy (0.789), and specific timing in the course of action (0.800). Table 4 exhibits the total number of elements to determine the internal statistical reliability of our new quality tool. We suggest the exclusion of metric #12, considering values $\alpha=0.897 > \alpha=0.872$; however, we kept it for being relevant.

Table 4. Quality in phone call items-Total Statistics, principal component and Cronbach's Alpha if item deleted

Metric	Original Dimension	Sub dimension	Component			
			Develop-ment	Integrity	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
10. Alternatives and Solutions	Development	Empathize and decision - making	<u>0.896</u>	0.343	0.871	0.919
5. Be attentive and without distractions	Presentation	Active and Effective Listening	<u>0.856</u>	0.260	0.767	0.833
8. Truthful information	Development	Empathize and decision - making	<u>0.850</u>	0.155	0.848	0.826
9. Empathy	Development	Empathize and decision - making	<u>0.818</u>	0.434	0.680	0.849
11. Specific time for each action	Development	Empathize and decision - making	0.246	<u>0.800</u>	0.519	0.874
12. Professionalism, kindness, and courtesy	Development	Empathize and decision - making	0.239	<u>0.789</u>	0.505	0.897

In figure 9, we observe graphically the total variance applied to the new tool CSAT, which 65.235% is formed by the client's need to find alternatives and according to solutions to each requirement. Another 13.143% belongs to the search for an attentive and undistracted phone agent, 10.399% for receiving a truthful and informative service, and 1.219% by professionalism, kindness, and courtesy.

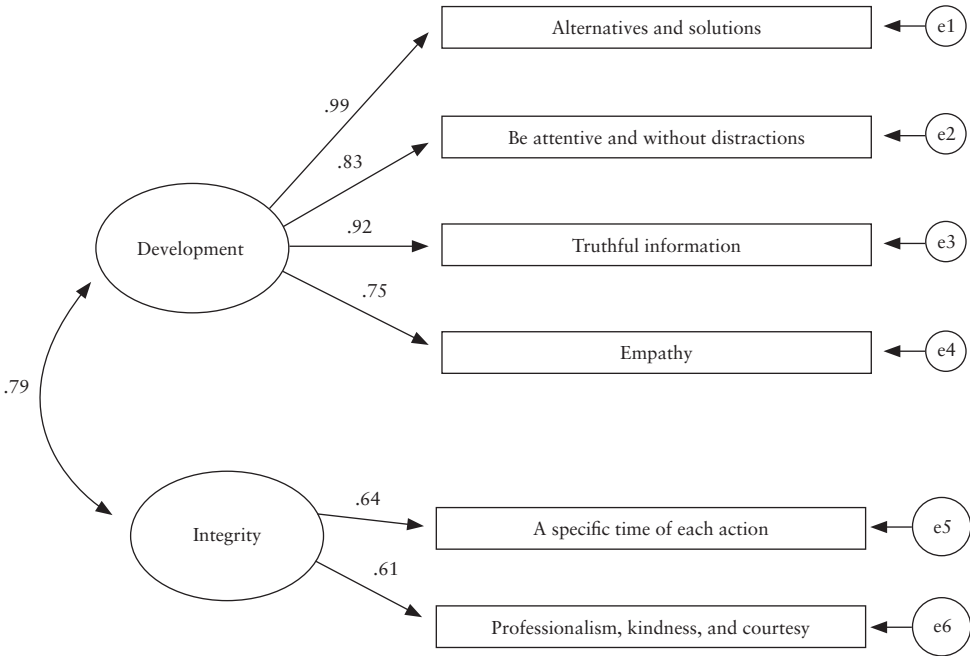
Figure 9. Quality in the phone call components, scree plot



As a final step of this study, we had to confirm the validity of our proposed model. On the one hand, the factorial analysis is a data reduction technique that identifies the correlations between the construct latent variables (Demir, 2019). However, the factorial analysis is a flexible and convenient statistical process that is focused on measuring the relationships between latent and observed variables to minimize measurement errors through maximum likelihood values (Ramlall, 2017).

Initially, the customer service call center CSAT evaluation tool was formed by three dimensions, four subdimensions and 17 metrics assigned as variables. Throughout this study, we managed to reduce the two proposed dimensions by the items 10, 5, 8, 9, 11 and 12. In figure 10, we show the confirmed maximum likelihood analysis, integrating standardized coefficients. First, it is possible to observe the factor bifurcation with the development and integrity dimensions previously determined. Secondly, we present the factorial loads for items 10, 5, 8 and 9 with values 0.99, 0.83, 0.92 and 0.75 respectively; the items 11 and 12 are indicators with values 0.64 and 0.61, finally; the correlation between dimensions which incorporates the value 0.79 exposes moderate to highly significant estimates.

Figure 10. Phone call quality, confirmatory factor analysis



Another element to consider is the validation of our new proposed model, which is formed by the following criteria: customer satisfaction-customer experience, goodness of fit and parsimony indicators acceptance. Table 5 shows the validity test

indicators: Kindness values **CMIN/DF** 1.38, Chi-squared (**NCP**) 0.97, Tucker-Lewis or normed index **NNFI/TLI** 0.98, parsimony measures **PNFI** 0.518, **AIC** 49.08 with normal-good acceptability values (Hooper, Coughlan & Mullen, 2008; Cupani, 2012; Montaña, 2014; Escobedo, Hernández, Ortega & Martínez, 2016).

Table 5. Model fit summary Quality on the phone call

Fit measurement index		Value	Acceptability
<i>Measurement model</i>			
Chi-square/DF	(CMIN/DF)	1.38	Good
P value	P	0.19	Good
Chi square - Noncentrality parameter	NCP	3.08	Moderate
Root Mean Square Error of Approximation	RMSEA	0.06	Good
Expected Cross-validation Index	ECVI	0.57	Regular
<i>Relative Fit Indices</i>			
Normed Fit Index	NFI	0.97	Good
Tucker Lewis index (TLI) or Non-normed fit index (NNFI)	NNFI/TLI	0.98	Good
<i>Parsimonious Fit Indices</i>			
Parsimony Normed Fit Index	PNFI	0.51	Regular
Akaike's Information Criterion	AIC	49	Good

In summary, as a result of Benchmarking applied to a call center ecosystem, it is possible to compare the KPIs of an instrument used to increase CSAT positive indexes and customer experience with the final customer perception of these. Given that Benchmarking's nature is descriptive, it offers us an action-reaction perspective. Therefore, with a multivariant statistical integration, it widens its competitive advantage capacity reproduction. In this study, we have deepened into how to create an exceptional and successful customer experience through key corporate performance indicators.

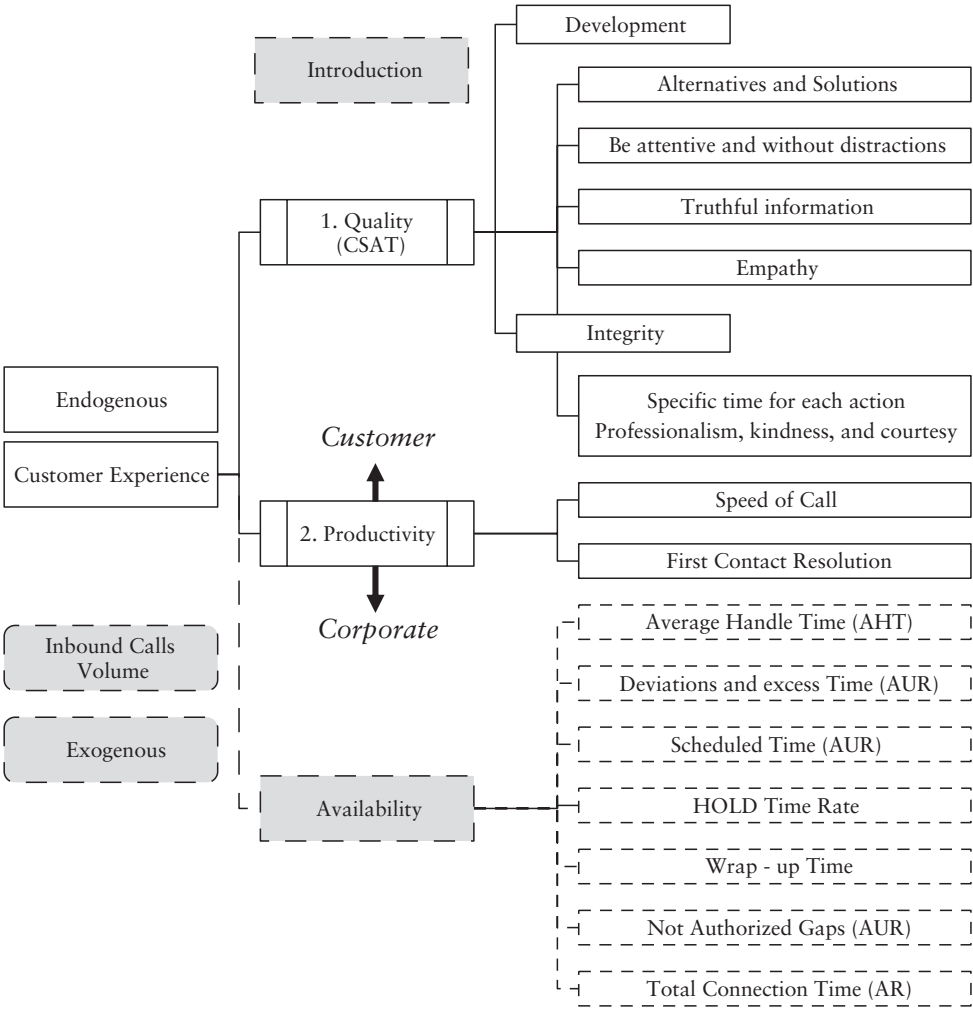
Table 6 exhibits the linked descriptive and multivariate analysis Benchmarking model, which concentrates both customer's experience as a company and individual. The 8-element Cronbach's Alpha indicates internal statistical reliability of $\alpha=0.878$, including the 10, 5, 8, 9, 11 and 12 metrics added to the customer's definition at the end of the interaction. Consequently, an exceptional customer's experience can be the result of a professional, kind, empathic, courteous and determined agent that tries to find alternatives and real solutions to solve problems or concerns promptly with a single diligent phone call.

Table 6. Customer Experience Metrics and KPIs analysis

Metric	Cronbach's alpha 8 elements
10. Alternatives and Solutions	0.878
5. Be attentive and without distractions	
8. Truthful information	
9. Empathy	
11. Specific time for each action	
12. Professionalism, kindness, and courtesy	
Productivity. How important is the speed in the phone call?	
Productivity. How important is to get a solution in just one contact?	

Figure 11 restructures the endogenic KPIs and the endogenous ones proposed by the call center’s management team by graphically joining both the descriptive analysis and multivariant Benchmarking results illustrating the customer’s experience process. The endogenous elements are determined by the quality of the phone call interaction targeted to obtain real solutions, integrity focused on the executive agent’s behavior, added to the response time, productivity related to the phone call effectiveness and accuracy in a single contact. Likewise, the exogenic elements which cannot be controlled are represented by the number of received phone calls, scheduled system hours, and determined assigned times to receive phone calls. Furthermore, the executive agent’s introduction, although it is not an exogenic company’s variable and does not represent a significant input to the customer’s experience model detailed in Table 2, was located as an external variable in compliance with organizational policies.

Figure 11. Customer Experience Model in the phone interaction



7. Conclusion

Every company sets oriented goals to stimulate a healthy economy, currently customer service call centers' KPIs in practice are fixed systematically and intuitively by management in the corporate environment, managerial teams determine economic and productivity metrics to the "service level" overexploitation as a result of the confusion caused by its meaning. Several call center administrators believe in knowing the customers' needs and explain that by getting better "service level" ranks, the best customer experience and the best customer satisfaction rates are

going to be accomplished. However, the perceived experience by the customer during a phone call to the call center is not defined by *service level* ranks and productivity efficiency; customer's experience in a phone call is a construct which requires a deep study because it involves one customer representative as an intermediary. Proof of this is the prevailing existence of novel tools trying to explain this phenomenon, for instance, NPS, CSAT, FCR, and CES are just a few instruments that try to explain this customer interaction experience. But without the proper approach, they are just another indicator.

The customer's experience within an organization is a phenomenon that implies studying the aspects involved to satisfy and exceed the customer's expectations, by representing the company's values with the proper techniques and methods. While the company's key economic and productivity performance indicators are essential for its growth, the customer experience, problem-solving, and quality in the phone interaction indexes are sidestepped. Nevertheless, it is possible to give an answer to the company's organizational objectives, obtain operational efficient optimum levels and give solutions to client's problems by sharing knowledge through an information input-output model and locating the customer at the center of the phone interaction. Therefore; the findings of this study point that it is necessary, taking into account that clients' needs and their demands evolve, in consequence, it is required to redefine engineering processes to offer a better satisfactory, personalized, accurate and effective customer experience, by applying simple periodical evaluation models based on correlations among quality, goals and corporate strategies.

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Annexes

1. Call Center main metrics

Metric	Definition
Service Level	Percentage of calls received by the center that are answered by a customer representative agent within a specific time frame. The global metric is 80% of calls answered in 20 seconds
AUR	Average Agent Utilization Rate
Abandonment Rate	Total No. of abandoned Calls while the customer is waiting to be attended
Forecasting call accuracy	Forecast Call Accuracy Rate
Adherence	Telephone operators adherence to scheduled times
Occupancy	Individual average percentage or percentage team average of occupancy time (AHT, Wrap-up, etc...)
Call Duration	Total Time used to speak with the customer
Wrap - up Time	Average After-call Work Time
Average Call Length (ACL)	Total Call Time for All Calls ÷ Total No. of Calls
Average Age of Query (AAQ)	Total days or Hours - Open Queries ÷ Hours of open queries ÷ Total No. of open Queries
Cost Per Call (CPC)	Total Cost of All Calls ÷ Total No. of Calls
(CAR)	Call Arrival Rate
Calls Answered per Hour (CPH)	Calls Answered ÷ (Total Available Time - Idle or Waiting Time)
Average Handle Time (AHT)	(Total Talk Time + Total Hold Time + Total After-callwork Time) ÷ Total No. of Calls.
Hold Time Rate	Duration of the longest time a single customer was on hold
First Contact Resolution (FCR)	No. of calls resolved on first attempt ÷ Total No. of Calls Received
Customer Effort Score (CES)	% Agree - % Disagree
Customer Satisfaction (CSAT)	(No. of Satisfied Customers ÷ No. of Survey Responses) * 100
First Response Time (FRT)	Total Time Waiting for All Inquiries ÷ Total No. of Inquiries

2. Correlation matrix, Benchmarking customer experience model

8	Truthful information	11	10	3	5	7	9	12	6	2	13
8	Truthful information	1									
11	Specific time for each action	.552**	1								
10	Alternatives and Solutions	.911**	.485**	1							
3	Ask the call reason with positive attitude	.753**	.377*	.822**	1						
5	Be attentive and without distractions	.753**	.377**	.822**	1.000**	1					
7	Identify the reason of interaction (effective listening)	.503**	0.191	.587**	.659**	.659**	1				
9	Empathy	.669**	.377**	.743**	.659**	.659**	.522**	1			
12	Professionalism, kindness, and courtesy	.480**	.392*	.468**	.455**	.455**	0.188	.348**	1		
6	Keep the client informed about all action taken	0.138	.214*	0.167	0.151	.281**	0.107	.304**		1	

(Continuation)

	8	11	10	3	5	7	9	12	6	2	13
	Truthful information	Specific time for each action	Alternatives and Solutions	Ask the call reason with positive attitude	Be attentive and without distractions	Identify the reason of interaction (effective listening)	Empathy	Professionalism, kindness, and courtesy	Keep the client informed about all action taken	Introduce the customer representative	Back up or Additional support
2	0.126	0.141	0.100	0.177	0.177	0.041	0.041	.642**	.397**	1	
13	0.151	0.112	0.121	0.099	0.099	.267*	0.099	.343**	.336**	.587**	1

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