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Karpun O.V. PhD of Economics, Associate Professor, Associate Professor of Logistics Department of National Aviation University (Ukraine)

ORCID – 0000-0003-2058-9070
Researcher ID –
Scopus author id: –

Marchuk V.Ye. Doctor of Engineering, Professor, Professor of Logistics Department National Aviation University (Ukraine)

ORCID – 0000-0003-0140-5416
Researcher ID – S-6514-2018
Scopus author id: – 56246790900

LOGISTIC APPROACH TO THE SEGMENTATION OF THE COMPANY'S CUSTOMERS AS A BASIS FOR THE FORMATION OF LOGISTICS SERVICES

Karpun Olga, Marchuk Volodymyr. "Logistic approach to the segmentation of the company's customers as a basis for the formation of logistics services". *The article defines the essence of the logistics customer service concept, as a component of the service process, which makes it possible to ensure the necessary level of the customers' needs satisfaction, while providing the minimum necessary level of costs and maximizing profit for the company.*

It was determined that the basis of the formation of logistics customer service is their segmentation or differentiation. A classic logistic approach to the differentiation of customers can be considered their division using ABC-XYZ analysis. At the same time, ABC analysis is usually carried out based on the income brought by clients for a certain period of time, XYZ analysis is carried out according to the stability of relations with the client, that is, according to the number of orders placed by the client during the same period of time.

We proposed our own view on the direct process of dividing customers into groups A, B and C, which is based on the calculation of the "jump in share" of customer revenues. The advantage of the proposed approach is that customers with relatively equal importance to the company cannot fall into different categories, and customers with very different values of importance to the company cannot fall into the same category.

Another approach to customer differentiation based on customer profitability was also proposed and recommendations for servicing each customer group were made.

Thus, the correct segmentation of customers and assessment of the potential of each segment will allow building several different service strategies aimed at increasing the company's profits.

Keywords: logistics service, customer segmentation, logistics approach to customer segmentation.

Карпунь Ольга, Марчук Володимир. «Логістичний підхід до сегментації клієнтів компанії, як основа формування логістичного обслуговування». *У статті визначено сутність поняття логістичного обслуговування клієнтів, як складової частини процесу обслуговування, яка дає*

можливість забезпечити необхідний рівень задоволення потреб різних категорій клієнтів за умови підтримки мінімально необхідного рівня витрат та максимізації прибутку для самої компанії.

Було визначено що основою формування логістичного обслуговування клієнтів є їх сегментації або диференціації. Класичним логістичним підходом до диференціації клієнтів можна вважати їх поділ за допомогою ABC-XYZ аналізу. При цьому ABC аналіз зазвичай проводять за доходами, які приносять клієнти за певний період часу, XYZ аналіз проводять за сталістю відносин з клієнтом, тобто за кількістю замовлень, розміщених клієнтом, за той же період часу.

Був запропонований власний погляд на безпосередній процес поділу клієнтів на групи A, B та C, в основі якого лежить розрахунок «стрибка питомої ваги» доходів клієнтів. Перевагою запропонованого підходу є те, що клієнти зі порівняно однаковими важливістю для компанії не можуть потрапити до різних категорій, а клієнти з дуже різними значеннями важливості для компанії не можуть потрапити до однієї категорії.

Також був запропонованих ще один підхід до диференціації клієнтів, заснований на прибутковості клієнтів, та надані рекомендації щодо обслуговування кожної отриманої групи клієнтів.

Таким чином, правильна сегментація клієнтів і оцінка потенціалу кожного сегмента дозволять побудувати кілька різних стратегій обслуговування, спрямованих на збільшення прибутку компанії.

Ключові слова: логістичне обслуговування, сегментація клієнтів, логістичний підхід до сегментації клієнтів.

Карпунь Ольга, Марчук Владимир. "Логистический подход к сегментации клиентов компании как основа формирования логистического обслуживания". *В статье определена сущность понятия логистического обслуживания клиентов как составной части процесса обслуживания, которая дает возможность обеспечить необходимый уровень удовлетворения потребностей различных категорий клиентов при поддержке минимально необходимого уровня затрат и максимизации прибыли для самой компании.*

Было определено, что основой формирования логистического обслуживания клиентов является их сегментация или дифференциация. Классическим логистическим подходом к дифференциации клиентов можно считать их разделение посредством ABC-XYZ анализа. При этом ABC анализ обычно проводят на основе доходов, приносимых клиентами за определенный период времени, XYZ анализ проводят на основе постоянства взаимоотношений с клиентом, то есть по количеству заказов, размещенных клиентом, за тот же период времени.

Предложен собственный взгляд на непосредственный процесс разделения клиентов на группы A, B и C, в основе которого лежит расчет «скачка удельного веса» доходов клиентов. Преимуществом предлагаемого подхода является то, что клиенты со сравнительно одинаковой важностью для компании не могут попасть в разные категории, а клиенты с очень разными значениями важности для компании не могут попасть в одну категорию.

Также был предложен еще один подход к дифференциации клиентов, основанный на доходности клиентов, и даны рекомендации по обслуживанию каждой полученной группы клиентов.

Таким образом, правильная сегментация клиентов и оценка потенциала каждого сегмента позволят построить несколько разных стратегий обслуживания, направленных на увеличение прибыли компании.

Ключевые слова: логистическое обслуживание, сегментация клиентов, логистический подход к сегментации клиентов.

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Introduction. In today's highly competitive market, the activities of companies completely depend on their customers. The latest approach to the construction of the main and supporting processes in companies assumes their client orientation. The rapid development of marketing and logistics, the active implementation of logistics concepts in the activities of companies contributed to the establishment of the idea that the process of satisfying demand in a more flexible and reliable way, which is based on the management of the consumer value chain for a specific client, can be a decisive factor for achieving success in the market. Such an approach is able to create clear opportunities for differentiation of a standard in all other products and to modernize the company's offer to meet the individual requirements of the client.

It is quite obvious that different consumers want to buy different goods and receive a different set of services. In order to satisfy these different needs, companies seek to identify groups of consumers with similar needs. Consumer segmentation consists in dividing them into relatively clear groups that need certain services and for which certain service strategies must be used. Segmentation is based on the analysis of customer characteristics. Almost all modern enterprises create a customer database, which makes it possible to structure markets and find consumers for a specific product or service offer. Classic marketing offers geographic or demographic segmentation, segmentation by gender and age, sometimes psychographic segmentation is used, etc. [1, 3, 7].

In practice, the most common segmentation of clients is by the number and volume of services consumed by the client. For example, software providers divide customers according to the frequency of acquisition of new versions of the software product and licenses; banks - by the number of banking products used by one client; automobile companies divide customers according to the frequency of visits to branded service stations; the key parameter of client segmentation in an advertising agency is the client's annual advertising budget, etc. [2, 5, 8].

Problem statement (formulation of research purposes). However, existing marketing approaches to segmentation answer the question of product demand, but do not identify important customers. To determine the most attractive customers for the company, it is necessary to approach this issue in a different way.

Here it is appropriate to mention the well-known Pareto law (the 80:20 law), which in the context under consideration will look like this: 20% of customers bring the company 80% of the profit, and 80% of the customers bring the company only 20% of the profit. However, this does not mean that the last group of consumers should be completely abandoned. Although a more detailed analysis may reveal such a group of customers with whom further cooperation is undesirable.

The purpose of this article is to study the specifics of logistics service for the company's customers and develop recommendations for applying a logistics approach to the segmentation of the company's customers, which will give it the opportunity to obtain maximum profit while minimizing costs.

The main material and results of the research. Digitization of social life, availability of the Internet, social networks, etc. gives potential customers the opportunity to quickly compare the offers of several companies and choose the one that offers the best conditions in terms of price, quality and list of services. It is not surprising that companies are trying to improve these indicators: they constantly expand their product range, introduce additional services, conduct customer satisfaction surveys, and also try to lower prices or offer certain discounts.

However, sooner or later almost all companies that have followed this path face a new problem: the costs of customer service are increasing, and the revenues from them

are constantly decreasing. As a result, companies begin to work on the edge of profitability, and some even work at a loss. And this despite the fact that the number of customers is constantly growing, as are growing the sales volumes.

Such companies are most in need of a logistical approach to customer service. After all, it is known that the logistics approach is based on minimizing (or optimizing) costs and maximizing the profit of companies. From the point of view of logistics, the main question that the company must answer should be the following: "Should all customers be provided with high-quality service, expand the list of services and offer discounts?". It is quite obvious that different customers have different requirements for the quality of service, the set of services and the cost of these services. Therefore, the customer service process should be approached differently.

Thus, the logistics approach to customer service (or logistics service) should be considered as an integral part of the service process, which makes it possible to ensure the necessary level of the customers' needs satisfaction, while providing the minimum necessary level of costs and maximizing profit for the company [based on 3, 4].

The formation of logistics service for the company's customers should take place according to the following stages (Fig. 1).

According to the given algorithm, the formation of logistics customer service begins with their segmentation or differentiation. That's why segmentation is a basis for the formation of logistics services.

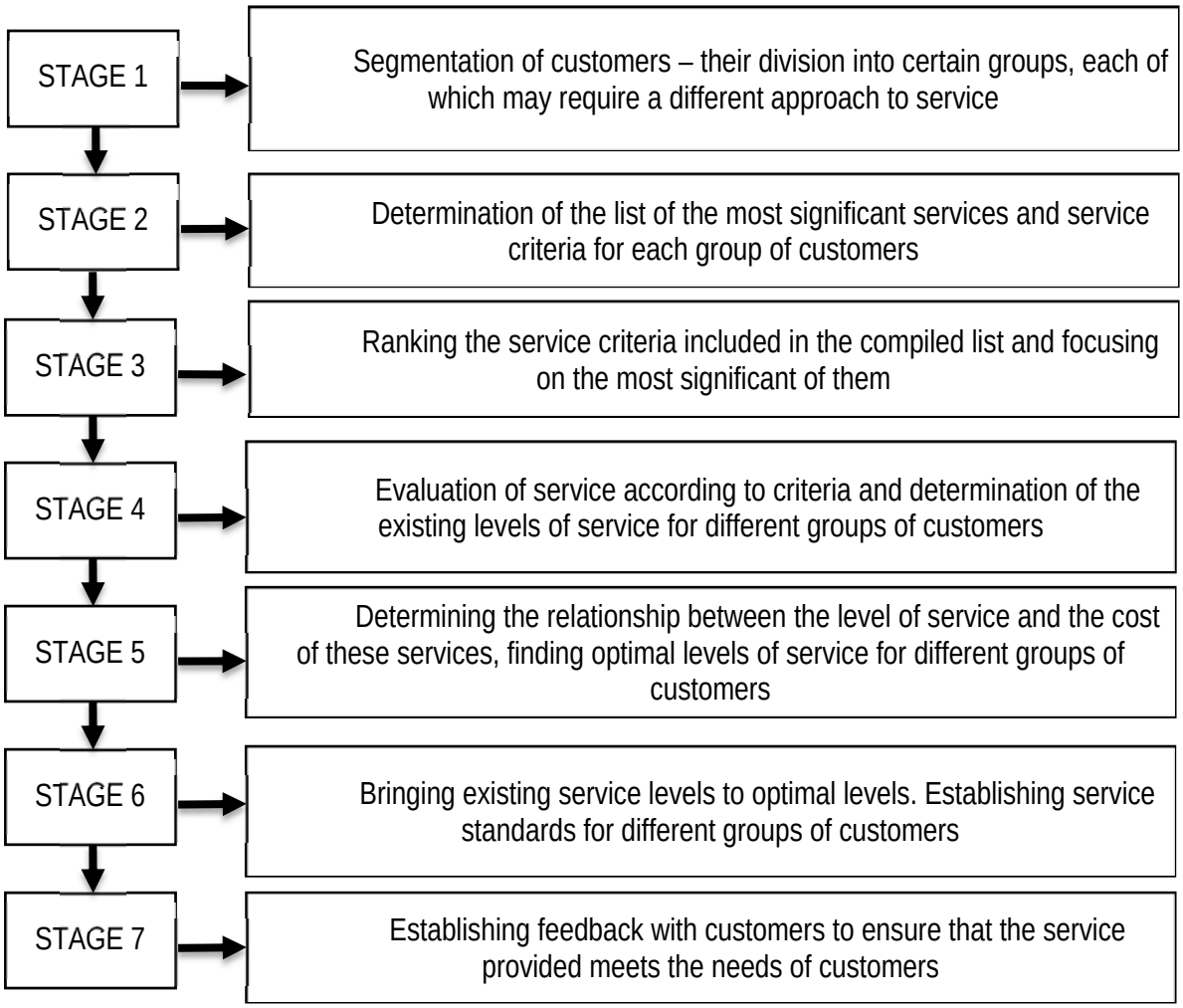

Figure 1 – Stages of formation of logistics customer service [based on 4]

A classic logistic approach to customer differentiation can be considered their segmentation using ABC-XYZ analysis. At the same time, ABC analysis is usually carried out based on the income brought by clients for a certain period of time, XYZ analysis is carried out according to the stability of relations with the client, that is, according to the number of orders placed by the client during the same period of time. This segmentation is considered in detail in the work [5, p.136-137].

ABC analysis is usually performed as follows:

1. The total amount of the company's revenue from all customers for a certain period of time is calculated.

2. The share (or specific weight) of each client in the company's total revenue is calculated.

3. Clients are sorted in order of decreasing their share in revenue.

4. The cumulative share for all the company's customers is calculated, on the basis of which the direct division into categories takes place:

– group A includes customers of the ordered list, which in total bring up to 80% of revenue. Ideally, it should be 20% of customers by number;

– group B includes the following clients of the ordered list, which in total bring 15% of revenue. Usually, 30% of the total number of customers should fall into group B;

– group C includes all other clients, which in total bring about 5% of revenue. Ideally, it should be 50% of the total number of customers.

However, as practical calculations show, the specified percentage ratio is very rarely observed in reality. We usually have situations where "up to 80% of revenue" comes from more than 50% of customers. And to assign them all to group A is not correct, neither from the point of view of logic, nor from the point of view of further cost optimization. After all, customers of group A must really be very important for the company and bring the lion's share of revenue. According to the above division, clients with completely different share in the company's revenues can fall into group A.

That is why we offer our own view on the direct process of dividing customers into groups A, B and C. The basis of our vision regarding the division of customers into categories is the calculation of the "jump of share", i.e. the difference between the specific weights of the previous and the next customer, according to the ordered list.

Thus, item 4 of the ABC analysis algorithm is proposed to be carried out as follows:

4. The jump in the specific weight of customers is calculated as the difference between the share of the previous and the next customer, according to the ordered list. "0" is placed opposite the last client, because he does not have the next customer. The values of the obtained jumps are compared and found the largest among all. It is proposed to divide clients into groups A, B and C as follows:

– group A includes customers of the ordered list, starting from the most profitable to the first maximum (or large) value of the jump of share, inclusive. At the same time, it should be remembered that group A should have the smallest number of customers;

– group B includes the following customers of the ordered list up to the second maximum (or large) value of the jump of share, inclusive. It is desirable that group B is larger than group A in terms of the number of customers;

– group C includes those customers who remained at the bottom of the ordered list. Usually, group C will have the largest number of customers.

It should be note that customers with relatively similar specific weights cannot fall into different categories, and customers with very different specific weight values cannot be in the same category.

Another feature of the proposed approach is that there may be more than 2 "big jumps of share ". Therefore, the division of customers may not be into 3 groups: A, B and C, but even more: A, B, C, D, E, etc. This approach really allows to group more or less

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the same customers in terms of importance for the company. Therefore, in the future, it will be possible to offer them the most suitable service conditions.

The main thing to remember is that an increase in the number of customer groups will lead to an increase in possible strategies for working with them, and therefore to an increase in costs. Therefore, when dividing customers into more than 3 groups, it is important to find a compromise between the desire for better service differentiation and possible additional costs.

We suggest leaving the approach to division into XYZ groups unchanged. Usually XYZ is conducted taking into account the stability of the relationship with a certain customers:

– group X includes customers whose relationships are stable and easily predictable (0% < v ≤ 10%);

– group Y includes customers with whom relationships have certain fluctuations (10% < v ≤ 25%);

– group Z includes customers with whom relationships are random

(v > 25%).

Where v is the coefficient of variation of relationships with certain customers, which is calculated according to the formula [5]:

$$\nu = \frac{\sqrt{\sum_{i=1}^{n} (x_i - \bar{x})^2}}{\bar{x}} \times 100\%, \quad (1)$$

where x_i – the number of transactions with a certain customer in the $i\text{-}th$ period; $\bar{x}$ – the average number of transactions with a certain customer over all periods; n – number of periods.

The ABC-XYZ matrix of the analysis will look slightly different as a result (Fig. 2). As for the existing recommendations on the matrix (see [5, p.137]), they should be supplemented with the following:

Customers included in groups AX, AY and AZ are the clients who bring the company the most revenue. These customers should be served at the highest level, develop individualized service programs, provide discounts and try to win their loyalty. For the customers of AZ group, it is necessary to identify the causes of such excessive fluctuations in product consumption and create all the conditions for its stabilization.

Customers who fall into groups BX, BY, BZ, CX, CY and CZ bring average revenue for the company. Their servicing should be carried out using additional services and create conditions for increasing income from them. For customers of the BZ and CZ groups, it is also necessary to identify the causes of excessive fluctuations in product consumption and trying to eliminate them. But, unlike customers of category A, it is necessary to control that these additional measures are not unprofitable for the company.

Customers of groups DX, DY, DZ, EX, EY and EZ are the clients that bring the least revenue. It is necessary to minimize the costs of their servicing and to provide only the minimum necessary list of services at the minimum price. Discounts and loyalty programs should not be provided for these customers. Exceptions can be made only for customers of DX and EX groups, who can become a source of "word of mouth" and therefore indirectly be useful for the company. For customers of categories DZ and EZ, it is necessary to constantly monitor the costs of their service. And if expenses exceed income, company should refuse to cooperate with them, especially this applies to clients of the EZ group.

	A	B	C	D	E
X	The highest revenue from customers / High stability of relations	High revenue from customers / High stability of relations	Average revenue from customers / High stability of relations	Low revenue from customers / High stability of relations	The lowest revenue from customers / High stability of relations
Y	The highest revenue from customers / Average stability of relations	High revenue from customers / Average stability of relations	Average revenue from customers / Average stability of relations	Low revenue from customers / Average stability of relations	The lowest revenue from customers / Average stability of relations
Z	The highest revenue from customers / Low stability of relations	High revenue from customers / Low stability of relations	Average revenue from customers / Low stability of relations	Low revenue from customers / Low stability of relations	The lowest revenue from customers / Low stability of relations

Figure 2 – Matrix ABC-XYZ analysis of the company's customers

In general, customers of group A should be served first, customers of group B second, then customers of groups C and D, and customers of group E (especially EZ clients) should be served last (on a residual basis).

It should also be noted that the use of only ABC-XYZ analysis for customer segmentation turned out to be somewhat limited, because it only takes into account the revenue from customers and does not take into account the costs of their service. The first attempts to find certain dependencies between these categories were made in works [1] and [5, c.138-139].

However, the practical implementation of these approaches turned out to be somewhat complicated, due to the lack of a clear boundary between "low costs" and "high costs", as well as "low sales volumes" and "high sales volumes".

In addition, as calculations carried out at specific enterprises showed, sometimes customers with "high sales volumes" and "high costs" became the most profitable customers, and therefore it would be logical to assign them to the category "Save", and not to the "Cost engineer" category.

Thus, we proposed a different approach to customer differentiation, based on customer profitability [6].

Unfortunately, to date, there is no approved methodology for calculating the profitability of each customer of the company. That is why we offer our own vision of solving this issue, which can become the basis for further development of the specified methodology.

So, our proposals are based on the traditional method of calculating operating profit, which is equal to the difference between revenue and expenses. The revenue that the company receives from each customer for a certain period of time is a known value, which we have already used above when conducting ABC analysis.

As for expenses, the first stage should be the allocation of such component costs that directly affect the process of customer service. As an example, we suggest considering two components of costs that are present in any company, and which can be easily isolated from financial statements:

1. Salary expenses of personnel who directly participate in customer service.

2. Costs of communication with customers: telephone calls, advertising mailings, negotiation costs for concluding contracts (they can be converted into a monetary equivalent due to the cost of 1 employee's labor time), etc.

The second stage is the division of the specified costs for each customer separately.

1. Salary expenses. Division of these costs per 1 client can occur in two ways:

– if in the company there is no binding of a specific employee to the service of specific customers (that is, the employees serve all customers, regardless of their order),

then the salary expenses of the staff should be divided evenly to all customers. To do this, it is necessary to divide the total salary for the studied period by the total number of clients served;

– if in the company there is a connection of a specific employee to the service of specific clients (by types of clients, by types of services, by regions of service, etc.), then the salary of each employee should be divided evenly among all clients he serves.

Thus, revenue from customers should at least compensate for salary expenses of employees.

2. Costs of communication. We propose to calculate the costs of communication with each customer depending on the number of orders as follows:

– it is necessary to calculate the total number of orders from customers (for the entire period for all customers);

– it is necessary to determine the cost of 1 order (divide the total costs of communications for the considered period by their total number);

– it is necessary to determine the total number of orders for each customer for the considered period;

– it is necessary to multiply the total number of orders from each customer for the considered period by the cost of 1 order.

Of course, with this approach there is an assumption that every customer contact necessarily becomes an order from the customer. In real life, this is not always the case, because there may be several previous contacts before a direct order. In addition, customer contacts may not become an order at all. These factors can be taken into account by introducing certain coefficients.

The total costs of servicing 1 client in result consist of the salary expenses of staff who served clients, calculated per 1 client and the costs of communication with him.

As a result, the profitability of each customer is defined as the difference between the revenue that the customer brought for the considered period and the total costs of his service for the same period.

Next, it is necessary to rank customers in order of decreasing profitability (from the highest to the lowest). Based on this ranking, we propose to distinguish three categories of customers:

– profitable customers – clients who, according to calculations, are currently making a profit (profit > 0);

– contingently profitable customers – clients who are currently unprofitable, but under certain conditions (a slight decrease in service costs or an increase in revenue from them) can become profitable (profit ≤ 0);

– unprofitable customers – clients who, according to calculations, currently bring a significant loss to the company (profit << 0).

The main question that will arise after calculating the profitability of customers will be "What to do with unprofitable customers?" Of course, no company wants to lose existing customers. Although, as research and calculations have shown, sometimes up to 50% of the company's customers are unprofitable. Usually, the management of the company does not see these unprofitable customers, because the most profitable ones can cover their losses. In this case, profitable clients act as "sponsors" for servicing unprofitable clients.

Therefore, first of all, it is necessary to answer the question: "Are unprofitable customers strategically important for the company?" Strategically important can be customers who create the image of the company, important for the company due to its own interests, or customers with whom cooperation has just begun and which may become profitable in the future. But, if the unprofitable customers identified do not belong to the "strategically important" category, the company should seriously consider the feasibility of further cooperation with them. After all, these customers are so-called "resource killers" and simply refusing to cooperate with them can bring more profit to the company than providing them with services.

Of course, the proposed method is easier to apply in B2B relations, that is, when the company's customers are not end consumers, but a certain business environment of the company. In this case, the number of customers is usually not as large as in B2C relationships (when the number of clients can be millions), the relationship is more or less permanent in nature, they can be analyzed over time, and a constructive dialogue can be established with clients. However, with some adaptation, the proposed method can be used in B2C relations, when customers are the end consumers of products or services. Especially when today almost all companies implement electronic databases in their activities, which provide reliable information about what the customers buy, how often, which promotions they don't respond to, etc. As a result, such data is a powerful tool for personalizing customer service, and therefore the application of a logistics approach.

Conclusions. The correct segmentation of customers and assessment of the potential of each segment allows building several different service strategies aimed at increasing profits due to:

focusing attention on existing customers instead of trying to attract new ones (because the costs of servicing new customers are usually much higher than servicing existing customers);

retention of "profitable" customers and reduction of costs for "unprofitable" ones (for example, a reduction in advertising aimed at a "non-profitable" group of consumers);

development of specialized offers for each group of customers, based on the volume of sales to this group, costs for its servicing and production of goods and services for it;

introduction of an effective policy of interaction with consumers, which implies a clear understanding of which consumers the company intends to retain and how it can do it;

implementation of CRM (Customer Relationship Management) system for managing interaction with the consumer;

strengthening the training of personnel directly in contact with the client.

Thus, by classifying their customers, companies will have the opportunity to offer a more individualized package of products with accompanying and additional services, make a more correct choice regarding the need for customer retention, minimize the possibility of error and increase their profitability.

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