

Chapter 5

DETERMINATION OF FACTORS AFFECTING CALL CENTER SELECTION USING MULTI-CRITERIA DECISION-MAKING TECHNIQUE: ANALYSIS WITH DEMATEL METHOD

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INTRODUCTION

Call centers are a set of systems that meet the requests transmitted to institutions via telephone and manage the communication of institutions with the outside world. Customer representatives serving in these centers are usually the first contact person in troubleshooting, one of the most effective parameters in sales, and the brand face of the institution when communicating with customers. Customers reach the call center for various reasons. These reasons may be to get support in banking transactions, to reach the authorized company of that product about a product, or to call a university to get information about the courses and opportunities offered. The possibility that an individual may have many reasons for contacting a call center will bring about a complex structure. How many people will contact the call center and does the call center have enough employees to handle these calls? This problem is just one of the reasons why performance indicators on the call center are needed. In order to provide a better service and experience to customers, performance indicators such as call abandonment rate, percentage of blocked calls, waiting time in queue, service level, call answering time, talk time, post-call ready time, first call resolution, occupancy rate and customer satisfaction are monitored. Measurability is of great importance. Companies must ensure customer satisfaction in order to continue their existence. The most important point of ensuring customer satisfaction is to meet customers' demands and expectations. In order to achieve this, companies establish connections with their customers through different communication channels and try to obtain information about their wishes, expectations and tendencies. Call centers are

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one of the most important channels that companies use to communicate with customers. Call center, in the most general sense, consists of a combination of telephone and visual imaging unit technologies. Call centers have interactive voice response technology built on existing technologies (Robinson & Morley, 2006). Call centers provide authorized personnel to the customer via any channel (telephone, mobile phone, internet, etc.) at any time of the day (Sariyer, 2007). Call centers are used by both public and private organizations in order to meet the demands of the interlocutors and achieve satisfaction with the benefits of the age. Call centers are one of the most used technology tools in Customer Relationship Management, as well as interaction centers where technology is used most intensively (Yavuz & Leloğlu, 2011). The technologies used allow customers to access information free of charge from anywhere at any time (Anton, 2000) and offer the opportunity to carry out the transactions they want instantly (Yavuz & Leloğlu, 2011). In Turkey, the call center industry is changing rapidly and competition is increasing.

Traditionally, the call center provides a wide range of services, from telemarketing to general marketing, promotion and promotion of products and services, from comprehensive reservation systems to in-house or external technical support, information and information collection, through computers or other information technologies, incoming and outgoing. It can be defined as answering calls by effectively accepting, classifying, or distributing them. The most basic feature and building block of call centers is that they are units that solve customer problems, respond to complaints quickly, are accessible 24 hours a day, 7 days a week, enable direct communication with the customer, are equipped with information technologies and have personnel who can provide adequate service (Zikmund, et al., 2003). Call centers are defined as workplaces where customer representatives provide service over the phone. Here, communication with customers is established by phone and computer. The most important role of call centers is to handle inbound and outbound phone calls.

In call centers where incoming calls are answered, customers' questions and complaints about the product are received, while in call centers that make external calls (telemarketing), customer representatives inform customers about products and campaigns, update their data, and conduct surveys to ensure customer satisfaction (Wolfe & Gertler, 2001). In addition to call centers that only answer incoming calls or only make outgoing calls, there are also call centers that can do both (Beekman et al., 2004). The type of call center varies depending on where the service is provided and the direction of the phone calls.

If the call center service is provided by a separate unit within the company, it is defined as an inhouse call center, and if it is provided by independent and specialized companies, it is defined as an outsource call center. Companies operating in a wide range of sectors such as trade, media, tourism, health, marketing, finance, industry, information technology and public sector can provide services to their customers regarding their own goods and services by establishing call centers within their bodies. Outsourcing call center companies, on the other hand, consist of independent companies that contract with other companies and carry out the call center work on their behalf (Grip et al., 2006). The main job of internal call centers is to improve customer service for company products (Zapf et al., 2003). Outsourcing call centers, on the other hand, want to offer uncomplicated, standard services in order to reach a wider range of customers and to be least affected by sectoral and product differences. (Gordi, 2006). Whether the call center is internal or an outsourcing company, it is an environment where the main company and customers come together with the combination of people and technology. In studies focusing on determining the factors affecting the location selection decision of call centers, the most important factors were determined to be a strong and uninterrupted telecommunication infrastructure, low costs, and a large labor market pool (Breathnach, 2000). Therefore, call centers can be located anywhere where costs are low, and telecommunications infrastructure is available. This has enabled call centers to grow in rural or underdeveloped areas outside metropolitan areas. As a result, call centers began to be seen as a power to solve the unemployment problem in less popular regions (Richardson & Marshall, 1999).

Call centers can be found in businesses or organizations of many different sizes. While large companies often manage their own internal call centers, small or medium-sized businesses may outsource call center services or through a service provider. The working area of the call center is directly related to the company and its products. This unit works in many different areas, from marketing to sales of the company or the product it offers. The main task of the call center is to create a bridge between the customer and the company. Acting in line with this purpose, the center must have knowledge of the necessary details about the company. Otherwise, the quality of the service offered will not reach the desired level. Call centers, known as one of the most important services of recent years, are also known as customer representatives. Call centers, known as customer representatives, can provide different services depending on the company's place in the sector.

Nowadays, call centers exist under many different brands. The quality and quality of this service affects companies' choice of call center. However, in addition to quality and quality, the call center's many different advantages are also effective in the choice of companies. The most important advantage of the call center is that it reduces the company's workload. Since the communication network in the call center is strong, customers can solve their existing problems with the call center representative without reaching the company. In addition, ensuring customer trust is one of the advantages offered by the call center. Companies with a call center that is qualified and advanced in problem solving gain customers' trust more easily. This allows the company to gain a place in the sector more easily. It is very important for companies that turn to call center services to have knowledge of certain details. Companies that master these details will provide more qualified customer representative service. In order to see the expected impact from the call center, qualified and successful employees who keep up with the changing system should be assigned. In this way, the center becomes a higher quality place.

In order for the call center to be more qualified, it is important to attach importance to the physical environment. Companies that do not attach importance to the physical environment will see that the success rate of the call center decreases. In addition, it is important to precisely determine the working area of the call center in order to increase the quality of this service. It is very important that the training of the people selected for the call center is quality and complete. Unqualified call centers can negatively affect the brand's prestige. Sales figures of brands may decrease as it is negatively affected. In order to avoid this problem, it is very important that the call center is qualified. If there are no qualified personnel in the call center, the customer will not be able to solve his existing problem. This is an important detail that increases the workload of the brand. In this context, companies that do not want to increase their workload should pay due attention to the call center.

Call centers have strategic importance for businesses. These units, which are considered as one of the most important assistants of company representations both in the center and in the provinces, have a very important place in creating brand value. Customers prefer to shop from companies that provide professional services. In this context, you can check the call center of a company to understand whether it provides professional service. Because the function of the call center reveals the professionalism of the company. Companies establishing call centers should benefit from the latest technological data. Otherwise, it will become much more difficult to compete with rival companies.

Smart call routing technology is one of the most important technological data that can be used to make the call center more qualified. Thanks to smart call routing technology, customers can be directed to the right representatives. One of the technologies that will be used to make the call center qualified is the workforce management system. Thanks to this system, which indicates the company's central dashboard, the services it offers and marketing strategies, the staff in the call center will have the opportunity to access the company's details.

One of the systems used for the successful service of the call center is the learning management system. Companies do not provide services only by considering short-term goals. Companies that want to be experts in their fields are interested in medium and long-term goals. As the knowledge-based development process becomes popular, the number of customers seeking help from the call center will increase in the future. This means that companies that want to be national or global should pay due attention to call centers. Digital transformation is a term that has gained an important place in today's world. Digital transformation directly affects call centers, as in other sectors. There are many different reasons why companies choose call centers. The first of these is to improve customer loyalty. When the customer sees that he has an authority to talk to, he prefers this company over other companies. This directly affects the company's sales figures. Another reason why companies prefer call centers is that they offer feedback features. Thanks to this service, companies get to know customers' expectations and needs better. In this way, the company has the opportunity to improve itself.

Call centers, which have such an important place in sectoral life, are expected to meet certain criteria. These criteria are important for business partnerships that are suitable for the sector, meet the needs and are sustainable. In the study, the call center selection criteria determined based on the literature and expert opinions were evaluated with Decision Making Trial and Evaluation Laboratory (DEMATEL), one of the multi-criteria decision-making techniques, and the criteria were ranked according to their importance.

Features that a good call center should have: It can be stated as follows.

Experience and Expertise

References

Appropriate Technology Infrastructure

Special solubility (customizability)

Employee Quality

Language Proficiency

Security and Data Protection

Pricing

Customer Relationship Management

Service Level Agreements

Emergency Management

Measurability

Flexibility

Experience and Expertise: A call center must have experience in the industry and be specialized in its field. It is important that the call center has the knowledge and experience necessary to understand and solve customer needs.

References: Past customers' experiences and feedback provide important information about the quality of a call center. Can evaluate the provider's past performance by reviewing references.

Appropriate Technology Infrastructure: Call centers that have a technology infrastructure that suits the needs of the business can increase efficiency and solve problems faster.

Customizability: It is important to choose a call center provider that can meet the specific needs of the business. The customizability of services and processes helps meet the unique needs of the business.

Employee Quality: The education, experience and motivation of call center employees directly affects customer satisfaction. It is important to choose a provider that employs quality employees.

Language Proficiency: Language proficiency of call center personnel is very important in order to communicate effectively with customers. It may be necessary to choose a provider that can offer support in more than one language.

Security and Data Protection: The security of customer information should always be a priority. It is important to review the provider's data protection protocols and security measures.

Pricing: The provider's pricing model should be compatible with the company budget. It is important to choose a provider that is both cost effective and offers a quality service.

Customer Relationship Management: Call center plays a critical role in customer relationship management. The call center must be able to effectively manage customer relationships to improve customer experience.

Service Level Agreements: Clear, written service level agreements are necessary to determine the business's expectations and level of service. These agreements enable us to monitor service quality and take corrective measures when necessary.

Emergency Management: The call center must know how to react in times of emergencies and crises. It is important that they be able to manage emergencies quickly and effectively.

Measurability: Choosing a provider that provides data analytics and reporting to measure call center performance supports continuous improvement.

Flexibility: When the business grows or changes, it is important that the call center can adapt to changing needs.

With the study conducted based on these criteria, the criteria that are effective in call center selection are listed. The hierarchical structure of the study is shown in Figure 1.

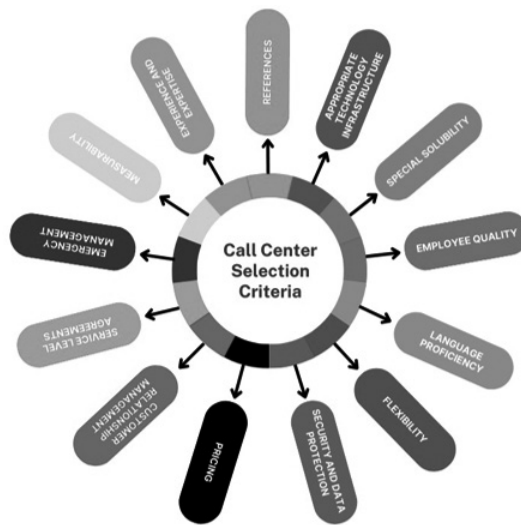


Figure 1. Hierarchical Structure of the Study

METHOD

In this section, information will first be given about the method used in the study. Afterwards, the findings of the application will be shared. Methods and findings will be given under separate headings.

DEMATEL Method: The Decision-Making Trial and Evaluation Laboratory (DEMATEL) method is a multi-criteria decision-making technique used to determine criterion weights/importance levels. The method in question considers the causality between the criteria. The biggest advantage of the method is that it captures the interaction between criteria. DEMATEL method is a method used in many areas such as health, economy, logistics and business. The main goal in this method is to determine the degree of importance of the criteria/factors affecting the goal, considering the interaction between the criteria. In other words, it is the determination of the most important criterion/factor that affects the purpose of the research.

In the DEMATEL method, importance and priority for the criteria are determined. In addition, thanks to this method, the degree of impact between the criteria can be measured. The question of whether a criterion affects or is affected by all criteria is one of the questions that the DEMATEL method seeks to answer. The criterion whose effect on the system is higher than the degree of influence is called the distributive criterion, while the criterion whose degree of influence from the system is higher than the degree of influence on the system is called the receptive criterion. When all the criteria are considered together, identifying distributors and receivers actually provides information about the contribution to be made to improvement. For example, an improvement in a distributive criterion will affect the total improvement in a positive performance direction (Tepe, 2021). DEMATEL method is one of the preferred multi-criteria decision-making methods due to its contribution at this point. The process begins with defining the problem, as in all other multi-criteria decision-making methods. Since objective and clear definition of the problem affects all subsequent steps, it is one of the most important steps for DEMATEL, as in other multi-criteria decision-making methods.

The DEMATEL method is a subjective weighting method based on expert opinions. In this method, evaluations are taken from experts on a 5-point scale (ineffective, low effective, medium effective, high effective, very high effective). In the evaluations here, the criteria are obtained by comparing pairwise. From the opinions obtained, the decision matrix is created, the normalized decision matrix is obtained, the total impact matrix is calculated, and the criterion weights/importance levels are determined based on the row-column sums.

The steps of the DEMATEL method can be summarized as follows (Tepe, 2021):

Step 1. The problem is defined.

Step 2. Criteria are determined.

Step 3. Direct relationship matrix is created. In this step, the criteria are compared with each other in order to determine the relationships between the criteria and a direct relationship matrix is created. The comparison scale given in Table 1 is used in comparisons. In this way, relationships between criteria are evaluated and a direct relationship matrix is created.

| Table 1. Pairwise Comparison Scale | |
|------------------------------------|-----------------------|
| Numerical value | Impact Degree |
| 0 | no effect |
| 1 | low impact |
| 2 | moderately effective |
| 3 | Highly effective |
| 4 | Very highly effective |

The created direct relationship matrix is as given in Equation 1.

$$X = \begin{bmatrix} x_{11} & x_{12} & \dots & x_{1m} \\ x_{21} & x_{22} & \dots & x_{2m} \\ \vdots & \vdots & & \vdots \\ x_{m1} & x_{m2} & \dots & x_{mm} \end{bmatrix} \quad (1)$$

What should be noted in this matrix is that the pairwise comparisons are made for the entire matrix, that is, it does not have symmetry with respect to the diagonal. To explain in more detail; To explain in more detail; If the effect of criterion on criterion is 3; The effect of the criterion on the criterion is not necessarily 1/3. In addition, while the criterion has an effect on the criterion, the criterion may not have an effect on the criterion.

Step 4. Normalized direct relationship matrix is obtained. During the normalization process, the rows in the matrix are added one by one, the columns are added one by one, and the largest of these total values is determined. Then, all elements of the X matrix are divided by this value and the NX normalized matrix is obtained.

Step 5. The total relationship matrix is created. The normalized direct relationship matrix obtained in the previous step is first subtracted from the

created unit matrix I. The matrix obtained as a result of the subtraction process is inverted and the resulting matrix is multiplied by the normalized matrix to obtain the total relationship matrix. To show T the total relationship matrix and NX the normalized matrix, the operations are carried out as given in Equation 2. The total relationship matrix is created as given in Equation 3.

$$T = NX (I - NX)^{-1} \quad (2)$$

$$T = \begin{bmatrix} t_{11} & t_{12} & \dots & t_{1m} \\ t_{21} & t_{22} & \dots & t_{2m} \\ \vdots & \vdots & & \vdots \\ t_{m1} & t_{m2} & \dots & t_{mm} \end{bmatrix} \quad (3)$$

Step 6. Relationships between criteria are determined. In order to determine the characteristics of the criteria, that is, whether they are distributors or receivers, the row and column totals of the total relationship matrix are taken. Thus, it is determined which criteria affect others more and which criteria are more affected than others. Row and column totals are summed as given in Equation 4 and Equation 5. The sum of the obtained c and r vectors determines the importance of the criteria, and the difference between the c and r vectors determines the impact status of the criteria. Using c and r in this step, it is stated that if $(c - r) < 0$ for a criterion, it is affected by other criteria, and if $(c - r) > 0$, it has an effect on other criteria.

$$c = [c_i]_{m \times 1} = [\sum_{j=1}^m t_{ij}]_{m \times 1} \quad (4)$$

$$r = [r_j]_{1 \times m} = [\sum_{i=1}^m t_{ij}]_{1 \times m} \quad (5)$$

Step 7. Weights are calculated. Equation 6 is used to calculate the importance weights of the criteria.

$$w = ((c_i + r_i)^2 + (c_i - r_i)^2)^{1/2} \tag{6}$$

Step 8. The network structure is created. To create the network structure, a threshold value is first determined by averaging the elements of the total relationship matrix. Among the elements of the total relationship matrix, those equal to or greater than the threshold value show the direction of the relationships between the criteria.

FINDINGS

There are many criteria that affect call center selection. However, taking all these criteria into consideration creates a lot of costs for businesses. Additionally, optimizing all factors may be impossible in some cases. Therefore, decision makers need to prioritize some criteria while trying to make the best decision. This way, they can manage their budgets better. For this purpose, the DEMATEL method was used to determine the most effective criterion among the 13 criteria determined in the selection of the call center. The set of criteria taken into consideration in the study is given in Table 2.

| Table 2. Criteria Set | |
|---------------------------------------|------|
| Criteria | Code |
| Experience and Expertise | K1 |
| References | K2 |
| Appropriate Technology Infrastructure | K3 |
| Special solubility | K4 |
| Employee Quality | K5 |
| Language Proficiency | K6 |
| Security and Data Protection | K7 |
| Pricing | K8 |
| Customer Relationship Management | K9 |
| Service Level Agreements | K10 |
| Emergency Management | K11 |
| Measurability | K12 |
| Flexibility | K13 |

Considering the criteria set given in Table 2, three different experts in the field with at least 10 years of experience were asked to evaluate. The decision matrix obtained as a result of the evaluations is given in Table 3.

| | K1 | K2 | K3 | K4 | K5 | K6 | K7 | K8 | K9 | K10 | K11 | K12 | K13 |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
| K1 | 0,00 | 4,00 | 3,00 | 3,00 | 3,00 | 2,00 | 4,00 | 3,00 | 4,00 | 3,00 | 4,00 | 3,00 | 4,00 |
| K2 | 3,00 | 0,00 | 1,00 | 2,00 | 2,00 | 2,00 | 2,33 | 1,33 | 2,00 | 2,33 | 1,00 | 2,00 | 1,33 |
| K3 | 3,33 | 3,00 | 0,00 | 2,00 | 3,00 | 1,00 | 4,00 | 3,00 | 4,00 | 4,00 | 4,00 | 3,00 | 3,00 |
| K4 | 3,67 | 3,00 | 2,00 | 0,00 | 4,00 | 1,00 | 3,00 | 4,00 | 4,00 | 3,00 | 3,00 | 4,00 | 4,00 |
| K5 | 3,33 | 4,00 | 3,00 | 3,00 | 0,00 | 4,00 | 3,00 | 3,00 | 4,00 | 2,00 | 3,00 | 3,00 | 4,00 |
| K6 | 3,33 | 2,33 | 1,00 | 1,00 | 3,00 | 0,00 | 2,00 | 1,00 | 3,00 | 2,00 | 3,00 | 3,00 | 4,00 |
| K7 | 3,00 | 4,00 | 3,00 | 3,00 | 3,00 | 2,00 | 0,00 | 4,00 | 4,00 | 4,00 | 4,00 | 4,00 | 3,00 |
| K8 | 1,33 | 2,00 | 2,00 | 4,00 | 2,00 | 1,00 | 4,00 | 0,00 | 3,00 | 3,00 | 2,00 | 3,00 | 2,00 |
| K9 | 3,67 | 2,67 | 2,00 | 4,00 | 4,00 | 2,00 | 4,00 | 2,00 | 0,00 | 3,00 | 3,67 | 3,67 | 2,67 |
| K10 | 2,00 | 1,67 | 3,00 | 1,67 | 1,00 | 2,00 | 4,00 | 2,00 | 3,00 | 0,00 | 2,00 | 2,00 | 2,67 |
| K11 | 3,00 | 3,00 | 3,00 | 3,00 | 2,00 | 3,00 | 4,00 | 1,00 | 2,00 | 3,33 | 0,00 | 3,00 | 3,33 |
| K12 | 2,00 | 2,00 | 1,67 | 4,00 | 2,00 | 2,00 | 3,00 | 2,00 | 3,00 | 3,33 | 4,00 | 0,00 | 2,67 |
| K13 | 2,67 | 2,00 | 3,00 | 4,00 | 3,00 | 3,00 | 2,33 | 4,00 | 4,00 | 2,00 | 4,00 | 4,00 | 0,00 |

The resulting decision matrix is divided by the largest row and column sums to obtain the normalized decision matrix. The normalized decision matrix is given in Table 4.

| | K1 | K2 | K3 | K4 | K5 | K6 | K7 | K8 | K9 | K10 | K11 | K12 | K13 |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
| K1 | 0,00 | 0,10 | 0,07 | 0,07 | 0,07 | 0,05 | 0,10 | 0,07 | 0,10 | 0,07 | 0,10 | 0,07 | 0,10 |
| K2 | 0,07 | 0,00 | 0,02 | 0,05 | 0,05 | 0,05 | 0,06 | 0,03 | 0,05 | 0,06 | 0,02 | 0,05 | 0,03 |
| K3 | 0,08 | 0,07 | 0,00 | 0,05 | 0,07 | 0,02 | 0,10 | 0,07 | 0,10 | 0,10 | 0,10 | 0,07 | 0,07 |
| K4 | 0,09 | 0,07 | 0,05 | 0,00 | 0,10 | 0,02 | 0,07 | 0,10 | 0,10 | 0,07 | 0,07 | 0,10 | 0,10 |
| K5 | 0,08 | 0,10 | 0,07 | 0,07 | 0,00 | 0,10 | 0,07 | 0,07 | 0,10 | 0,05 | 0,07 | 0,07 | 0,10 |
| K6 | 0,08 | 0,06 | 0,02 | 0,02 | 0,07 | 0,00 | 0,05 | 0,02 | 0,07 | 0,05 | 0,07 | 0,07 | 0,10 |
| K7 | 0,07 | 0,10 | 0,07 | 0,07 | 0,07 | 0,05 | 0,00 | 0,10 | 0,10 | 0,10 | 0,10 | 0,10 | 0,07 |
| K8 | 0,03 | 0,05 | 0,05 | 0,10 | 0,05 | 0,02 | 0,10 | 0,00 | 0,07 | 0,07 | 0,05 | 0,07 | 0,05 |
| K9 | 0,09 | 0,07 | 0,05 | 0,10 | 0,10 | 0,05 | 0,10 | 0,05 | 0,00 | 0,07 | 0,09 | 0,09 | 0,07 |
| K10 | 0,05 | 0,04 | 0,07 | 0,04 | 0,02 | 0,05 | 0,10 | 0,05 | 0,07 | 0,00 | 0,05 | 0,05 | 0,07 |

Table 4. Normalized Decision Matrix

| | K1 | K2 | K3 | K4 | K5 | K6 | K7 | K8 | K9 | K10 | K11 | K12 | K13 |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
| K11 | 0,07 | 0,07 | 0,07 | 0,07 | 0,05 | 0,07 | 0,10 | 0,02 | 0,05 | 0,08 | 0,00 | 0,07 | 0,08 |
| K12 | 0,05 | 0,05 | 0,04 | 0,10 | 0,05 | 0,05 | 0,07 | 0,05 | 0,07 | 0,08 | 0,10 | 0,00 | 0,07 |
| K13 | 0,07 | 0,05 | 0,07 | 0,10 | 0,07 | 0,07 | 0,06 | 0,10 | 0,10 | 0,05 | 0,10 | 0,10 | 0,00 |

After the normalized decision matrix, the total impact matrix is calculated. To do this, the normalized decision matrix is subtracted from the identity matrix and its inverse is taken. Then, the decision matrix is multiplied by the outcome matrix. The total impact matrix is given in Table 5.

Table 5. Total Impact Matrix

| | K1 | K2 | K3 | K4 | K5 | K6 | K7 | K8 | K9 | K10 | K11 | K12 | K13 |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
| K1 | 0,39 | 0,47 | 0,39 | 0,47 | 0,43 | 0,34 | 0,54 | 0,42 | 0,54 | 0,47 | 0,52 | 0,50 | 0,50 |
| K2 | 0,29 | 0,22 | 0,21 | 0,28 | 0,26 | 0,21 | 0,31 | 0,23 | 0,31 | 0,28 | 0,27 | 0,29 | 0,27 |
| K3 | 0,44 | 0,43 | 0,31 | 0,43 | 0,41 | 0,30 | 0,51 | 0,40 | 0,51 | 0,47 | 0,49 | 0,47 | 0,45 |
| K4 | 0,46 | 0,44 | 0,36 | 0,40 | 0,45 | 0,31 | 0,51 | 0,43 | 0,53 | 0,46 | 0,49 | 0,51 | 0,49 |
| K5 | 0,46 | 0,47 | 0,38 | 0,46 | 0,36 | 0,38 | 0,51 | 0,41 | 0,53 | 0,44 | 0,49 | 0,49 | 0,49 |
| K6 | 0,36 | 0,34 | 0,26 | 0,32 | 0,34 | 0,22 | 0,38 | 0,28 | 0,40 | 0,34 | 0,38 | 0,38 | 0,39 |
| K7 | 0,46 | 0,48 | 0,39 | 0,47 | 0,44 | 0,34 | 0,45 | 0,44 | 0,54 | 0,49 | 0,52 | 0,52 | 0,48 |
| K8 | 0,33 | 0,34 | 0,29 | 0,39 | 0,32 | 0,24 | 0,43 | 0,27 | 0,41 | 0,37 | 0,37 | 0,39 | 0,36 |
| K9 | 0,45 | 0,43 | 0,35 | 0,47 | 0,44 | 0,32 | 0,51 | 0,38 | 0,43 | 0,45 | 0,49 | 0,49 | 0,45 |
| K10 | 0,32 | 0,31 | 0,29 | 0,32 | 0,28 | 0,25 | 0,40 | 0,29 | 0,38 | 0,28 | 0,35 | 0,35 | 0,35 |
| K11 | 0,40 | 0,40 | 0,34 | 0,41 | 0,36 | 0,32 | 0,47 | 0,32 | 0,43 | 0,42 | 0,37 | 0,43 | 0,43 |
| K12 | 0,36 | 0,36 | 0,30 | 0,41 | 0,34 | 0,28 | 0,43 | 0,33 | 0,43 | 0,40 | 0,43 | 0,35 | 0,39 |
| K13 | 0,43 | 0,41 | 0,38 | 0,48 | 0,42 | 0,35 | 0,48 | 0,42 | 0,52 | 0,43 | 0,50 | 0,50 | 0,40 |

D matrix is calculated with row totals over the total effect matrix, and R matrix is calculated with column totals. D+R and D-R values of the resulting D and R matrices are calculated. The importance of the criteria is determined by the square root of the sum of the squares of these values. The mentioned values are given in Table 6.

| Table 6. D, R, D+R, D-R and Weights | | | | | | |
|---------------------------------------|--------|--------|---------|---------|---------|------|
| Criteria | D | R | D+R | D-R | Weight | Rank |
| Experience and Expertise | 5,9738 | 5,1578 | 11,1316 | 0,8161 | 11,1615 | 4 |
| References | 3,4510 | 5,0800 | 8,5309 | -1,6290 | 8,6851 | 12 |
| Appropriate Technology Infrastructure | 5,6129 | 4,2646 | 9,8775 | 1,3482 | 9,9691 | 9 |
| Special Solubility | 5,8202 | 5,3079 | 11,1281 | 0,5123 | 11,1399 | 5 |
| Employee Quality | 5,8560 | 4,8390 | 10,6950 | 1,0171 | 10,7432 | 7 |
| Language Proficiency | 4,3928 | 3,8555 | 8,2484 | 0,5373 | 8,2659 | 13 |
| Security and Data Protection | 6,0359 | 5,9324 | 11,9683 | 0,1035 | 11,9688 | 1 |
| Pricing | 4,5003 | 4,6344 | 9,1347 | -0,1341 | 9,1356 | 11 |
| Customer Relationship Management | 5,6670 | 5,9432 | 11,6103 | -0,2762 | 11,6136 | 2 |
| Service Level Agreements | 4,1723 | 5,2890 | 9,4613 | -1,1168 | 9,5270 | 10 |
| Emergency Management | 5,0855 | 5,6662 | 10,7517 | -0,5807 | 10,7673 | 6 |
| Measurability | 4,8110 | 5,6647 | 10,4757 | -0,8537 | 10,5105 | 8 |
| Flexibility | 5,7166 | 5,4606 | 11,1773 | 0,2560 | 11,1802 | 3 |

When Table 6 is examined, the highest importance level is “Security and Data Protection” with 11.9688. In second place is “Customer Relationship Management”. “Language Proficiency” was ranked last. According to these results, the issue that a business should prioritize when determining the most suitable one among call centers is security and data protection for customers and businesses.

DISCUSSION

In today’s world, where digitalization is rapidly spreading, owning, processing, protecting and evaluating data is very important. Protecting data is a top priority in every sector that has direct contact with people. Therefore, a good call center is expected to have high security data protection capacity. Additionally, call centers are a critical customer service channel through which an organization communicates directly with its customers and can significantly impact the customer experience. To better understand customers’ needs and expectations,

data analysis and feedback collection processes occur through call centers. Good customer relationship management can increase customer loyalty.

Customers tend to be more loyal to a brand when they feel valued and their needs are addressed. Loyal customers provide long-term value and revenue potential. Customer relationship management software and processes provide call center employees with information about customer history and preferences, helping them provide faster and more efficient service. This contributes to more effective management of call center operations. Customer relationship management includes the processes of collecting, analyzing and evaluating feedback from customers. This feedback can provide important information to improve products and services and help correct errors. Customer relationship management is also important in terms of security and privacy of customer data. Properly storing and protecting customer information protects call centers' reputation and legal compliance. Customer relationship management supports customer segmentation and personalized marketing strategies. This allows customizing call center services to meet customers' different needs and preferences. Good customer relationship management can help stay ahead of competitors and retain customers long-term. Providing a superior experience in customer service can put the brand in a competitive position. Customer relationship management can increase the efficiency of call centers, increase customer satisfaction and provide your business with a competitive advantage. Therefore, it is of great importance for call centers to develop and implement a good customer relationship management strategy.

Language proficiency is; is another important factor for call centers. Call centers are places that directly deal with customer communication. Therefore, the language proficiency of call center employees enables them to communicate effectively with customers. Using correct and understandable language can increase customer satisfaction. Customers want to feel understood and supported when they communicate with call centers. Having good language proficiency in employees can increase customer satisfaction and strengthen brand reputation. Call centers are generally responsible for resolving customer complaints and problems. Employees must accurately understand customers' problems and solve them effectively. Language proficiency can facilitate this process. In a global company or companies serving international customers, there may be a need to provide support in different languages. The multilingual competence of call center employees ensures that these customers are served effectively. Call centers collect customer feedback and data.

Language proficiency can facilitate the accurate analysis of this data and the development of business strategies. In unexpected situations and moments of crisis, call center employees must help customers quickly and effectively. Language proficiency can make it easier to handle such situations. Call centers often require great teamwork. Language proficiency facilitates communication within the team and can help resolve problems faster.

For call centers, language proficiency affects a number of important factors such as customer satisfaction, effective communication, troubleshooting and management of business data. Therefore, developing and managing the language skills of call center employees is of great importance.

As a result, when choosing a call center, it is thought that choosing a center consisting of employees who are successful in data protection, experienced in customer relations and have language proficiency will be effective in increasing the competitiveness of companies and improving their performance.

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