Key Factors In Tenant Loyalty, The Case Of Commercial Boxes In Antananarivo's Shopping Malls, Madagascar

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Abstract— Tenant loyalty ensures the stability and growth of real estate companies. The present study focuses on determining the factors impacting on the loyalty of retail box tenants in shopping centers in Antananarivo. A pre-survey of a sample of 46 shopping center property owners and managers identified and clarified the main problems encountered by this type of business. Several factors are suggested as influencing tenant satisfaction, such as technical dimensions, functional dimensions and service quality. These three relationships form the first three hypotheses of the study. Secondly, the satisfaction of these customers is assumed to influence their loyalty, a relationship forming the fourth hypothesis of the research. A final sample of 234 individuals was defined, made up of the tenants of the commercial boxes, in order to study their loyalty. Analysis of the data collected, carried out using structural equation modelling and Smart PLS, showed a positive and significant correlation between the technical dimension, the functional dimension, relational quality and satisfaction of commercial box tenants in Antananarivo. The results also showed that the loyalty of commercial tenants is positively influenced by their satisfaction. This study underlines the importance for the real estate companies studied to consider the aforementioned factors in order to improve their tenant retention strategies and thus establish lasting relationships with their tenants.

Keywords— Key factors, loyalty, tenant, shopping boxes, Antananarivo shopping malls, Madagascar

I. INTRODUCTION

Madagascar's post-pandemic recovery was hampered by a harsh cyclone season and the fallout from the Russian war in Ukraine [1]. Madagascar's real estate sector remains buoyant despite the impact of the pandemic crisis and global inflation. Still considered a safe haven in times of uncertainty, construction continues to attract capital. The survey carried out by the economic department of the French Embassy in Madagascar shows that the construction and real estate sector represents a significant part of the country's economy (over 10% of Malagasy GDP), and even more of the number of jobs. Madagascar's development policy has also led to legal and economic reforms that have made it more attractive to invest in a number of sectors, including real estate. Over the years, Malagasy interest in housing has grown steadily. Real estate and housing are thus sure guarantees that can make a major contribution to the country's economy [2].

The real estate sector in general, and that of Antananarivo in particular, has continued to expand in recent years. The market is driven by steadily growing demand. Industry players make no secret of their optimism about the future of the country's real estate

market. "Investing in real estate remains a safe bet", say industry players, who base their optimism on studies carried out by Knight Frank, a firm specializing in real estate, which reported that Antananarivo tops the list of the most favorable cities for real estate investment. The report produced by this firm also notes that the rate of return for the largest city in Madagascar and the IOC (Indian Ocean Commission) zone is 12%, compared with 8% in Addis Ababa (Ethiopia), 9.7% in Johannesburg (South Africa) and 4% in Mauritius [3].

The real estate sector in Madagascar is booming, attracting more and more investors interested in buying ready-built homes to rent or resell [4]. Real estate in Madagascar in 2024 is a fast-growing sector. The market is currently experiencing strong demand, particularly in the capital Antananarivo, where the population continues to grow [5].

All these facts justify the realities of the real estate sector in Madagascar and, above all, its contribution to the country's economic development. The study of this sector therefore proves to be relevant in order to contribute to the country's development.

As far as the commercial real estate branch is concerned, it includes commercial infrastructures such as shopping centers, offices or coworking spaces, as well as all the stakeholders involved (property owners and managers, tenants...) [5]. Within this branch of the real estate sector, there are companies that own shopping centers and whose main activity is the rental of commercial boxes to companies or individuals for business purposes. These companies, which are located in Antananarivo, are experiencing problems such as loss of sales and potential income (information obtained from a pre-survey of a sample of 46 shopping center owners and property managers in Antananarivo, as part of the identification of the study problem). According to the respondents, these problems are due to a lack of customer loyalty. Indeed, the problem of customer loyalty has a considerable impact on their profits, reputation and growth. It is therefore essential that these companies implement effective strategies to retain their customers over the long term.

The aim of this research is to help landlords and property managers understand what they can do to increase tenant retention so that tenants can renew their lease, and recommend their landlord to others

A lack of tenant retention can lead to a number of problems for players in the real estate sector. Vacant properties generate no rental income. Lack of retention can lead to a significant loss of income. Finding new tenants and preparing vacant premises is costly in terms of time and money. When a tenant leaves a rental property, the landlord incurs costs associated with finding a new occupant, refurbishing the property (painting, cleaning, decorating) and losing rent while the property is vacant [6].

A lost customer is first and foremost a loss of image for the company; then it's a financial loss corresponding to the value of current or future contracts cancelled because of this dissatisfaction, and to the additional time and money spent on finding new customers. The economic and financial stakes are therefore considerable, representing a significant percentage of sales. As a result, customer satisfaction must be a top priority for the company, which must manage it both in the short term by providing an immediate response to its customer's needs, and also, in the medium and long term by constantly improving its services while demonstrating innovation and creativity [7].

Loyalty is therefore an important step in ensuring a company's survival and profitability, given that the costs of acquiring new customers are deemed higher than the costs of retention [8]. Thanks to loyal consumers, the company benefits from free advertising in the form of sincere recommendations, which are in practice more effective than various advertisements; this results in an influx of new consumers [9]. Several authors propose some elements influencing customer loyalty namely [7], [10], [11] among many others.

Faced with the above problems, the following question was posed: What factors can influence the loyalty of commercial box tenants in shopping centers in Antananarivo, Madagascar?

The main objective of this study is to identify the determining factors of tenant loyalty for the case of commercial boxes in Antananarivo, Madagascar.

Four research hypotheses are proposed: Technical dimensions influence tenant satisfaction (H1); functional dimensions influence tenant satisfaction (H2); service quality influences tenant satisfaction (H3); and tenant satisfaction influences tenant loyalty (H4).

The present study proposes to analyze the links between the technical dimension, the functional dimension and the quality of service with the satisfaction of commercial box tenants in Antananarivo, but also the relationship of this last dimension with their loyalty.

II. Literature Review and Construction of Research Hypotheses

The purpose of this subtitle is to present the literature review, with the aim of enabling the theoretical construction of the research hypotheses.

A. Customer Satisfaction

Customer satisfaction is currently at the heart of every company's concerns. In this context, the satisfaction policy is part of a strategic perspective, as it is strongly linked to post-purchase consumer behaviors such as loyalty [12]. If a customer is satisfied with the value provided by a product or service, it is highly likely that he or she will remain a customer for a long time [13].

In the context of the real estate sector, [14] presents that tenant satisfaction is the satisfaction of an individual or family with the condition of their rented home. It is also an indicator of housing satisfaction and a component of the overall satisfaction continuum [15]. [16] assert the existence of two ways of conceiving tenant satisfaction: a rather transactional satisfaction linked to the property's ability to meet customer expectations, and a relational satisfaction linked to the quality of the experience with the company. A deeper understanding of the essence of customer satisfaction is needed to elucidate the long-term development of landlord-tenant business relationships [17].

Tenant satisfaction, according to research by [18], is linked to service content, service price, product quality and handling of customer complaints. According to research by [9], the main determinant of tenant satisfaction would be the value perceived by tenants towards the use of a paid product or service.

[19] defined lease management as generally referring to the administrative work involved in rent management, legal requirements, lease renewal options, information management, reporting and other lease-related issues. In today's competitive market, tenants are looking for more flexible working conditions in the lease. [20], meanwhile, have shown that offering flexibility in rent resolutions, assistance with logistics and renewal packages is crucial for tenants. [21] states that, in general, a level of service below the expectations provided is the reason for dissatisfaction and forces tenants to leave the building for a better location [20].

Concerning price, [22] proposed that this dimension has the power to influence consumer attention. In the context of the real estate sector, [23] explained that rent depends on the state of the market and the location of the property. They go on to assert that the office rent rate is a function of office quality; a higher quality office class should benefit from a higher price compared to the average market rent for a lower quality class. [24] pointed out that in the property management services sector, satisfaction and price are almost always inversely related.

As for building quality, [25] argue that many aspects can play a role in improving tenant satisfaction namely greater accessibility, improved building features such as elevators or solar shading and more parking spaces can be effective. Reference [6] analyzed that building features, neighborhood and property manager performance are among the factors that enable tenants to renew their contracts or not. According to the same author, dissatisfaction with a property is associated with a greater likelihood of considering moving. [17], for their part, pointed out that improving the building's interior and exterior appearance would increase tenants' willingness to retain their tenancy.

Customer complaint handling is also linked to customer satisfaction. [26] defined satisfaction with complaint handling as the customer's satisfaction with the service provider's response to the complaint. [27] demonstrated that customer complaints stem from a perception of unfairness, i.e. an imbalance in the customer-provider relationship, which leads customers to expect compensation

from the provider that offsets this imbalance. [17] argue that responding to tenant complaints and needs in a timely manner is a way of showing that managers care about tenants. According to [28], in addition to complying with the legal obligation to inform customers of the existence of a complaint handling system and how to avail themselves of it, the institution should ensure optimal communication with the customer. The same author goes on to explain that it's a matter of offering constant support, as well as genuinely listening to customers' needs, in order to build loyalty and increase satisfaction, whatever the outcome of the complaint.

In their studies, [29] explained the effects of technical and functional dimensions on tenant satisfaction and loyalty.

B. Technical Dimensions

According to [29], the technical dimension included three aspects namely building features; maintenance, cleaning and security services as well as agglomeration or location.

Regarding building characteristics, [25] defined "building specifications" as incorporating satisfaction with the building's form and function, image, layout and construction quality. According to the same authors, building performance can be defined as the way in which a building meets the different objectives and needs of occupants, including promoting quality and value, meeting sustainability objectives and providing environments that meet user needs, resulting in more efficient and effective workplaces. [12] point out that among the multitude of studies concerning real estate leasing, some have analyzed how the building and location of an office affect tenant satisfaction and loyalty. The interior image of a building is an important factor influencing tenant satisfaction; also housing products, accessibility, public sector features and environmental characteristics as factors influencing customer life satisfaction.

With regard to maintenance, cleaning and security services, management and maintenance companies with professional management experience and technical capabilities can improve resident satisfaction through several methods, such as implementing security at the entrance, maintaining environmental sanitation, reinforcing security patrols, promptly repairing faulty mechanical and electrical equipment and improving the quality of living environments. Residents would consider the additional costs of improving their living environment worthwhile [25].

According to [30], the technical dimension encompasses maintenance, cleaning, landscaping, lighting, air conditioning, elevators, sanitation and laundry services. According to [31], a major role of facilities management covers the reliability, usability and safety of managed assets. He explained that key aspects of facilities management services include general management (staff attitude, ability to handle emergency situations), security (initiative to provide assistance, security control and patrol), cleaning (cleanliness of areas such as lobbies, toilets and staircases), repair and maintenance (electrical supply system, flushing water system, elevator system, air conditioning system) and landscaping and leisure (aesthetics and cleanliness of plants, environmental protection measures and leisure facilities).

Finally, for agglomeration or location, according to [12], parking facilities, location factors (close to city center and public infrastructure) and accessibility have a positive influence on tenant satisfaction.

C. Functional Dimensions

Functional dimensions include management service delivery, reliability, responsiveness, etc. The functional (process) dimension is concerned with how services are delivered to customers, i.e. customer perceptions of the interactions that took place during the service delivery process [30].

[32] assert that the functional dimension included two aspects: proactive customer orientation and reactive customer orientation, both of which affect tenant loyalty through tenant satisfaction as mediator.

[17] defined proactive customer orientation as a value that creates excellence for customers. The authors continue that in this type of strategy, the landlord cares about the quality of life of its tenants and is able to respond to tenant responses in a timely manner. According to [33], [34], offering excellent value for money, handling sensitive information correctly, maintaining good communications and interpersonal relationships are opportunities for landlords or service providers to demonstrate their knowledge and skills, thereby earning the trust of customers and maintaining a long-term landlord-tenant relationship.

As for responsive customer orientation, [17] assert that it refers to a service provider's ability to respond effectively to specific customer needs, i.e. a service provider would use more diverse means of communication to contact tenants and maintain good relationships with them. [35], [36] have pointed out that tenants who live in excellent living environments and have a stronger sense of community have greater life satisfaction and are less willing to move. [21], for his part, pointed out that if the level of service provided by building management is below the level expected by residents, then they will be less satisfied, which could prompt them to move to better locations. [37], in turn, demonstrated that successful rental companies view tenants as valued customers, and identifying customer preferences can help these companies provide excellent services as well as customized products.

Technical and functional dimensions influence tenant satisfaction. Several authors believe that technical and functional dimensions are two important factors in tenant satisfaction and loyalty [38], leading to the following hypotheses.

Hypothesis 1: Technical dimensions influence tenant satisfaction.

Hypothesis 2: Functional dimensions influence tenant satisfaction.

D. Quality of Service

Several researchers have conducted research on the influence of service quality on customer satisfaction. Some of them concluded that the variables physical evidence (or tangibility), reliability, responsiveness, guarantee and empathy have a very strong influence on customer satisfaction [13]. The variable responsiveness has a dominant influence on customer satisfaction, and is therefore a priority. Conceptual and empirical research by some other researchers have also concluded that "quality is an antecedent of satisfaction" [39]. According to [40], in the field of services, service quality is often considered an antecedent of satisfaction.

Service quality, according to [41], is the total experience that is evaluated only by customers. Service quality is an effort to meet consumer needs and desires, as well as the accuracy of delivery in line with consumer expectations [13].

Within the real estate sector, older buildings and less optimal locations have to compete with newer, more technologically advanced buildings, where the only way to beat competitors to their capabilities is through quality tenant relationships via excellent service quality [42] [20]. [6] revealed that tenants who are satisfied with their rented home, landlord or building management are more likely to retain their tenancy.

[43] identify five dimensions of service quality, also applicable to the study of the real estate sector, namely tangibility, reliability, responsiveness, assurance and empathy.

According to [43], tangibility concerns the prospects of physical facilities, equipment, personnel and communications equipment. For [13], the company's ability to provide the best service to its customers is a tangible thing; this means that this quality can be seen and felt directly by customers.

Research by [44] and [45] has identified a clear relationship between tangibility and satisfaction. Tangible elements represent a guarantee of the service provider's good faith, and help to create a sense of security for the customer similar to that of a material good. The physical environment also has a significant impact on sales, and on service evaluation and satisfaction [46].

With regard to reliability, [13] defines it as the company's ability to deliver services to customers. The author adds that while tangible elements concern concrete things, reliability can be considered more abstract. The author points out that reliability is directly linked to consumer expectations. [43] have demonstrated that reliability represents the ability to perform the declared service responsibly and faithfully.

For responsiveness, [13] asserts that responsiveness is about how the company delivers services that meet all customer wants and needs. The author adds that, usually, this responsiveness is also followed by consistent delivery but still easy to understand. According to [43], responsiveness describes the willingness of staff to help customers and offer reliable service.

With regard to insurance, [13] have pointed out that this dimension is linked to the certainty that customers derive from the behavior of commercial actors (good communication, in-depth knowledge, polite and courteous attitudes towards customers...). The

authors add that, with assurance, customers' confidence in the product will increase. [47] underline the importance of trust when they state that: "to win customers' confidence, you must first win their trust".[48] define trust as "the desire to rely on a business partner". The authors state that, in a relationship, trust in one partner is perceived by the other participant as a reduction in the level of risk and anxiety experienced in a high-stakes venture.

As for the relationship between confidence and satisfaction, several authors have also come to this conclusion. Assurance encompasses several aspects: competence, courtesy, credibility, communication, trust, integrity, sincerity and honesty of staff. Assurance, described by both the professionalism of contact staff and the ability to inspire customer confidence, increases perceived quality and consequently improves customer satisfaction [46]. [45] also found a relationship between assurance (including trust) and customer satisfaction in their research.

With regard to empathy, [13] have testified that this dimension is closely linked to sincere, attentive attention to each customer. The authors add that empathy will help uncover customers' specific needs and desires.

The results of studies by [13] have shown that empathy and responsiveness have a significant positive effect on customer satisfaction. [25], meanwhile, described empathy, professionalism, responsiveness and reliability of property managers as key determinants of tenant satisfaction. Customers of corporate real estate agencies value responsiveness and flexibility, understanding of their customers' needs and responsibilities, professionalism, reliability, accessibility, risk management, ease of doing business and price/value/affordability competitiveness [9].

[49] highlight the distinction between cognitive satisfaction, which is better suited to the service sector, and affective satisfaction. This author also asserted that research has shown that satisfaction encompasses both expectations and all the perceptions (cognitive aspect) of consumers, and for example, the quality of a service is linked to said perceptions. He added that service quality is intimately linked to customer satisfaction, hence the need to focus on the notion of cognitive satisfaction in the present study. The aspect of affective satisfaction is not negligible, as customers' assessment of satisfaction is essentially affective and emotional.

From all this, the following hypothesis is proposed:

Hypothesis 3: Service quality influences tenant satisfaction.

E. Tenant Loyalty

[50] describe loyalty as a stable, lasting relationship between customers and suppliers of products or services. [51], for their part, assert that it is a customer's favorable attitude towards a company that includes a repeated purchase and use behavior. [52] explains that customer loyalty is a persistent commitment to positive word-of-mouth after repeated purchases of a product or service. [13] asserts that loyal customers are willing to buy even at a slightly higher price, always make repeat purchases and recommend the product or service to others. For [53], loyalty is the positive attitude of a customer by which they identify with a company and then make repeat purchases, recommend the company to others and thus affect the purchasing behaviors of others. According to [54], customer loyalty is an important factor affecting a company's success and profitability, which is why companies often consider customer loyalty a crucial objective of their long-term development. [55] analyzed that customer loyalty has been identified as the main source of competitive advantage.

[56] report that the literature identifies different types of customer loyalty. Initially, customer loyalty is assumed to comprise only behavioral loyalty. The latter is defined by [55] as the willingness to make a repeat purchase from a company or to maintain an association with a company. The same author stated that later, some authors propose the idea of attitudinal loyalty, which is described as emotional attachment to the company, positive word-of-mouth and recommendation to use its product/service [17]. According to [57], there are also cognitive loyalty, affective loyalty, conative loyalty and action loyalty, which will not be studied in the present research.

[58] asserted a close interdependence between customer satisfaction and loyalty. A very high level of satisfaction leads to loyalty. The best way to build consumer loyalty is to satisfy their needs [9]. [59] also confirmed that satisfaction positively affects

customer loyalty. According to these authors, tenants who receive excellent quality services will feel more satisfied, and this high level of satisfaction will positively affect their loyalty. [60] adds that when consumer satisfaction increases, so does loyalty to the company. Satisfaction has an active and salient influence on customer loyalty. Customer satisfaction also positively affects repurchase behavior, which is an expression of customer loyalty [15]. [61] also assert that numerous studies have shown that customer satisfaction increases loyalty, strengthens repurchase intention, improves positive feedback and reduces the number of complaints. According to [40], customer satisfaction resulting from the use of services appears to be an important determinant of loyalty. From all the above, the following hypothesis is formulated:

Hypothesis 4: Tenant satisfaction influences loyalty.

Having formulated the research hypotheses, the following conceptual model is established, using the Smart PLS 4 statistical tool. The research model is shown in Figure 1.
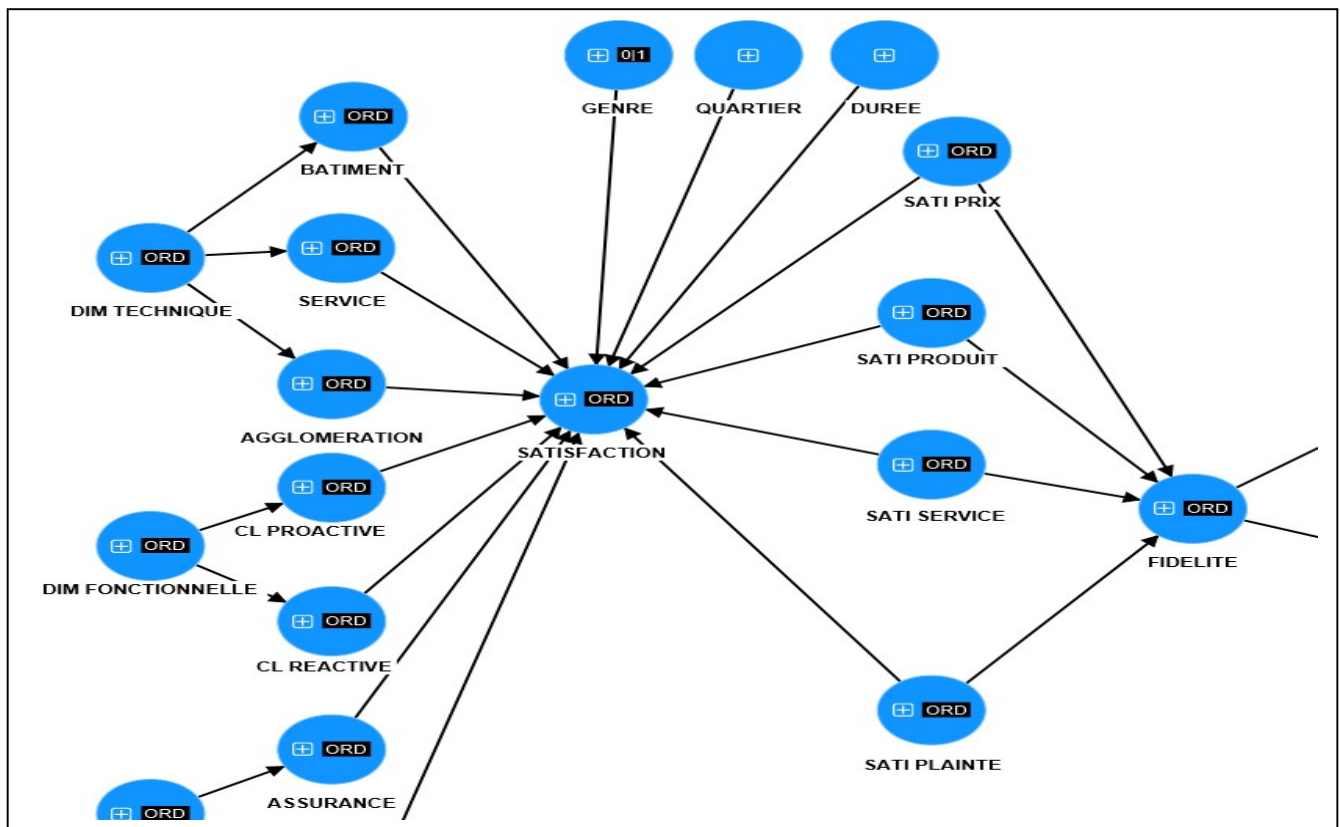

Fig. 1. Conceptual research model

[a.] Source: Author, 2024

III. METHODOLOGY

A. Questionnaire Structure

The research data is collected by means of a questionnaire [62] after a thorough literature review. A five-point Likert scale is used (1 to 5: Very important to not at all important/ Very satisfied to not at all satisfied/ Strongly agree to strongly disagree). The five possible choices provide the interviewee with a wide range of choices, enabling them to select their ideal alternative [63]. The

questionnaire was developed using Google Forms. Four variables were studied, each with its own sub-variables, for a total of thirteen, coded as follows: TCB, TSV, TAG, FCP, FCR, RAS, REP, SSV, SPR, SQP, SPL, FIC, FIA. Details of the variables, their sub-variables and their respective items can be seen in Table 1 below:

TABLE I.   RESEARCH VARIABLES, SUB-VARIABLES AND ITEMS

Variables	Sub-variables	Items	Sources
TECHNICAL DIMENSIONS	Building features	TCB 1: In your opinion, is it important for a locality to have excellent public sanitation and landscape management?	[38]
	Maintenance, cleaning and security services	TSV 1: In your opinion, is it important for the owner to implement a good security system?	[43]
		TSV 2: In your opinion, is it important for the owner to pay personal attention to cleaning the building?	
		TSV 3: In your opinion, is it important for the owner to carry out maintenance and repair work on buildings?	
	Agglomeration	TAG 1: In your opinion, is it important for a building to be located close to major roads?	[38])
		TAG 2: In your opinion, is it important for the premises to be easily accessible for transport?	
FUNCTIONAL DIMENSION	Proactive customer orientation	FCP 1: Do you think it's important for the landlord to care about your quality of life?	[17], [18], [32]
		FCP 2: In your opinion, is it important for the owner to be able to respond to your requests as quickly as possible?	
	Responsive customer orientation	FCR 1: In your opinion, is it important for the owner to use more diversified means of communication to contact you?	
		FCR 2: In your opinion, does the owner have a good relationship with you?	
QUALITY OF SERVICE	Insurance	RAS 1: In your opinion, is it important for the promoter's staff to be courteous in the performance of their duties?	
		RAS 2: In your opinion, is it important for you to feel safe when carrying out transactions or work contracts (maintenance and repair of the premises) with the promoter's staff?	
	Empathy	REP 1: In your opinion, is it important for service personnel to demonstrate a sincere attitude to solving your problem?	
		REP 2: In your opinion, is it important for service staff to understand your needs?	
TENANT SATISFACTION	Service content	SSV 1: Are you satisfied with the overall service provided by your landlord?	[17], [18]
		SSV 2: Are you satisfied that the owner is willing to help you solve your problems?	
	Price of the service	SPR 1: Are you satisfied that the landlord doesn't raise the rent arbitrarily?	
	Product quality	SQP 1: Are you satisfied with the facilities provided in the rented premises?	
	Handling customer complaints	SPL 1: Are you satisfied that the owner cares about your rights?	
		SPL 2: Are you satisfied that the owner is able to deal with your complaints as quickly as possible?	
TENANT LOYALTY	Behavioral loyalty	FIC 1: Do you agree that if your lease ends soon, you're ready to keep it?	
	Attitudinal loyalty	FIA 1: Do you agree that you'd be willing to keep your rental if your landlord didn't raise the rent arbitrarily?	
		FIA 2: Would you recommend your landlord's premises to other potential tenants?	

b. Source: Author, 2024

B. Study Area and Sample

This study concerns the loyalty of commercial box tenants in Antananarivo. The decision to restrict this study to commercial boxes in Antananarivo, rather than covering the whole of Madagascar, is based on several specific factors. The UN Habitat report in 2010, adds that Antananarivo is Madagascar's main center of attraction for economic activity, and has a favorable environment for the establishment of major companies. In 2010, 60% of the country's new businesses were set up in the capital, with the majority operating in the tertiary sector, and more specifically in commerce. Antananarivo is a major commercial hub, acting as both a consumption and distribution center [64]. Antananarivo's real estate sector has grown steadily in recent years. The market is driven by steadily growing demand [3].

Temporal, spatial and financial limitations also played a decisive role in the decision to restrict the scope of the study to Antananarivo.

Antananarivo has 46 shopping centers, from which 22 businesses were randomly selected. The random method was chosen so that each survey unit had an equal chance of being included in the sample [65]. Of these, 150 commercial boxes were also randomly selected, and these actually form the basis for determining the ultimate sample of the study, which is made up of the tenants of the various boxes selected and numbering 300 (i.e. 2 people per commercial box)

The research was conducted between January 2024 and May 2024; and the questionnaire was administered online. 261 questionnaires were answered and after checking them, taking into account [66]'s recommendation to test for non-response bias by comparing answers between respondents [67], 234 valid questionnaires were retained. Confirmatory factor analysis requires the use of relatively large samples (typically 200 cases or more) to ensure convergence and reliable results [68], so the final sample number is acceptable.

The structure of the sample is shown in Table 2 below:

TABLE II.   SAMPLE STRUCTURE

Variables	Frequencies	Percentages (%)
Type		
Men	76	32.48
Women	158	67.52
Age		
[25-35[	52	22.22
[35-45[	135	57.69
[45-60[	47	20.09
Education level		
BEPC	54	23.08
Baccalaureate	123	52.56
Bac + 3 (Bachelor's degree)	36	15.38
Bac + 5 (Master's degree)	21	08.98
Position in the company		
Managers - Line managers	92	39.32
Subordinates	142	60.68

c. Source: Author, 2024

C. Data Analysis

The data were first processed in Ms Excel. This was followed by the use of structural equation methods (PLS-SEM) for data analysis, which represent an extension of multiple regression methods, particularly useful for hypothesis testing in correlational designs using a covariance matrix as a starting point [69]. The author adds that these methods make it possible to estimate complex relationship models encompassing several independent and dependent variables, taking into account mediating and moderating effects, and can incorporate latent variables constructed from multi-item measurement scales. The Smart PLS technique calculates

path coefficients and other model parameters by maximizing the explained variance of the constructs according to [54]. PLS-SEM analysis was performed via Smart PLS to examine whether or not the research hypotheses raised in this empirical study can be accepted [70]. The method is implemented using Smart PLS 4 software, which provides a user-friendly interface for specifying and visualizing relationships between variables using data management tools [71].

At the level of descriptive statistics of the variable descriptive characteristics of the sample in relation to the variables will be examined, with particular emphasis on the presentation of the mean and standard deviation. The standard deviation is a statistical measure used to assess the variation or dispersion of a set of data points from the mean. If the standard deviation exceeds half the mean, the variation is considered high [72]. The following table presents the descriptive statistics of the variables for the case study.

In this study, the scores given for each variable varied from 1 to 5 (Likert scale), with the mean of the responses collected being around 3. With standard deviations less than half the mean ($0.5 \times 3 = 1.5$), data variations are generally low. Respondents thus expressed more or less similar answers for each variable studied.

For measurement scales, it has been necessary to test them to assess their reliability and their ability to produce consistent results. A measurement scale must measure the construct it sets out to measure and not another construct close to, or worse than, the measurement error [73]. To assess construct reliability, several statistical indicators are used, including Cronbach's alpha, AVE (Average Variance Extracted), composite reliability and Rho-A [69]. In the case of the study variables, these elements can be seen in the following table:

TABLE III.   RESULTS OF CONSTRUCT RELIABILITY AND CONVERGENT VALIDITY TESTS

	Cronbach's Alpha	rho-A	Composite reliability	(AVE)
FUNCTIONAL DIMENSIONS	0.71	0.71	0.87	0.78
TECHNICAL DIMENSIONS	0.57	0.71	0.76	0.53
TENANT RETENTION	0.75	0.78	0.89	0.80
QUALITY OF SERVICE	0.81	0.81	0.91	0.84
TENANT SATISFACTION	0.83	0.91	0.89	0.69

[d.] Source: Author, Smart PLS 4, 2023

The alpha coefficient is a measure of internal consistency, which is expressed by the emergence of internal consistency, i.e. the existence of high degrees of inter-correlation between items, giving a homogeneous structure to the measurement instrument [74]. If Cronbach's Alpha values are between 0 and 0.50, they are considered insufficient; between 0.50 and 0.70, they are deemed borderline; between 0.70 and 0.99, they are considered high or very high [75]. The reliability test for this study generated Cronbach's Alpha values ranging from 0.57 to 0.83, indicating good internal consistency and that the questionnaires consistently measure the same construct.

Concerning rho-A, a value exceeding 0.70 indicates that the variance of the construct explains at least 70% of the variance of the measure [76]. This condition is met for all constructs in the research model, with rho-A values ranging from 0.71 to 0.91.

Composite reliability also measures the internal consistency of scale items [77]. [78] and [79] set the threshold for composite reliability at 0.75. The value of composite reliability for the case of the study varies between 0.76 and 0.91. These values are high and indicate good internal consistency of the constructs.

As for the Average Variance Extracted (AVE), it measures the amount of variance captured by a construct in relation to the amount of variance due to measurement error [80]. Generally speaking, an AVE is high when it exceeds 0.5. An AVE greater than 0.5 is a sign of convergent validity (the latent variable explains at least 50% of the variance in the indicators) [69]. In the case studied, it varies between 0.53 and 0.84. A high AVE indicates good convergent model validity, meaning that the items measure the construct consistently. Constructs share more variance with their respective indicators than with their measurement errors.

Assessment of convergent validity is also based on the importance of the standardized factor load (λ) [81]. It measures the relationship between an indicator and a latent factor, adjusted for the measurement scale. [82] suggested that the value of a factor load should be greater than 0.4 for interpretive purposes, while [83] argued that all standardized factor loads should ideally be at least 0.7. In the present study, most indicators have λ values above 0.7; this means that there is a strong relationship with the latent variables, with the exception of the "Building characteristics" indicator (λ = 0.43), and signifying the existence of a weak relationship of this item with the "Technical dimension" variable and the "Product quality" indicator (λ = 0.46) signifying the existence of a weak relationship of this item with the "Tenant satisfaction" variable

IV. RESULTS AND DISCUSSION

The correlation test will be carried out using the linear correlation method (Pearson correlation) between the variables of the structural model. When we have quantitative data on the traits or variables to be studied, we can resort to the calculation of correlations, which allows us both to arrive at more precise results and to study not only the association of variables, but also their concomitant variations [64]. In this study; variables are represented by their Latent Variable Score (LVS); the score is calculated as the sum of items or their mean, for the instrument as a whole or by dimension [84].

To interpret the results, we use the correlation coefficient (also known as the Bravais-Pearson (1844) r), which shows whether there is a link between two numerical variables. The value of this indicator is always between -1 and +1, and the closer the value is to -1 or 1, the stronger the relationship between the two variables. The sign of the r indicates the direction of the relationship [85].

In the context of the study, the relationship between the technical dimension and tenant satisfaction is measured at 0.82; that between the functional dimension and tenant is measured at 0.88; that between service quality and tenant satisfaction is measured at 0.90, and finally that between tenant satisfaction and tenant loyalty is assessed at 0.86. These values show the existence of a strong positive correlation between the hypothesis variables, which may suggest a significant interdependence between these variables.

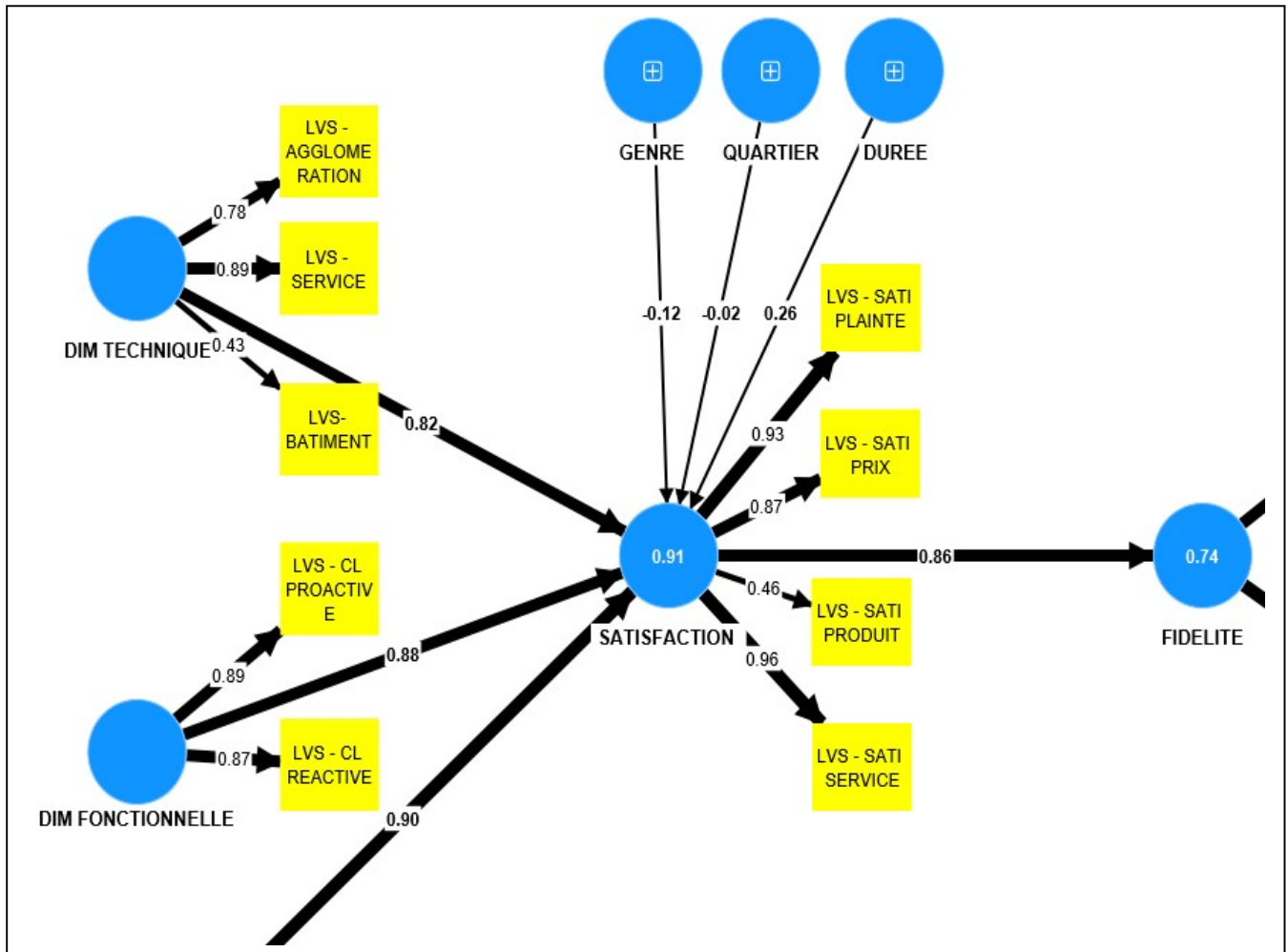Figure 2 shows the values of the coefficients for the case studied:

Fig. 2. Structural model represented by the correlation coefficient

ᵉ· Source: Author- SmartPLS 4, 2024

However, correlation coefficient values do not guarantee a direct causal relationship between variables, hence the importance of evaluating R² (or coefficient of determination) values. A good model obtained by PLS regression should have coefficients of determination greater than 0.1 [69]. In this study, R² values ranged from 0.74 to 0.91, above the recommended 0.10 threshold. These values indicate that the model explains a large part of the variance of the dependent variable, which explains the good fit of the model to the data.

To confirm or refute hypotheses in a SEM model, several factors are taken into account, namely the path coefficient, the T-value and the p-value [86], [87]. The values of the path coefficient, T-value and P-value for each hypothesis in the study are shown in   Table   5.

TABLE IV.   SEM MODEL ESTIMATION RESULTS

Hypothesis	Explanatory variables	Variables explained	Path coefficients	T values (|O/STDEV|)	P values	Findings
H1	Technical dimensions	Tenant satisfaction	0.25	4.97	0.00	Supported
H2	Functional dimensions	Tenant satisfaction	0.33	6.36	0.00	Supported
H3	Service quality	Tenant satisfaction	0.48	9.92	0.00	Supported
H4	Tenant satisfaction	Building tenant loyalty	0.86	40.02	0.00	Supported

[f.] Source: Auteur-Smart PLS 4, 2024

Path coefficient (β) thresholds of 0.10 for weak effects, 0.30 for moderate effects and 0.50 for strong effects are recommended [88]. [89], meanwhile, suggest a threshold of 1.96 for the absolute value of the T-value, for 95% confidence levels. The same authors recommend a threshold of 0.05, for the P-value as a standard for assessing statistical significance.

In the present research, concerning H1, β = 0.25; this indicates the existence of a weak to moderate positive relationship between the technical dimension and tenant satisfaction. A T-value of 4.97, with ρ = 0.00 (ρ < 0.05), suggests strong statistical significance of this relationship, so H1 is confirmed. For H2, β = 0.33; this indicates the existence of a moderate to relatively strong positive relationship between functional dimension and tenant satisfaction. A T-value of 6.36, with ρ = 0.00, suggests a strong statistical significance of this relationship. Based on these values, H2 is also confirmed. As for H3, the value of β = 0.48 indicates a relatively strong, positive relationship between service quality and tenant satisfaction. A T-value of 9.92, with ρ = 0.00, indicates strong statistical significance for this relationship, hence H3 is also confirmed. Finally, for H4, the value of β = 0.86 indicates an extremely strong, positive relationship between tenant satisfaction and loyalty. The values of T 40.02 and= 0.00 indicate strong statistical significance for this relationship, hence hypothesis H4 is also confirmed.

The first hypothesis stipulating that the technical dimension has an influence on tenant satisfaction is confirmed. The characteristics of the buildings and the quality of the services offered are determining factors in this dimension. The results underline the importance of considering these technical aspects to meet tenant expectations and enhance the attractiveness of retail spaces. This study is in line with research by [17]. They mainly explore the influence of technical aspects, functional aspects and tenant satisfaction on tenant loyalty.

The second assumption, that the functional dimension influences tenant satisfaction, is also confirmed. The functional dimension, encompassing both proactive and reactive customer orientation, then exerts a decisive influence on tenant satisfaction. This result is also in line with research by [17]. Their results showed that the functional aspect significantly and positively affects tenant satisfaction.

The third hypothesis, that service quality influences tenant satisfaction, is also confirmed. Service quality, a dimension combining assurance and empathy, then has a significant influence on tenant satisfaction. [43] also identified the same findings in their research. Through data analysis, they discovered a positive correlation between after-sales service quality and customer satisfaction, a positive correlation between customer satisfaction and customer loyalty, as well as a direct and indirect relationship between after-sales service quality and customer loyalty

The fourth hypothesis suggesting that tenant satisfaction has an impact on their loyalty is also confirmed. Satisfaction, covering aspects such as product quality, complaints handling, service content and prices charged, then plays a decisive role in occupant loyalty. This study is in line with research by [9], which showed that tenant satisfaction with rented space depends on the quality of the property, the quality of the service (interaction) and the quality of service offerings.

[20] studied the impact of property management services on tenant satisfaction in industrial buildings through three identified variables, namely facilities management, perceived quality and lease management. Of the three variables, facilities management is the most influential factor on tenant satisfaction in industrial buildings. Perceived quality is another important factor contributing to

tenant satisfaction. Compared to these two variables, lease management has the least influence on tenant satisfaction and can be ignored

The similarities between the study by [20] and the present research can be seen in their analysis of the effect of service quality on satisfaction. The findings of these studies highlight a positive and significant relationship between these two variables. This means that, according to the results obtained, there is a significant correlation between the quality of the service offered and the level of satisfaction of individuals

A few distinctions can be raised between the authors' studies and the present study. [20] deduced that lease management could be ignored; whereas in our study, the functional dimension has a very strong influence on tenant satisfaction. There is also the fact that the study conducted by [20] focuses on the field of industrial building tenants, while our study focuses specifically on the field of commercial box tenants. There is also the observation that the study conducted by [20] focuses primarily on the impact of property management services, whereas the present study aims to explore the links between the technical dimension, the functional dimension and tenant satisfaction. In the previous study, the indicators for measuring property management services were facilities management, rental management and perceived value. In contrast, our study identifies assurance and empathy as key indicators of service quality.

[15], like the present study, also sought to support the idea that an affective bond and positive interaction between tenant and landlord can help increase customer satisfaction. In contrast, the study conducted by [15] focuses on the impact of personal perception on tenant satisfaction and loyalty, while our study analyzes both the influence of individual and collective perception on tenant satisfaction and loyalty.

V. CONCLUSIONS, POSITIONING, LIMITS AND OPENNESS

The objectives of this study are to identify the key factors in tenant retention, to determine the relationship between the technical dimension, the functional dimension, the quality of service and tenant satisfaction, and also to determine the link between tenant satisfaction and tenant retention.

Research into customer satisfaction began in the early 1970s. Much of the research has focused more on sales and marketing, fast-moving consumer goods (FMCG) manufacturing, service quality in hospitality, etc.; in-depth research on property management in the real estate sector is rare [20].

The majority of studies in the real estate sector analyze tenant retention in the residential and office sectors. The specific area of tenant retention in commercial boxes remains relatively unexplored.

This research stands out by focusing on this less-studied facet of commercial box tenant retention, seeking to make a significant contribution in an often-overlooked context. Despite the wealth of information on tenant retention, this study offers a unique perspective by focusing on a particular category of tenant, namely commercial box tenants.

The study conducted by [15] focuses mainly on the impact of individual cognitive factors, including cognition, affection, conation and attitude, while neglecting collective aspects. The present study sets itself apart by introducing a significant distinction. Unlike this earlier research, ours addresses both the collective level, by including variables such as the functional and technical dimensions, and the individual level, by considering relational quality. Thus, this approach offers a more comprehensive understanding of customer loyalty dynamics, integrating individual and collective aspects for an in-depth analysis of the factors influencing customer loyalty in the sector studied.

With regard to the technical dimension, previous studies by IPD and RICS in 2005 [90]; [91], specified that tenant satisfaction was influenced solely by the location and quality of the premises. Nevertheless, our research goes beyond this perspective by integrating other elements. In addition to location and quality of premises, we broaden the scope of analysis by considering building characteristics, service quality and location as additional variables that can potentially impact tenant satisfaction. The comprehensive approach seeks to offer a nuanced understanding of the technical dimensions affecting tenant satisfaction, encompassing various property and service-related aspects that may influence their overall experience.

In the context of the functional dimension, based on previous research by [92], satisfaction, trust and commitment have been identified as fundamental elements contributing to tenant loyalty. In response to these findings, our study makes an innovative contribution by introducing broader values. Instead of limiting ourselves to the classic concepts of satisfaction, trust and commitment, we broaden the perspective by incorporating notions such as proactive and reactive customer orientation. This broader perspective offers a more complete view of tenant loyalty.

The real estate sector has been criticized for its lack of focus on customer relationships. In contrast to this trend, the present study highlights the crucial importance of customer relations in real estate. It goes a step further by identifying and analyzing in depth the factors most influential on tenant loyalty, thus refuting the preconceived notion that the sector places limited importance on customer relations. This research thus contributes to repositioning the perspective on the strategic importance of customer relationships in the real estate sector, offering valuable insights for improving the understanding and management of tenant loyalty [93].

This study makes a significant contribution to understanding tenant loyalty in the field of commercial box leasing in Antananarivo. It considerably extends the scope of the variables studied, offering a more comprehensive perspective on the determinants of loyalty in this specific context. In addition, it crucially highlights the importance of customer relationships in the real estate sector, underscoring the major impact these relationships can have on tenant loyalty. These findings suggest an increased need to consider and reinforce relational aspects to improve customer retention in the commercial box rental sector.

Although this study has already delved into the technical and functional dimensions, as well as service quality in the context of commercial box tenant retention, there is still fertile ground to explore.

Exploring the interactions between these dimensions in greater detail would be an interesting avenue of research. This approach would provide a deeper understanding of the links between the different dimensions analyzed. How can service quality influence or be influenced by the technical and functional dimensions in the tenant retention process? This holistic perspective would enable a more nuanced understanding of the complex mechanisms underlying tenant loyalty in the real estate sector. Such an exploration could also open up opportunities for the development of more integrated strategies aimed at strengthening customer loyalty in this specific field.

It may also be worth exploring the impact of technological advances on tenant retention. How do technological advances, such as digital platforms, mobile applications or automated systems, influence tenant satisfaction and their propensity to remain loyal? This innovative perspective could not only help to anticipate future developments in the commercial box leasing sector, but also to design loyalty strategies more suited to the digital age.

Research into the impact of societal trends could also be of interest. Investigate how current socio-cultural developments, such as changes in working patterns, sustainability expectations or consumer preferences, influence tenant loyalty in the real estate sector? This perspective would provide a better understanding of how external and social factors can interact with technical and functional aspects to shape customer loyalty. An in-depth analysis of these external influences could offer unprecedented insights into how to adapt loyalty strategies and keep pace with society's changing dynamics.

Despite the comprehensive examination of the technical, functional and relational dimensions in the loyalty of commercial box tenants, we can also carry out innovative research on the emotional aspects. How do tenants' emotional experiences, such as affective satisfaction, sense of belonging or even managing emotions in the event of problems, influence their propensity to remain loyal to a specific rental space? Exploring these emotional aspects can offer a deeper understanding of the factors underlying tenant loyalty, paving the way for more targeted strategies to foster lasting emotional bonds in the real estate sector.

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