

# Real Estate Market: TDABC Costing Method Application to Analyze Profitability by Customer Segment

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**Abstract:** Customer Profitability Analysis (CPA) combined with the costing method Time-Driven Activity-Based Costing (TDABC) can be key methods to assist companies in making decisions. This study applied the TDABC costing method to estimate the profitability by customer segment in a real estate rental sector. New rentals were identified as no profitable but required to compensate the investment in a new rental. With the results of the profitability analysis, it was possible to generate information that subsidized improvement actions, such as customer prospecting process restructuring and preventive inspection activities creation. Therefore, from Stobachoff's profitability curve, it was possible to identify a level of vulnerability regarding the high level of subsidy in the rental sector.

**Key words:** real state market; customer profitability analysis; time-driven activity based costing; cumulative profitability curve

**JEL code:** M100

## 1. Introduction

The competitive environment existing in the service sector makes it necessary to implement an adequate costing system to improve decision-making and increase the profitability of a company (Hajiha, Alishah, 2011). The cost of providing a service is determined by the customer's behavior (Dalci, Tanis, Kosan, 2010). Since the complexity of the services provided and their costs are directly linked to the types of customers, it is in them that the effort spent for continuous improvement must be concentrated (Rodrigues et al., 2016).

According to Kotler (1998), attracting new customers costs between 5 to 7 times more than retaining the existing ones. Thus, it is important to identify the cost of serving each type of customer and, subsequently, their profitability (Dalci, Tanis, Kosan, 2010). This profitability analysis cooperates so that companies preserve profitable customers and make decisions related to pricing, introduction and discontinuation of services that are strategic for business competitiveness (Raaij, Vernooij, Triest, 2003).

The Time-Driven Activity-Based Costing (TDABC) costing method, proposed by Kaplan and Anderson (2007), allows a company's management to have a more objective and consolidated control of its cost structure. According to Szychta (2010), through the data generated by the aforementioned costing method, it is possible to

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perform profitability analyzes of the products offered, as well as customers, groups of customers and markets.

Cotton (2005) and Cooper and Kaplan (1991) suggest that understanding how customers' relationships differ in profitability, allows managers to make better decisions. According to Dalci, Tanis and Kosan (2010), the analysis of customer profitability (CPA) implies the allocation of revenues and costs to specific customers, so that the profitability of customers can be calculated. Therefore, the successful implementation of CPA to maintain profitable relationships with current customers is essential for service companies. In addition, Cotton (2005) states that the effective use of CPA allows service companies to increase customer satisfaction and increase profitability.

Even with such importance of information on the profitability in each customer segment and the contribution that the TDABC tool added to this analysis, many companies still do not know the cost impact of their different types of customers in detail, which is the case of the company focus of this study. Currently, the company uses only cost accounting information per cost center. Thus, the absence of such information may end up influencing, in the strategic sphere, the investment of time in activities and customers that add no or little value, and even in the discount policy.

In a case study by Dalci, Tanis and Kosan (2010), which aims to show the implementation of CPA using TDABC in a Turkish hotel, it is possible to identify the benefits of applying the tools. With the results obtained, hotel managers, in being able to better distinguish profitable from non-profit clients, can implement different promotional programs or campaigns. An application example was the attraction of low-profit customer groups during times of low demand. In addition, after obtaining the results of the analysis, the hotel management was able to better determine the customer mix that will generate the highest returns in the future.

Another example of applying CPA and TDABC to maximize results is the study by Rodrigues et al. (2016), which realized that there was a cost of unused capacity representing 52% of the total costs of the Maintenance Outsourcing Service of a fleet management company. In addition, it was possible to identify that 25% of customers are responsible for 80% of total profitability. The study brought important inputs to assist management in making decisions about future price negotiations, such as which activities have the highest costs and how customers consume each activity.

This study aims to identify opportunities to optimize profitability by customer segment of a small real estate company. As secondary objectives, we have: (i) to analyze the real estate costs per activity; and (ii) suggest improvements for the services provided.

## **2. Methods**

This article is characterized as a research of an applied nature, since it seeks to acquire knowledge to apply it in the solution of specific problems. As it aims to analyze the profitability of a company through the implementation of a costing method, the research is characterized, in terms of procedures, as an action research.

The customer profitability analysis, also known as Customer Profitability Analysis (CPA), refers to the allocation of revenues and costs to different customer segments, so that the profitability of these customers can be calculated (Raaij, Vernooij, Triest, 2003). The benefits of CPA are in the insights it provides in the uneven distribution of customer costs and revenues. These insights, as specific customers consume the company's resources, generate opportunities for the company in three important areas: cost management, revenue management and strategic marketing management (Raaij, Vernooij, Triest, 2003). To protect against this level of vulnerability in a company's customer base, Raaij, Vernooij and Triest (2003) suggest a six-step approach to

implementing CPA, described in Figure 1. This approach is the methodological basis used in the application of this study.

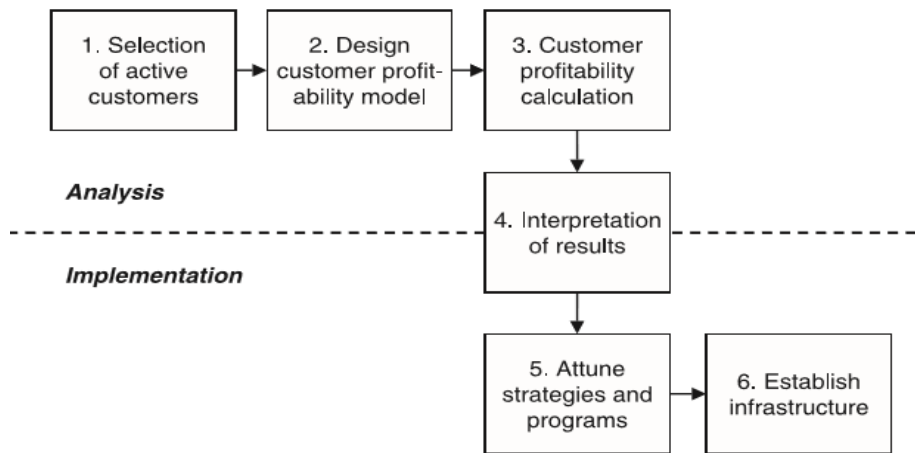


Figure 1 A general Approach To Implementing CPA (Raaij, Vernooij e Triest, 2003)

The first step refers to the identification of the company’s active clients, through historical cost and revenue data, which were obtained in interviews and reports shared by the real estate managers. Emphasizing that, in the present study, active customers are those of whom have at least one property rented during the study period, be it an old rent or a new rent.

Then, the second step begins, which concerns the layout of the customer's profitability model. For that, the definition of which costing method used to calculate the CPA is a decision of great importance (Azevedo et al., 2016). Through the application of the TDABC it is possible to establish priorities in terms of process improvement, product mix and pricing, as well as customer relations. The TDABC is based on two variables: cost and time. This first is calculated according to how much each resource spends on an activity per unit of time. The second, on the other hand, refers to the time to perform such activity (Kaplan, Anderson, 2004). In Figure 2, it is possible to identify steps for applying the TDABC method.

Phase	I. Preparation	II. Analysis	III. Pilot Model	IV. Rollout
Purpose	Develop a game plan and team for the TDABC study	Gather data and conduct department interviews	Build TDABC model template and validate	Roll out template and customize across organization
Actions	<ul style="list-style-type: none"> <li>Formulate game plan</li> <li>Develop model structure</li> <li>Estimate project cost</li> <li>Determine data requirements and availability</li> <li>Select team composition</li> </ul>	<ul style="list-style-type: none"> <li>Perform time studies</li> <li>Estimate time equations and capacity cost rates</li> <li>Finalize data requirements</li> <li>Finalize pilot model</li> </ul>	<ul style="list-style-type: none"> <li>Embed time equations into software</li> <li>Import cost object data</li> <li>Run model</li> <li>Validate model</li> </ul>	<ul style="list-style-type: none"> <li>Develop rollout schedule</li> <li>Educate facility team members</li> <li>Gather data and build model by facility</li> <li>Review findings with facility management and ABC steering committee</li> </ul>

Figure 2 TDABC Method Implementation (Kaplan e Anderson, 2007)

To start implementing the chosen costing method, it is essential to map and calculate the total costs of operating the rental sector, as well as the practical capacity of the department, that is, how much of the installed capacity is actually used. Thus, it is possible to calculate the unit cost according to Eq. (1):

$$\text{Cost Capacity rate (CCR)} = \frac{\text{Capacity cost (currency-\$)}}{\text{Practical capacity (unit of time)}} \quad (1)$$

Then, the map the structure should be done, the departments and their respective activities within the company. Accordingly, the following segments of customers in the rental sector were defined: (i) individual lessee and (ii) corporate lessee, with the lessee being the owner of the property. In addition, the types of commercial interactions between customer segments and the company under study were defined as: (a) new rentals, (b) old rentals with interaction and (c) old rentals with no interaction. Being the new rental properties the ones where were recently rented under the administration of the real estate company, the old interactive rentals are properties that were already being rented and had some type of interaction with the real estate company related to their maintenance, as a support to an eventual electrical problem. Finally, the old rentals without interaction are properties that were already being rented and did not need to have any type of interaction with the real estate company during the period under study.

Then, applying the classifications described above, the activities performed by the company's rental sector must be identified, as well as the items that drive the costs of these activities. That is, if the activity is registering the property in the tool, in this way, the driver may be the number of entries made during the period under study. With this, it will be possible to assign the costs to the activities according to the factor that drives and quantifies their occurrence in the operation of the rental sector.

With the activities and their respective drivers mapped, it is possible to structure and calculate the time equations for each activity in the rental sector. For this, the Cost Capacity rate was multiplied by the average time spent in each activity, resulting in the cost per activity. In interviews with the management of the company under study, the number of repetitions of each activity in the period under study was also mapped. From this amount, it was possible to produce the product at the cost of each activity, and thus arrive at the total cost.

The revenues were obtained through internal reports shared by the management of the sector under study. In addition, the properties contained in these reports were also classified according to the customer segment and the type of interaction, in order to have greater compatibility when crossing the data. It is also important to comment that the financial cost and revenue data used in the present work were modified through a confidential factor, in order to preserve the company's information.

In the third step of the CPA, with the data already collected, profitability calculations are made for each customer segment, we can describe it according to Eq. (2).

$$\text{Profit} = \text{Revenue} - \text{Cost} \quad (2)$$

Once the profitability is found, in step four of the CPA, the results obtained are interpreted. One way to analyze customer profitability data is to analyze the profitability distribution, introduced by Storbacka (1998) and called the Stobachoff's curve. First, customer segments are ranked from highest to lowest on the horizontal axis and accumulated profits are plotted on the vertical axis. The shape of the curve provides important information about the vulnerability of the customer base, such as the level of subsidy and the level of dependence.

In this method, vulnerability is essentially determined by two factors: dependency and subsidy. The factor called dependency shows whether the profitability of the company under study is conditioned by the profitability of a few or many customers, that is, the greater the level of dependence, the less profitability is concentrated in

fewer customers. The subsidy, on the other hand, refers to how much customers who have positive profitability end up offsetting the existing negative profitability of other customers.

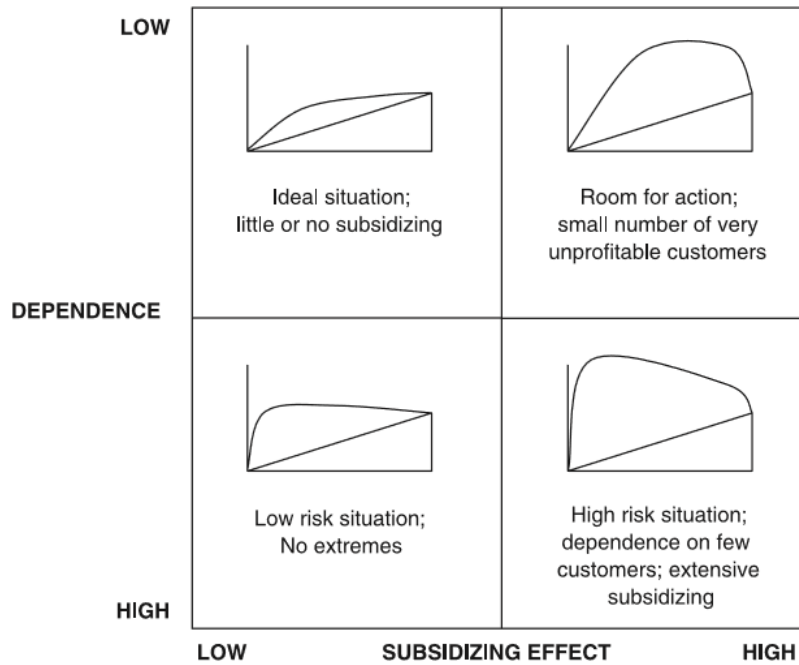


Figure 3 Possible Profitability Distribution Curve Scenarios (Storbacka, 1998, *apud* Raaij, Vernooij e Triest, 2003)

The area below the curve in the graph indicates that some profitable customers subsidize those that are not profitable, that is, the larger this area, the greater the subsidy. The level of dependence refers to the company's profitable customer segments, so the lower this number, the greater the company's dependence on these customers. Based on this result, it will be possible to identify opportunities for improvements and increased profitability in each activity and, consequently, in the operation of the company as a whole, aiming at increasing the profit rate and the competitiveness rate of the company under study.

Then, through the analyzes carried out, the fifth step concerns suggestions for improvement built by the author in order to present to the managers of the company, involving the cost management and Customer Relationship Management (CRM) strategies. Finally, in the sixth step, the necessary infrastructure and consultancy is structured so that the CPA is continuously executed and controlled by the company, in order to maintain a high analytical level in relation to the profitability of its customers.

### 3. Case Study

Initially, as a first step of the CPA, active customers were identified, using as a criterion properties with a rental contract signed before or during the study period. Then, in order to apply the TDABC methodology, it is necessary to define the Cost Capacity rate (CCR). For this, the cost items of the rental sector were consolidated, using the monthly costs proportional to the structure of sector employees, as shown in Table 1.

Installed capacity was determined by the number of employees in the rental sector, the number of working days in the month and the total hours worked per day, as shown in Table 2. As proposed by Kaplan and Anderson (2004), for practical capacity the criterion of 80% of installed capacity was used.

**Table 1 Distribution of Costs for the Rental Sector**

Cost Item	Cost
Auxiliary salaries	R\$ 3.600,00
Manager salaries	R\$ 6.000,00
Insurance	R\$ 133,33
Cleaning	R\$ 240,00
Security	R\$ 80,00
Electricity	R\$ 400,00
Office Supplies	R\$ 533,33
Telecommunication	R\$ 400,00
Uniforms	R\$ 100,00
<b>Total</b>	<b>R\$ 11.486,67</b>

**Table 2 Practical Capacity Calculation**

Sector	Number of employees	Work days	Minutes from work per day	Capacity installed (min)	Practical Capability (min)
Rental	4	22	528	46.464	37.171

With the sector capacity costs defined, as well as the practical capacity found, it is possible to arrive at the value of the Cost Capacity rate, also called CCR, applying Eq. (3).

$$\text{Cost Capacity rate (CCR)} = \frac{\text{R\$ } 11.486,67}{37.171 \text{ minutes}} = \text{R\$ } 0.31 \text{ per minute} \quad (3)$$

Then, the activities of the rental sector were mapped, classifying them according to the type of interaction with customers, as shown in Table 3.

**Table 3 Company’s Interaction Types Description**

Types of commercial interactions	Description
(a) New rentals	Properties rented during the study period under the real estate management
(b) Old rentals with interaction	Properties that were already being rented before the period under study and that needed to contact the real estate company to resolve issues related to their maintenance.
(c) Old rentals with no interaction	Properties that were also already being rented before the period under study, but that did not need to have any type of support interaction with the real estate company.

For the classification (b) old rentals with interaction, it was informed by the company’s managers that this category represents 10% of the total active rentals in the period under study. In addition, the study of times by activity was carried out, through interviews with managers, in order to estimate time equations, which are composed of the average time to perform each activity and the number of times it was performed during the study period, according to Table 4.

In order to calculate the cost per activity, the product was made between the average time and the Cost Capacity rate, as an example of the activity “Go to the field to prospect customers” described below by Eq. (4).

$$\text{Cost per activity (Go to the field to prospect customers)} = 264 \text{ min} * \text{R\$ } 0,31 / \text{min} = \text{R\$ } 81,58 \quad (4)$$

After that, the quantitative (#) was estimated, that is, the frequency of occurrence of each activity in the period of the two months in order to arrive at the total costs (Table 5). For this, the cost per activity was multiplied by the quantity (#).

**Table 4 Activities and Drivers Definition**

	Activities	Types of commercial interactions	Average Time (min.)	Time equation
1	Go to the field to prospect customers	(a) New rentals	264	264*# of exits
2	Register the property in the internal tool	(a) New rentals	10	10*# of entries
3	Contact with customer to understand needs	(a) New rentals	20	20*# of calls
4	Search the internal tool to find properties with the characteristics desired by the customer	(a) New rentals	5	5*# of searches
5	Send property proposals to client	(a) New rentals	10	10*# of calls
6	Schedule visits at a time compatible with customers	(a) New rentals	30	30*# of calls
7	Visit the property	(a) New rentals	60	60*# de visits
8	Send negotiation proposal to the client	(a) New rentals	15	15*# of calls
9	Contracts and records (legal procedures)	(a) New rentals	120	120*# of contracts
10	Update internal tool	(a) New rentals	5	5*# of updates
11	Lessee contacts real estate to report need for support	(b) Old rentals with interaction	10	10*# of calls
12	Real estate gets in touch with technician to schedule visit	(b) Old rentals with interaction	10	10*# of calls
13	Visit the property to make a budget	(b) Old rentals with interaction	20	20*# de visits
14	Sending quote to landlord	(b) Old rentals with interaction	5	5*# of calls
16	Collection of rental management fee	(c) Old rentals with no interaction	5	5*# of collections

**Table 5 Total Costs Per Activity**

	Activities	Types of commercial interactions	Cust per activity	#	Total cost
1	Go to the field to prospect customers	(a) New rentals	R\$ 81,58	8	R\$ 652,65
2	Register the property in the internal tool	(a) New rentals	R\$ 3,09	10	R\$ 30,90
3	Contact with customer to understand needs	(a) New rentals	R\$ 6,18	80	R\$ 494,43
4	Search the internal tool to find properties with the characteristics desired by the customer	(a) New rentals	R\$ 1,55	80	R\$ 123,61
5	Send property proposals to client	(a) New rentals	R\$ 3,09	30	R\$ 92,71
6	Schedule visits at a time compatible with customers	(a) New rentals	R\$ 9,27	60	R\$ 556,24
7	Visit the property	(a) New rentals	R\$ 18,54	30	R\$ 556,4
8	Send negotiation proposal to the client	(a) New rentals	R\$ 4,64	60	R\$ 278,12
9	Contracts and records (legal procedures)	(a) New rentals	R\$ 37,08	30	R\$ 1.112,47
10	Update internal tool	(a) New rentals	R\$ 1,55	88	R\$ 135,97
11	Lessee contacts real estate to report need for support	(b) Old rentals with interaction	R\$ 3,09	32	R\$ 98,89
12	Real estate gets in touch with technician to schedule visit	(b) Old rentals with interaction	R\$ 3,09	32	R\$ 98,89
13	Visit the property to make a budget	(b) Old rentals with interaction	R\$ 6,18	32	R\$ 197,77
14	Sending quote to landlord	(b) Old rentals with interaction	R\$ 1,55	32	R\$ 49,44
16	Collection of rental management fee	(c) Old rentals with no interaction	R\$ 1,55	2	R\$ 3,09
Sub-total New rentals					R\$ 4.033,34
Sub-total Old rentals with interaction					R\$ 444,99
Sub-total Old rentals with no interaction					R\$ 3,09
Total					R\$ 4.481,42

Through the definition of total costs, it is possible to analyze the level of profitability of the customer segments of the real estate rental sector under study. For this purpose, the company's customer base was first consolidated for the period from January to February 2020. Of the 347 properties leased through the real estate company, 97% are made up of (i) individual lessee and only 3% by (ii) lessee legal entity, which highlights the company's focus customer segment. In addition, it is important to note that the lessee does not bring revenue to real estate directly, since the lessor pays the rental administration fee. However, for reasons of confidentiality, the real estate company decided to provide only the lessees' information.

As seen in Tables 4 and 5, each property was classified according to the types of interaction, so that it was possible to determine, in detail, the activities, time and costs involved in the company's operation. From these classifications, all 347 active properties in the rental sector were classified, resulting in the following composition: the majority of the properties (86%) had an interaction of type (c) old rentals without interaction, followed by (b) old rentals with interaction (11%) and, finally, (a) new rentals with 3%.

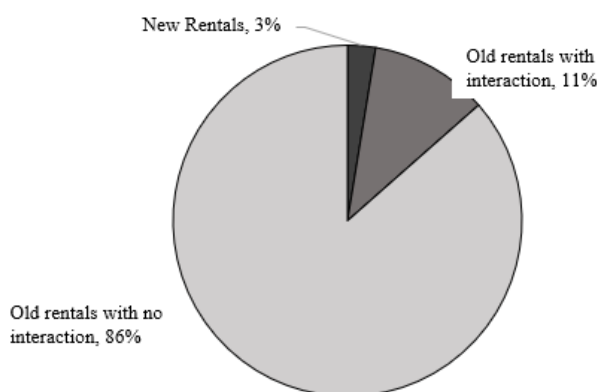


Figure 4 Composition of Properties by Type of Commercial Interaction

Based on the segmentation of customers, the classification of interactions, the calculated costs per activity and the mapped revenue, the financial profitability information was consolidated as well as the average profitability of the real estate rental sector (Table 6).

Table 6 Profitability by Customer Segment and Type of Interaction

	Properties	Revenue	Cost	Profitability	Average Profitability
Individual lessee	337	R\$ 140.666,40	R\$ 54.105,80	R\$ 86.560,60	R\$ 256,86
(a) New rentals	9	R\$ 886,10	R\$ 36.300,03	-R\$ 35.413,93	-R\$ 3.934,88
(b) Old rentals with interaction	38	R\$ 30.237,10	R\$ 16.909,61	R\$ 13.327,49	R\$ 350,72
(c) Old rentals with no interaction	290	R\$ 109.543,20	R\$ 896,16	R\$ 108.647,04	R\$ 374,64
Corporate lessee	10	R\$ 4.919,50	R\$ 30,90	R\$ 4.888,60	R\$ 488,86
(c) Old rentals with no interaction	10	R\$ 4.919,50	R\$ 30,90	R\$ 4.888,60	R\$ 488,86
Grand Total	347	R\$ 145.585,90	R\$ 54.136,70	R\$ 91.449,20	R\$ 263,54

When analyzing the results above, three main elements stand out. The first is the high cost involved in prospecting activities and obtaining new rental properties generates negative profitability. This is, therefore, an opportunity for the company to optimize its customer prospecting process, whether in the form of executing it, or better using the time spent, given that only 3% of the total active properties cause such an impact on the final financial result during the study period.



The second point of emphasis is the high revenue and low cost involved in (c) old rentals with no interaction, both for the customer segment (i) individual lessee, and for the customer segment (ii) corporate lessee. In this category, there is the largest number of properties (86%) and also the largest contribution of revenue. Finally, the third highlight is the impact of administrative interactions on the operating cost of the rental sector. It is in the company's interest to have as few interactions as possible with old rentals. Thus, an opportunity is identified to introduce survey activities on new rentals, in order to ascertain potential risks and, consequently, future maintenance costs.

To deepen the analysis, it is necessary to assess the composition of revenue and total costs involved in operating the rental sector under study through the customer segment and type of interaction. From Figure 4, it can be seen that the main source of income in the rental sector originates from the combination (i) individual lessee and (c) old rentals with no interaction, with 75% of the total income in the period analyzed. In addition, it is also the category with one of the smallest representativeness in the total cost (2%), unlike the category (i) individual lessee and (a) new rents, with a greater share in the total cost (67%) and less than revenue (2%).

Another relevant highlight is the combination of clients (i) individual lessee with (b) old rentals with interaction, which even though they contribute significantly to the total revenue (21%) also have an important part in the composition of the total costs (31%). Finally, it is worth noting the low degree of influence of the results of clients classified as (ii) corporate lessee, due to the reduced number of active properties with this profile — 3% of total properties.

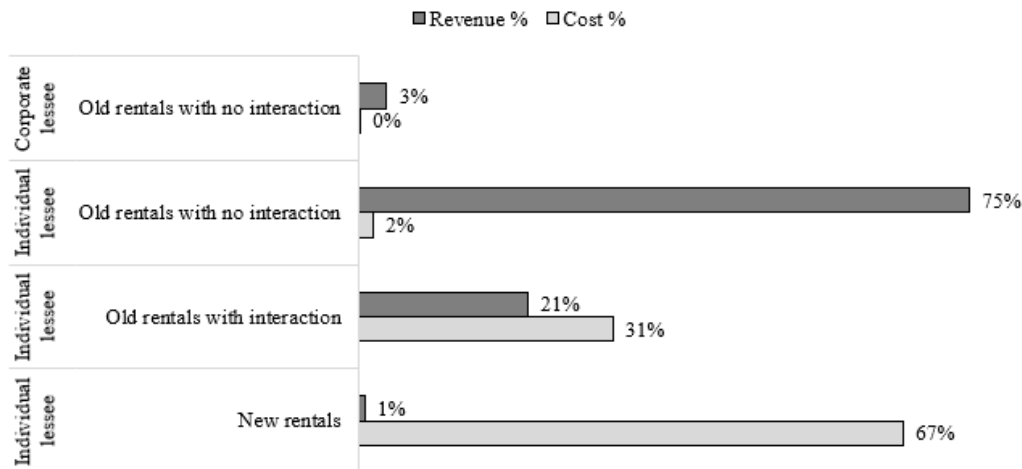


Figure 5 Composition of Company Revenue and Cost By Customer Segment and Type of Interaction

Following the CPA implementation approach, an important way of analyzing profitability data is through the Stobachoff's curve. Through the construction of the Stobachoff's curve, it is possible to visualize the distribution of accumulated profitability in relation to the total of active customers, so that the level of vulnerability of the company under study is verified in relation to its active customer base, as shown in Figure 5.

In the case of real estate, it is noticed that there is a high level of subsidy existing in the Stobachoff's curve, insofar as (a) new rentals, characterized by a negative profitability, are subsidized by the high profitability of (c) old rentals with no interaction. This phenomenon is represented by the sharp drop in accumulated profitability seen at the end of the curve in Figure 6.

On the other hand, the level of dependence identified is seen as low, as the income from active customers is

distributed in a non-concentrated manner, that is, the company’s profitability does not depend on the permanence of only a few properties in its active customer base. This characteristic is in line with the expected of the real estate rental sector, given the relatively low percentage (10% of the rental value) paid for each property rented, also known as management fee.

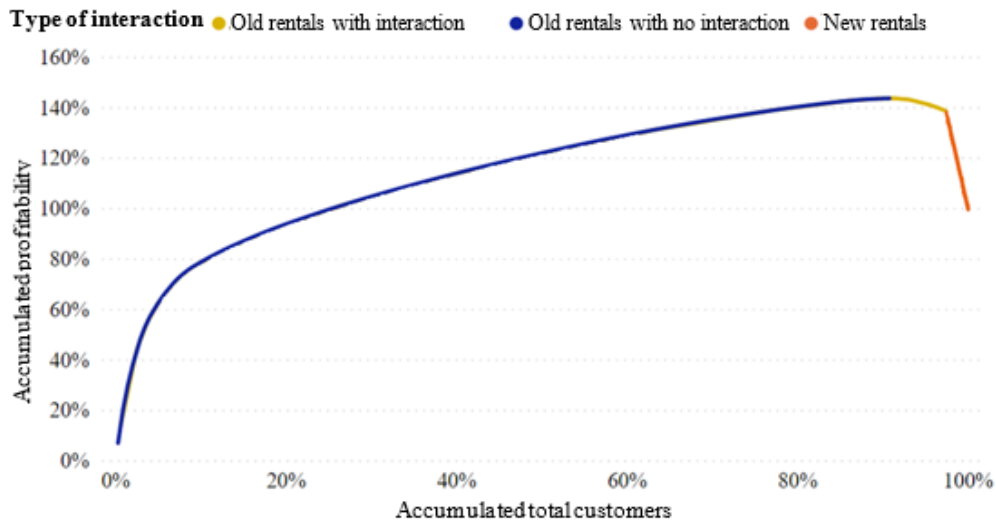


Figure 6 Profitability Distribution Curves by Real Estate Customer

When analyzing the Stobachoff’s curve, it is worth highlighting the negative impact of the profitability of customers classified as (a) new rentals. This impact, however, can be seen as a long-term investment by the real estate company, aiming to increase its client base. From this, a financial projection was made in order to assess the time necessary for this investment to be compensated. For this purpose, the average profitability of new rents and old rents was calculated, so that the future income of properties previously classified as (a) new rents was projected. Therefore, as can be seen in Table 7, the time for the investment cost to be offset is between the eleventh and twelfth bi-month.

Table 7 Return on Investment in New Rentals

Time (bi-month)	Average return on new rentals	Average return on old rentals	Cash flow
1	R\$ (3.934,88)		R\$ (3.934,88)
2		R\$ 375,33	R\$ (3.559,55)
3		R\$ 375,33	R\$ (3.184,21)
4		R\$ 375,33	R\$ (2.808,88)
5		R\$ 375,33	R\$ (2.433,54)
6		R\$ 375,33	R\$ (2.058,21)
7		R\$ 375,33	R\$ (1.682,87)
8		R\$ 375,33	R\$ (1.307,54)
9		R\$ 375,33	R\$ (932,20)
10		R\$ 375,33	R\$ (556,87)
11		R\$ 375,33	R\$ (181,53)
12		R\$ 375,33	R\$ 193,80
Total	R\$ (3.934,88)	R\$ 4.128,68	

Therefore, the cost of prospecting and obtaining (a) new rentals by the company under study would only be offset after a long period of recurring payments from these new customers. In the meantime, this cost is subsidized, essentially, by the positive balance and highly profitable by (c) old rents with no maintenance. On average, 11.5 old rentals will be needed to offset the investment spent on a new rental.

From this analysis, it appears that the profitability structure of the company's rental sector is stable and predictable, that is, the profitability base is dispersed among a high number of active customers without impacting operating or administrative costs — (c) old rents with no maintenance. On the other hand, in the bi-month period analyzed, only 3% of the total active clients are new to real estate and, even so, these represented 67% of the total cost calculated with a strong impact, as seen in Figure 6, on the analyzed profitability. This conclusion converges with the study already mentioned by Kotler (1998), in which the author points out that capturing new customers can cost between 5 to 7 times more than retaining old ones.

The insights described above made it possible to map and identify opportunities for improvement to be proposed to the management members of the company under study. These opportunities can be categorized in two ways: regarding the optimization of administrative processes and regarding the reassessment of the activities carried out.

Regarding process optimization, the main cost bottleneck identified was the activities involved in prospecting and obtaining new customers for the rental sector. These activities have a high amount of time spent, with emphasis on going out into the field to prospect new customers, representing the largest portion of the cost and time of the resources involved in this type of interaction. Therefore, it is proposed to create a digital marketing structure through a qualified and effective presence on social media, maintaining a continuous monitoring of performance indicators and future financial return.

In addition to this new digital structure, the leadership was also recommended to consolidate partnerships with small companies and self-employed professionals in the region, aiming to expand its reach and, thus, its customer base. In this way, customer prospecting activities in the field can become more assertive and, thus, more profitable. Among the potential members for this type of partnership, companies selling furniture and renovations stood out, so that the needs of customers on both sides are addressed and, through referrals and service promotions, the solutions provided become more advantageous.

Regarding the activities carried out, in order to reduce costs with interactions of old rented properties, it was proposed to add the activity of preventive surveys when registering new properties or renewing properties already registered in the active customer base. The survey would be carried out in partnership with general service providers, aiming not only to have a technical opinion on the condition of the property, but also to budget for possible repairs before the consolidation of a new rental.

Although this activity takes time and, consequently, considerable cost, it anticipates unexpected expenses through preventive measures, increasing the degree of predictability and, therefore, of controlling costs when carrying out interactions with the lessees of the properties. In addition, it is worth noting that this measure is expected to guarantee, in the long run, a reduction in costs for category (b) old rentals with interaction.

Finally, the leadership highlights the importance of monitoring the implementation of the proposed improvements in the financial results of customers, in order to verify the impact of these new activities on the profitability of the rental sector. For this, the study material was shared with the real estate leadership, together with manuals for updating and maintaining the data. Trainings were also scheduled with the team and leadership in order to teach them how to use the control spreadsheets previously programmed by the author.

**Table 8 Action Plan for Improvement Suggestions**

What will be done?	How will it be done?	Who will be responsible?
Restructuring of the customer prospecting process	Create a digital marketing structure through a qualified and effective presence on social media.	Marketing analyst together with Rental Sector Manager
	Consolidate partnerships with small businesses and self-employed professionals in the region.	
Creation of inspection activities regarding the maintenance of rents	Add the activity of preventive inspections when registering new properties or renewing the property contract already registered in the active customer base.	Rental sector assistant together with general service provider partner of the real estate

#### 4. Conclusion

The combination of the TDABC costing method with the CPA proved to be quite efficient in allowing the cost and profitability of real estate clients to be identified considering the segment and type of interaction in the rental sector of the company under study. Through the results obtained, it was possible to identify optimization opportunities and, thus, address the insights found with the real estate leadership. Among these opportunities, it is worth highlighting the restructuring of the customer prospecting process, an interaction identified as the most costly and unprofitable, and the creation of preventive inspection activities in relation to the maintenance of rents, which generates unexpected costs for the company.

The importance of building the Stobachoff’s curve is also emphasized in order to understand the profile of the real estate company’s profitability in relation to its client base. Through this method introduced by Storbacka (1998), it was possible to analyze the level of vulnerability of the company under study, allowing it to be clearly and directly identified to the high level of subsidy existing in the rental sector.

In addition to the results, some of the limitations of the present study are evident that can directly affect the analysis, such as: the reduced period analyzed, composed of only two months; the existence of a possible seasonality not captured in the studied period; and, finally, the application of the methodology only in the rental sector, not including the real estate sales sector, due to the confidentiality of data and values. It is recommended that, as next steps, the study be continued for a longer period and that it also encompasses the real estate sales sector, since such sector has an important participation in the company’s financial results.

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