

Chapter 6: Rental Accruals during COVID-19: Prop-Tech Solutions for Effective and Sustainable Property Management

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6.1 CHAPTER SUMMARY

COVID-19 made business tough for most players and crippled many small to medium business operators. As a result, companies struggled to honour rental obligations. Governments also used most of its resources to combat the spread of the virus. While governments have various sources of income, small business operators struggled to get back to their feet. Many downscaled, and some even shut down shops. To those courageous enough to continue operating, various coping mechanisms were adopted to see the businesses through. Unfortunately, some unscrupulous elements in the business community chose to defraud property owners of their rental arrears and moved from building-to-building, evading accrued rental arrears in Botswana. This chapter proffers a technology solution motivating real estate property management professionals in Botswana to develop a platform that monitors databases of tenants. The proposed solution can be used to also track changes in the interest of property consumers. It has been motivated because of the anomaly observed when tenants hopped from property to another to avoid paying rentals accrued during the COVID-19 lockdown.

6.2 INTRODUCTION AND BACKGROUND

Commercial real estate management is a fundamental function throughout the life cycle of an investment. Investors put money into real estate to safeguard and store value, guarantee a stream of income and shield against inflation. Income is received throughout the useful life of the building. An effective property manager, therefore, should be engaged to ensure that the investor receives the highest possible returns and value from the investment. Kyle, Baird and Spodek (2000) explain that the role of a property manager is much more complex than simply showing space, signing leases and rental collections. They pointed out that the property manager is concerned with generating the greatest possible income for the investor over the economic life of the property. While this profession is especially important, it sometimes encounters challenges. In depressed economic climates like Zimbabwe, inconsistent currencies and policy changes sometimes cause property managers to collect rentals below the regional average, while in growing and developing upper middle-income countries like Botswana, property managers are facing a plethora of challenges such as lack of quality tenants and stiff competition coming from the much active addition to the pool of investments as a direct result of a hyperactive construction industry.

While there is a variety of challenges, this chapter stems from an intellectual curiosity to develop a solution for commercial real

estate property managers and owners who are currently threatened by tenants moving from building to building to avoid rental income accrued during the global corona virus pandemic. While the commercial real estate industry's performance greatly struggled because of lockdown measures imposed by many countries in the world encouraging people to work from their homes, property managers still expected companies to pay rentals to cover property expenses and, in some cases, mortgage payments in the case of recent developments. While the period brought challenges characterised by job losses, employees being asked to work remotely from homes, amongst other things, financial organisations such as banks continued to bill their clients for payments and interests. In the same regard, commercial real estate occupiers are expected to pay rental expenses so that property managers settle property expenses by.

A larger percentage of tenants accrued arrears. At least 47.8% of smaller business failed to meet rental obligations at least once since COVID-19 was declared a global pandemic on 11 March 2020 (Gurajena and Sungirirai, 2020). Vantage Properties reported that at least 33% of tenants accommodated by property manager portfolios throughout the country made an inquiry on negotiating a review plan for payment of rentals

during the pandemic (*ibid.*). Some of the tenants who accrued rentals contemplated leaving present rented premises because their rental arrears had ballooned. These given bases have, therefore, motivated this entire study.

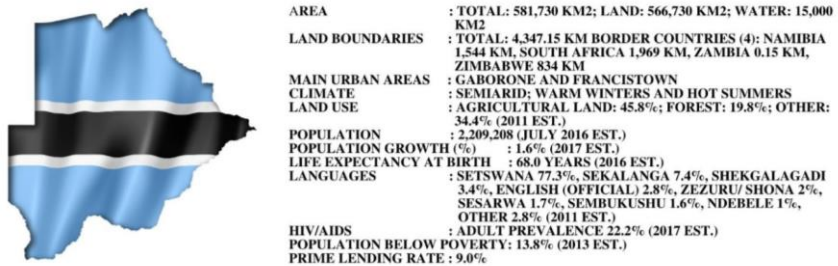


Figure 6.1: General statistics of country under study – Botswana

The state of national emergency was approved by Botswana Government to be effective for at least 12 months ending in the first quarter of 2021. This was a response measure of safeguarding the 2.4 million citizens of Botswana from contracting the novel COVID-19. While the response by government was concerned on protecting lives of citizens, a huge pinch has been felt throughout the industries. Forbes (2020) estimated that 42% of jobs lost because of COVID-19 globally are irreplaceable (Gurajena and Sungirirai, 2020). Manufacturing industries were on standstill and many companies ceased operations while observing lockdown restrictions and rules that were effected by almost all the countries of the world. In Botswana, tenants accumulated huge rental arrears on commercial real estate because of the COVID-

19 lockdowns. Landlords could not reduce rentals because of existing commitments to meet mortgage payments, property maintenance and upkeep and direct expenses relating to real estate properties. Some of the tenants with ballooned arrears indicated decisions to move to other buildings in a bid to avoid rental arrears. Property managers were, therefore, at the verge of losing millions of pulas in accrued rental arrears if tenants moved from property to property as it becomes a mammoth task to trace and recover accrued rentals. This study, therefore, makes a practical contribution to academia by investigating and proposing a solution that will help property managers trace the previous performance of all the tenants renting space throughout the country. The study is, therefore, important because it promotes the property management profession and makes it sustainable through advocating involvement of prop-tech (property technology) solutions.

The research aim in this chapter was to develop a practical solution for property managers so that they can recover accrued rental arrears accumulated during the business standstill as Botswana responded to COVID-19 pandemic. To understand reality on the ground, the research had questions that include: How can tenants be supported to fulfil outstanding rental obligations? What available solutions are used in the real estate industry in developed countries? How can lease agreements be improved to suggest solutions in cases where businesses cannot operate because of pandemics or natural disasters? How can property managers assess previous performance of a tenant? The research objectives included

proposing a prescription for property managers to recover all outstanding rentals arrears, improving the practice of property management by adding prop-tech solutions in tracking problematic tenants, suggesting better leasing contracts for potential global pandemics or recession periods, and motivating for the establishment of a tenant database in Botswana real estate industry.

The chapter contributes considerably to the real estate industry in Botswana. Real estate is a capital-intensive investment option. It competes with other investment options. For real estate to remain lucrative, favoured by many, it must be consistent and evolve to ensure it remains ahead of any threats and risks that may arise. If collection of rentals is not safeguarded, investment owners will shift their investment to other options. This study is, therefore, important in that it contributes what will help the property management profession in tracking rentals, hence achieve the goals of the property owner, a requirement in maintaining good working relations as well as securing income streams. Unless this study is done, property investors and property managers are at risk of failing to get returns and commission from the property under respective portfolio currently under their management. While the study borrows experiences of property managers from other regions, it is interested in exploring Botswana, particularly. The research forms a yardstick that can then be applied by other countries with similar profiles. Through support for shared knowledge and learning, the study can, therefore, be used to infer similar scenarios, basing all experiences from Botswana.

6.3 LITERATURE REVIEW

Property management - oftentimes people think the duties involved simply include showing space, signing leases, and collecting rentals. However, the expected duties are complex. A property manager is tasked to generate the highest possible net income for the owners of an investment property over the economic life of that property. Normally, a property manager receives commission equal to a certain percentage of the net income. If the goals of the owner are reasonable, ethical and lawful, essentially the property manager seeks to achieve the objectives of and generate incomes for the owners and preserve and/or increase the value of the investment property (Kyle, Baird and Spodek, 2000).

COVID-19 - From 2 April 2020 to 23 May 2020, Batswana were on mandatory lockdown with exception of essential services providers. The lockdown was meant to combat the spread of the novel corona virus. It is widely accepted that everyone suffered at the hands of COVID-19, either by being infected by the virus or by experiencing flexibility challenges due to measures set up in efforts to prevent the spread. The real estate industry was not spared. It also faced massive challenges because of the pandemic. Many businesses could not operate normally, therefore making it difficult for entrepreneurs to meet rental and salary expenses. Because of this, property owners struggled to collect rentals as businesses laboured to raise income. The pandemic effects were experienced globally.

Prop-tech - With the advent of big data, internet of things (IoT), fast internet connections like the planned 5G network to be rolled out by the Chinese mobile company Huawei, the world can now explore from the comfort of one's home through internet and a smart device. The property technology or simply prop-tech industry has seen inventions that make it easy for real estate managers and stakeholders to manage and assess their real estate investments remotely and intelligently. In the real estate industry, applications, for example MDA, Classic, MRI and Novtel, are being used in management. These applications help a manager to know when maintenance is due or when a lease agreement is about to expire. The applications also help in billing invoices to tenants as and when needed. Overall, prop-tech has helped in effective record-keeping, tracking of transactions and reporting in the real estate industry. The valuation industry has also transformed and is using special models and algorithms to estimate values of properties. These models are known as Automated Valuation Models (AVMs) and were previously referred to as Computer-assisted Mass Appraisal (CAMA).

In 2006, Alonso registered a patent with the U.S. Patent Application. It was an invention that related to the field of automated security and property management systems and more specifically related to the field of centralised automated and computerised security and property management systems specifically developed for larger sites. These larger sites include office buildings. The patent would help in handling security and maintenance items and other property management topics. The

registered patent had a system comprising security-guard tracking, maintenance and preventive maintenance, and monitoring and tracking security and maintenance events from the initial incident through final resolution (Alonso, 2006). While this was a great invention, it is important to note that the system did not recognise a threat which might materialise from the tenants. Who is the major player as the tents pay both the landlord and the property managers? In 2014, Alonso (2014) also registered another patent that provided for a system and method for facilitating employing augmented reality in an enterprise computing environment. Augmented reality is defined as a technology that superimposes a computer-generated image on a user's view of the real world, thus providing a composite view. This has been notable development that has made real estate sales practice even easier and less costly since there is no need to commute long distance to view properties that are on sale. A display screen of the mobile computing device is then selectively augmented with one or more user interface controls based on the signal (*ibid.*).

The invention made under augmented reality can be used for maintenance management, asset management, or real estate management background. The successful cases of western countries can be used to benchmark against developing systems that manage and follow up on tenants to ensure that property managers are able to perform a deep track record of a potential tenant. In Alonso's (2014) invention, a first-user option provided through one or more user interface controls, allows the user to interact with a computing object that includes

enterprise data associated with the user. In a specific embodiment, the method further includes providing a second-user option, via one or more user interface controls, to sequence a set of tasks to be performed by the user (*ibid*).

Previously, there has never been a patent advancing real estate management propounded from Botswana. One is of the humble opinion that a system that registers all existing tenants and containing retrievable data of tenants can assist in the practice of property management in Botswana, given that property investors were on the verge of losing from tenants who wished to switch to other properties to avoid rentals accrued during the COVID-19 lockdown pandemic. While the present study seeks to add to the body of knowledge about what is missing in the real estate industry in Botswana, a practical contribution that will involve application developers need to be made.

In general, the property management profession circles around environmental concerns, great information on prop-tech - internet and web-based materials, updated software information to assist users in the management of their time and reporting of progress and finally increased focus on security issues (Kyle, Baird and Spodek, 2000). This study aims at exploring on commercial real estate. Commercial real estate represents various types of income-generating properties, like office buildings, shopping centres, stores, gas stations and parking lots (*ibid.*). While commercial real estate is public accommodation since the public has the right to use them, it should be noted that the property is privately owned. Kyle,

Baird and Spodek (*ibid.*) noted that the two principal categories of commercial real estate are office property, where occupants are providing services, and real properties where occupants are selling goods.

Property management started experiencing technological advancement with patents being registered in acknowledgement of new inventions (Hodges, 2003; Alonso, 2006; Alonso, 2014). While these ground-breaking advancements were greatly celebrated, it should also be noted that the inventions simplified and enhanced the practice of real estate management. Under the frustration caused by problems, problem-solvers develop a strong desire to end a challenge and in so doing invent solutions that work towards addressing an anomaly in an industry.

Property management refers to the administration of residential, commercial and industrial real estate, including apartments, detached houses, condominium units and shopping centres (Baldwin, 1994). It involves the managing of daily operations of a real estate investment owned by another party or entity, that is, the property manager acts on behalf of the owner to ensure that properties under his/her care operate smoothly, maintain their appearance and either preserve or enhance in value while generating income. Some of the duties performed by the property manager in a bid to preserve and improve the value of the property vary, based on specific terms of the management contract. However, the key essential responsibilities, as stated by Hodges (2003), include rent-

setting, collection and reviewing, tenant selection, maintenance and repairs of the property, supervision responsibility and financial advisory services.

The COVID-19 pandemic caused Botswana's foreign reserves to decline by a staggering P6.2 billion during the 2019 fiscal period. This was reported by Bank of Botswana Governor, Moses Pelaelo. He further noted that diversification was needed more than ever in Botswana to complement revenue from the sale of minerals. All economic agents, including governments, were greatly affected by the effects of COVID-19. Real estate companies with weaker tenants were some of the first to register decreases in rental collections, all contributing to a tough operation period for the players.

Commercial real estate revenues are normally large sums invested on a unit with the intention of getting a good return. To make decisions for such assets, diligent care and good strategy need to be applied. Palm (2013) supported that when making strategic plans for a real estate company, as a rule of thumb, the commercial real estate industry has only two strategic options to consider regarding real estate management and these are either to select whether to have its own frontline personnel (internal management or inhouse) or to outsource this function. Further, a huge decision should be made on whether the leasing task should be treated as a real estate manager's or should it be a function of its own in the organisation. Whatever choices made, the way the organisation responds to the threats and its chances of success depends on

the management strategy being implemented. Overall, when an investor appoints an agent to manage the real estate property for them, the concept of agency applies. This concept is greatly explained under the principal-agent theory. It is agreed that agency is one of the long-standing contractual relations which are old and common and a way of interaction in a society (Ross, 1973).

Whether a commercial real estate company decides to internally manage the properties or lease directly to tenants, the most important stakeholder will remain the tenants as they are the ones who get to pay for the product. Contrary to the norm, COVID-19 brought difficult operating space and ground, disempowering a majority of tenant's ability to pay rent. Matzler and Hans (1998) and Li (2003) noted that the customer is the tenant and highlighted that the cost of obtaining new customers can exceed the cost of retaining present customers. For this reason, it would be a sound economic decision if a commercial real estate company retains tenants through any means. While players in Botswana would love to retain their tenants, it is difficult for them to cancel rental arrears accrued during the lockdown when many businesses had to be on standstill to curb the spread of the pandemic. It is very costly for a real estate company to have high void levels since the property or building costs are there regardless, and the market value can be affected as well. Overall, this leads to the common conclusion that a firm should have a well-outlined strategic plan on how to attract new customers, though the most important task is to satisfy present customers and prevent them from moving since

the cost of retention is less than the cost of attracting new customers (Matzler and Hans, 1998; Li, 2003; Ansoff, 1984) defined a strategy as a systematic approach for management to position and relate the firm to its environment in a way that enables continued success.

Finally, in-order for a firm to survive and thrive in a competitive market, companies need to develop and maintain an alignment with their environment (Palm, 2013). The Botswana real estate market is now more competitive since there is a high influx of new commercial space initiated by high construction activities in the new Central Business District in Gaborone. Competitiveness forces the real estate industry to develop a more service-oriented approach (*ibid*). While service increases, one ought to safeguard against their interest. Increasing service through prop-tech solutions can be regarded a better plan as it advances the profession. Since the real estate industry is facing new challenges as a part of an increasingly competitive sector Wilson *et al.* (2001) and Apple-Meulebrock (2008) conclude that to survive in the competitive environment, imperativeness of delivering good service is required by all professionals. This is like just ensuring that a company develops a proper strategy that helps it to retain tenants. Palm (2011) investigated the commercial real estate company's strategies for organising its property management to enable success of the organisation. During the difficult COVID-19 period that slowed economic activities, good management decisions and strategies needed to be applied to ensure a business met its objectives.

6.4 RESEARCH METHODOLOGY

To find out what caused tenants to move from one building to another rental options, depriving landlords and property managers of accrued rental arrears, the study administered questionnaires to tenants and conducted interviews with property managers/landlords and leadership at the real estate regulatory boards, the Real Estate Advisory Council (REAC) and the Real Estate Institute of Botswana (REIB). The selected participants were the overall key players in the commercial real estate market. Having contribution of tenants would inform the study on the general experience of the tenants. Conducting interviews with various property managers from the listed firms would enable the study to obtain overall technique and approach chosen by majority property firms in handling underperformance because of the present COVID-19 pandemic. Since the research was administered during the pandemic, the researchers administered an online questionnaire through use of google sheets. The researchers also reached out to property managers and obtained tenants' emails giving them a link to provide feedback and express their opinions online.

Seventy percent of all tenants we reached out to, responded to our short online questionnaire. The researchers conducted all interviews through an online zoom meeting. The quantitative responses were presented using various tables, figures, graphs and charts to deduce meaningful conclusions. Qualitative responses were analysed textually and thematically. Secondary sources of data were produced from existing literature to support learning through sharing of best practices and

experiences. The research applied the triangulation approach that is combining quantitative or logical positivism and qualitative or simply phenomenological. Quantitative research is a formal, objective and systematic process to describe and test relationships, examine cause and effect interactions among variables, while mixed involves elements of quantitative and qualitative. Hanson *et al.* (2005) defined triangulation as a technique of mixing available methods while involving the collection, analysis and integration of quantitative and qualitative data in a single or multiphase research.

6.5 RESULTS

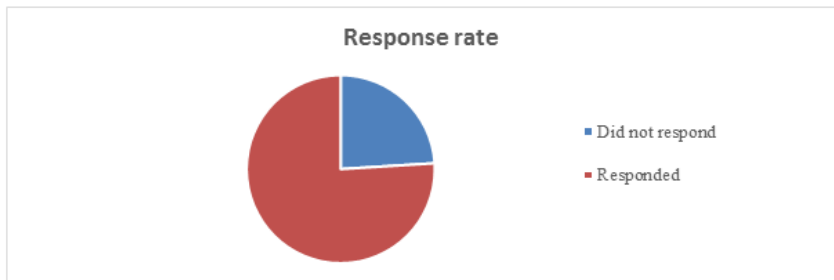


Figure 6.1: Response rate (Fieldwork, 2020)

Table 6.1 shows responses from the key informant interviews. Initially, the aim was to do a total of six interviews, but conducted only five because of tight deadlines one student had to complete the study. We had a 75% response rate from listed property management companies and a 100% response rate from the regulators REIB and REAC.

Table 6.1: Summary of responses received from interviews (Fieldwork, *ibid.*)

Targeted Population	Number of Interviews Proposed	Number of held	Response Rate
Four Top Listed Property Companies	4	3	75%
Real Estate Advisory Council Board member	1	1	100%
Real Estate Institute of Botswana Secretary	1	1	100%

Socio-demographic profile of tenants that responded to the questionnaire

Respondents were either business owners or an employee who is a key decision-maker in the organisation. Figure 6.2 shows the ages of the respondents. Key decision-makers in companies operating in Botswana range between 25 to 44 years.

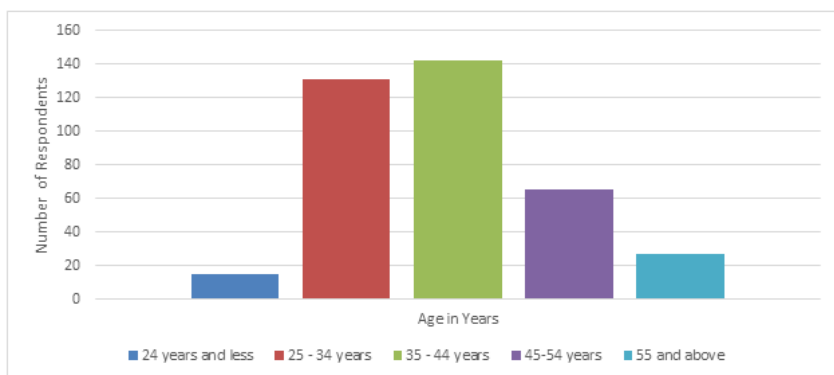


Figure 6.2: Age analysis (Fieldwork *ibid.*)

The last world population report revealed an estimated 50.4% of the world's population was male and 49.6% female, highlighting the fact that there were more males than females. Locally, in 2019, Botswana's female population amounted to approximately 1.19 million (52%), while the male population was approximately 1.11 million (48%) (Statistics Botswana, 2019). The research however managed to get a response rate of only 26.3% among females despite targeting both genders equally, and 73.7% from males.

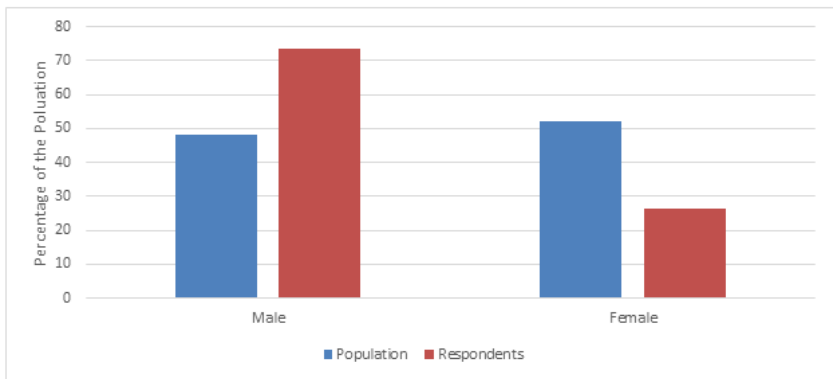


Figure 6.3: Gender analysis (Fieldwork (ibid.))

The researchers also wanted to unearth education levels of respondents. Figure 6.4 shows that 41% of the tenants have a diploma or degree, 53% have graduated with a postgraduate qualification and only 6% a secondary education. It should be noted that everyone needs to be regarded as educated and some might have mis-represented their qualification to appear

educated and sophisticated. The 120 respondents who failed to complete our online survey administered through google sheets might be those who might not have had basic elementary education, hence could have found it difficult to complete the online survey.

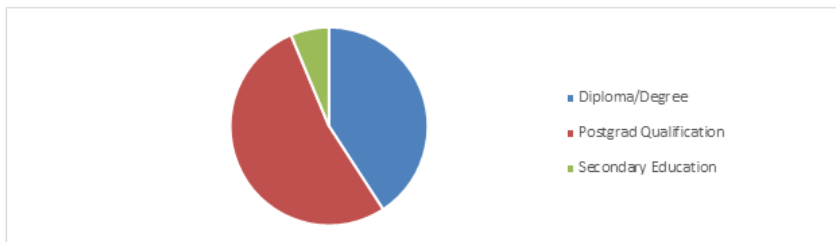


Figure 6.4: *Level of highest education attained* (Fieldwork (ibid.))

Figure 6.5 shows the summarised results of the number of years respondents have been operating businesses. The highest percentage has been in business for four to six years and constituted 37%, followed by tenants operating for between one and three years (32%) and 63 companies were in business for seven to 10 years constituting 15% of the respondents. The companies that had been trading for between 11 to 15 years constituted only 4% of the respondents and those that traded for more than 16 years constituted 12%. The graphical presentation of the findings is summed up in Figure 6.5

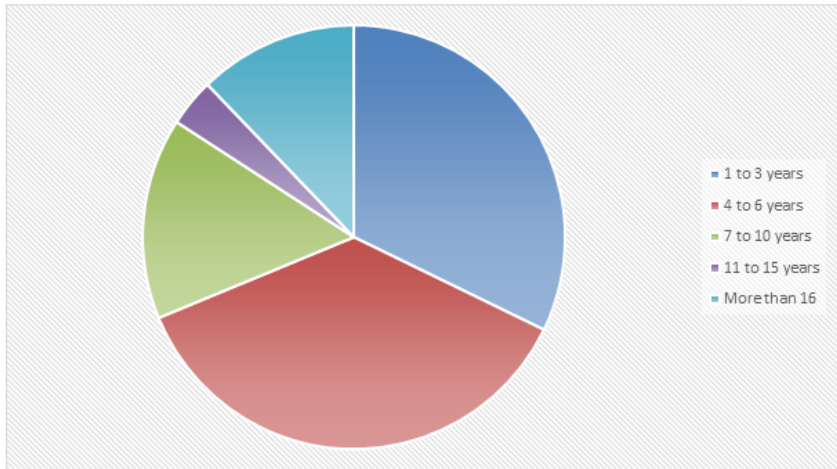


Figure 6.5: *Years tenants have been operating their business* (Fieldwork (ibid.)

Figure 6.6 shows the description of business interests being pursued by the respondents. About 140 business were unskilled companies involving those organisations selling phones, clothes, or those simple business models. This group constituted 37% of the respondents. The semis-killed businesses included those that require little training, for example, driving schools, offices of security guard companies and this group constitute 7% of the respondents. A total of 91 respondents (24%) ran organisations offering skilled services, for example, electricians and plumbers. Finally, the professional organisations that responded were 120 and constituted 32% of the respondents.

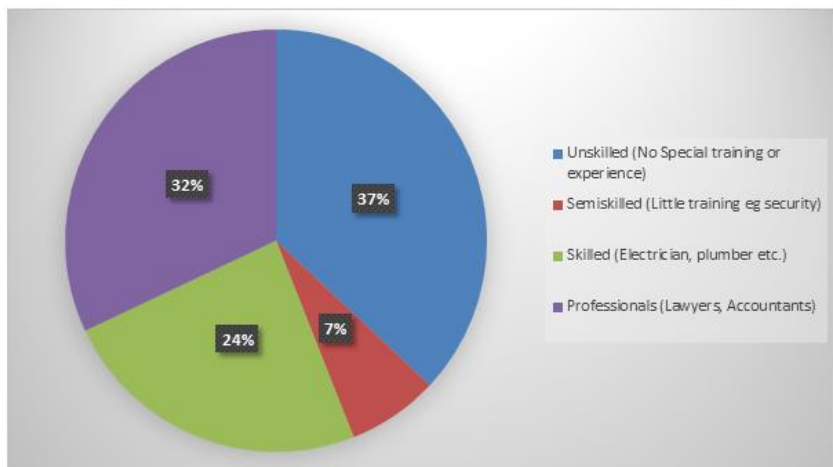


Figure 6.6: Field of businesses by tenants (Fieldwork (ibid.))

Figure 6.7 has a graphical presentation showing the total number of tenants who said that they had experienced challenges when dealing with their property managers. Out of 380 respondents, 254 admitted that they have had some disagreements with the property management, or they felt that the property manager had treated them unfairly, and 126 expressed that they have never had any challenges in their interactions with the property manager or landlord.

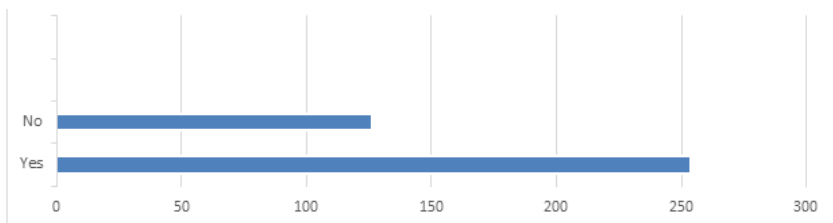


Figure 6.7: Respondents that experienced challenges with their property manager/ landlord (Fieldwork (ibid.))

Practical Experiences of Tenants

The respondents that hinted to have experienced challenges with property managers sited common contractual disputes such as delay in fixing premises and unjustified increases of rentals, amongst other challenges. Some tenants were citing that in difficult times, they face challenges with property managers putting pressure on them to honour their rental obligation and settle rental arrears. Some of the cited challenges included conflicts resulting from damages to properties and tenants refusing landlords access for scheduled property inspections.

Tenants noted that their business operations were affected by COVID-19 in many ways. The first common challenge was a loss of revenue which crippled their operations as tenants had to continue paying traditional business expenses like rentals and salaries, yet the companies were not making any revenue. Small businesses were mostly hit as the world faced adverse effects of the world pandemic. Some businesses managed to sail through only because of the wage subsidies which covered 50% of salaries that were extended by the government to every tax paying company.

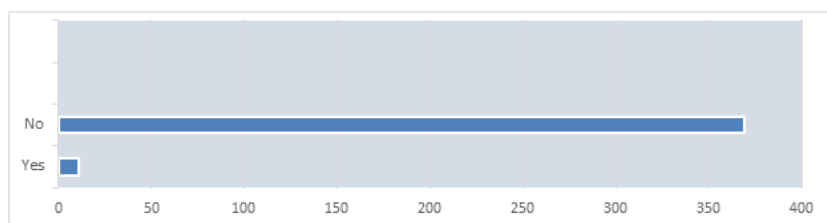


Figure 6.8: *Tenants offered rental rebate since businesses were affected by COVID-19* (Fieldwork (ibid.))

Only 11 out of 380 respondents admitted that they were offered a rental rebate of some sort by their property managers. They highlighted that they had to be up to date with their rentals before they applied for the rebates. While some respondents expressed that they did not apply for a rebate, they did not know that one could. During the lockdown, every formally registered company with track a record of operations and paying salaries received financial assistance from the Botswana government through the tax collector, Botswana Unified Revenue Services (BURS) in the form of three months 50% contribution to salaries of employees. This helped small business meet part of their business expenses in employees' salaries. However, the financial assistance was not enough to help business in covering expenses like rentals. This has attracted rental arrears accruals, especially for the small business operators.

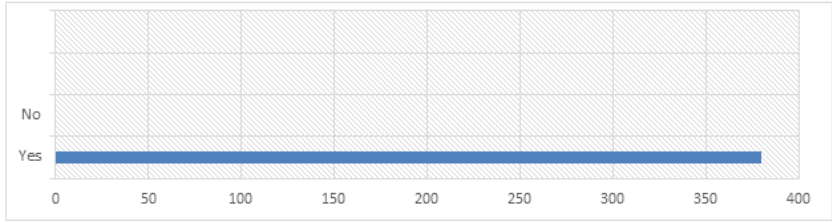


Figure 6.9: *Willingness to settle accrued rental arrears by tenants (Fieldwork (ibid.))*

All the tenants who completed the questionnaire were agreeable to settling all accrued rental arrears as presented in Figure 6.9. Respondents noted that they would consider moving to cheaper offices, relocate and operate from home or close entirely with the intention of reopening in the future. Some expressed their willingness to continue fighting for their business since they believe that times change, and the future was bright for their businesses.

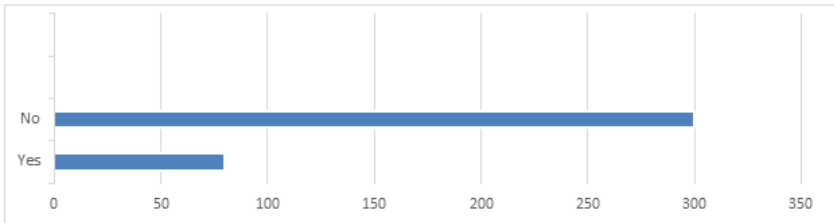


Figure 6.10: *Have you attempted to run away from your rental space to other property to avoid paying accrued rental arrears (Fieldwork (ibid.))*

The responses obtained and represented on Figure 6.10 indicate that 21.1% of tenants at some point thought of moving

from a building to another to either get a better offer or try to avoid paying accrued rentals. In property management, 20% is a significance percentage that can shape how the portfolio performs. It is also important to note that the question is too personal and direct and some tenants might have misrepresented since they had a belief that our data collection was meant to aid the operations of property managers. Tenants generally expressed that they have developed a new approach to operating a business having learnt from the experiences during the COVID-19 pandemic. The entire world came to a standstill and the pandemic showed that it can change how people work, play and trade. Many lessons need to be taken from the way lifestyles changed to carefully plan business finances for an event of similar magnitude.

Perspectives of the Real Estate Advisory Council

An online interview through Zoom was conducted with a board member of the Real Estate Advisory Council (REAC) and discovered that the REAC was established in terms of the Real Estate Professionals Act in 2003 to provide for the regulation of activities and conduct of the real estate profession in Botswana and other matters incidental thereto. The Council is responsible for licensing practising Estate Agents, Property Managers and Valuers. The interview helped the researchers to find out that the REAC was not interested in challenges experienced by property managers in executing their duties, but was interested mostly in ensuring that the public is safeguarded against unscrupulous and unregistered professionals. As regulators, they acknowledged that indeed COVID-19 brought difficulties

that also affected the operations of the property managers but had not devised any compensation or relief package designed to cushion their practitioners.

An opinion was sought from the member on the REAC's positions towards prop-tech solutions that can assist in property management. The member responded that the REAC was ready to assist any innovative model that could help improve the industry. The member reported that as a board, they had endorsed GOSMARTVALUE, which is a valuation application developed by Vantage Properties, a local real estate research company operating. The member reported that if they supported Vantage Properties until they commissioned their application, they were also willing and open to support any initiative by a local company to aid the practice of property management in the country. The board member noted that they would appreciate it if anyone could create a database of all tenants so as to track and monitor performance of tenants before one applies for new leasing space with a view of improving real estate practice.

Perspectives of Real Estate Institute of Botswana

The Real Estate Institute of Botswana (REIB) is an association registered under a Societies Act of Botswana. It is a professional body representing interests of property professionals, government, parastatals, public, commercial organisations, property investors, financial institutions and banks on matters relating to land and real property. The

researchers conducted an interview with the Secretary of the REIB and realised that the board is concerned with making sure that the professionals admitted into practice are fully-fledged and trained and can uphold professional values. The interview unearthed that the REIB council also did not make any policies that would protect professionals during in abnormal operating environments, for example, as like in the recently experienced global COVID-19 pandemic . The regulator noted that while they watched as COVID-19 crippled the real estate industry , they noted that livelihoods and businesses were affected and could not intervene to correct the anomaly or supplement income of the real estate professionals.

The REIB Secretary noted that the board is interested in uplifting the profession and would greatly appreciate property technology inventions. The secretary noted that up to date, there has not been any organisation that has approached them with a property management software seeking endorsement or guidance. He, however, expressed that they are willing to offer guidance and input into any organisation creating a platform that contains a database of all tenants which would be used as a prerequisite check when a new tenant applying for leasing space at a new property. The REIB Secretary also said that the board was willing to assist any initiative made by their member, for example, as shown in the valuation profession, when they endorsed an Automated Valuation Model known as GOSMARTVALUE developed by Vantage Properties.

Perspectives of Property Managers

The researchers initially had made arrangement to interview four top property managers overseeing portfolios of leading companies listed on the Botswana Stock Exchange. However, only three interviews from the originally planned four, representing a 75% response rate, were conducted. Property managers all concerted to struggling with rental collections, especially amongst the small to medium-sized companies when companies were closing shop in response to the effects of the global pandemic. Property managers noted that majority of rental arrears were accumulated during the period from March 2020 to June 2020. One property manager admitted they gave rental rebates to the special clients with a good payment history. The property manager dismissed rent rebates request from clients that failed to prove that their underperformance was due to the crippling effects of the COVID-19 pandemic. Property managers noted that they feared to experience principal-agent problems with landlords since they were failing to collect rentals. However, since everyone understood the situation the world was in, it became easy for all parties to devise methods of sailing through the difficult trading time.

Property managers noted that they had been encouraging tenants to pay up in instalments to settle accrued rental arrears. Property managers also expressed that prior to the global pandemic, they did not have any policy aimed at effectively tracking the history and performance of a potential tenant. They said that they would support any initiative that

would help them to vet tenants who have a good credit history and ratings when moving from building to building. Property managers expressed that prior to the global pandemic, they were used to handling the usual challenges and disputes with their tenants in the form of delayed rental payments and vandalism of property, including repairs and maintenance discussions. However, property managers noted that the lockdown by governments crippled businesses for at least six months as shops were literally asked not to trade but were expected to continue paying fixed costs. Traditional businesses requiring human physical interactions suffered the most and digital enterprises boomed.

Property managers noted that they were complying with the Financial Intelligence Act of Botswana which compelled them to ask all aspiring tenants to complete Know Your Customer (KYC) documents with the intention of identifying potential money launders or those pursuing criminal activities and sponsoring terrorism. The researchers hinted property managers on the creation of a property technology software that stored database of all tenants and could be altered only by a practising REAC and REIB registered professional. From the hint, the property manager expressed satisfaction in the system and highlighted that whoever was considering pursuing the idea should also approach the huge property firms for potential funding so that all companies could benefit and own the technology, as it would be created especially for the local context and the entire property industry stemming to benefit from the innovation.

Finally, property managers could not identify anything that would need to be changed in the real estate industry but instead expressed that it was high time the industry accepts changes, especially in the technology sector and accept that in the 4th industrial evolution, digitalisation of all platforms would make the practice much simpler and safer.

Summary and Recommendations drawn from the study

The major challenge that all property investors are facing is the risk that they might fail to recover the accrued rental arrears by the present tenants. This has been substantiated by the findings in the study. Further importantly, all stakeholders in the real estate industry that include Real Estate Advisory Council, Real Estate Institute of Botswana and majority of the property management and ownership firms were consulted and would all accept a technological platform that aides the practise of sustainable property management in Botswana. Initially the study had four main objectives and this section provides a table that aims to track how the objectives have been met.

Table 6 2: Synthesis of objectives and findings

Research Objective	Comment	Result
To propose a prescription for property managers to recover all outstanding rentals arrears.	The study could not propose a prescription. The study was successful in disclosing that tenants owed so much to landlords. Therefore, suggestions like dialogue, early payment rebates and promotions were	Objective partially met

	recommended to be applied by property managers to encourage tenants to clear rental arrears.	
To improve the practice of property management by adding prop-tech solution in tracking problematic tenants.	The study showed that stakeholders are much appreciative of a property technology system that records and tracks performance of individual tenants so that it can be used as a reference point by all property managers when one seeks new space for rent on the next building.	Objective fully met
To suggest better leasing contracts for potential future global pandemics or recession periods.	Interviews revealed that professionals previously had never arranged and included in their agreement's courses of action in cases of disasters or pandemics or any event that is termed an "act of God". Going forward, the study recommends managers to clearly disclose courses so that tenants enter agreements fully aware of their responsibilities even in crises and disasters.	Objective partially met
To motivate for the establishment of a tenant database in Botswana real estate industry.	The study has created bases for motivation and would only require technical software designers to bring into life system expected to bring positive change in real estate industry.	Objective fully met

Table 6.3: Recommendation on constructing the property management database in BW

Stages	Processes
Ideation stage	
Source an idea	This is the main motivating stage. The developers need to understand why an application of such magnitude is needed in the real estate industry and how it will change the practice in general. Once one has the appreciation of the issues involved, they can effectively deliver basing on the needs.
Market research	During initiation, the implementor needs to conduct focus group discussions with practicing property managers. This helps the implementor in knowing the felt needs approach and try to imagine the functionality of the desired management software. Involving the users helps to capture all issues involved on the platform and increases chances of success.
Define functionality	In designing, application developers are expected to prioritise the reason the application has been created for. For example, in this case, it will be necessary for the developer to first ensure that the application is storing database of tenants together with any outstanding rentals from past

	experiences. Once this is met, it may be necessary for the developer to check if all the registered professionals will be able to edit the data to make the application updatable in real time and improve quality of data.
Design stage	
Sketch the application	This stage will basically involve putting the imaginary application on paper so that developers can draw how the developer wants it to appear. This is normally easy as everyone will be fully aware of application functions and users, hence being a simple way of just knowing layout structure of the site.
Plan workflow	This stage involves noticing and identifying major scopes of work, including reviewing applications for competitors. After conducting reviews, one will must set a plan that describes signup, email, login, password, app, settings and subscription.
Wireframe application	This involves putting the application on blueprint so that the whole process can be explained on a plan. This process helps in communicating and seeking a validation of the application.
Seek early validation	This involves engaging the intended users again and obtaining more

	<p>feedback on the specifics expected on the application. This is done before one starts building the application. Notes and feedback obtained enable learning that helps direct the development of the Minimal Excellent Product.</p>
Development stage	
Architect the database	<p>This involves reviewing the different data to be stored and selecting a relevant platform to use. In this scenario, one advises the developers to use SQL databases. This has an extremely powerful query language that allows presentation of data in all sorts of useful ways.</p>
Develop the frontend	<p>Frontend is the visual element of the database application. It basically represents what users see and interact with. It is normally easy when one is using server pages. Your backend framework is all set up and ready to start building. To succeed, one may also set up the development implementation prior to commencement of project.</p>
Build the backend	<p>The backend is the backbone of the application as it manages the data. This refers to databases, servers and everything the user will not see within an application. Building this segment is</p>

	difficult.
Launch stage	
Host the application	This is one of the last stages and includes running the application on a server. To host the application, property managers would consider buying a domain, buying and setting up an SSL certificate and, finally, choosing a cloud provider.
Deploy the application	This is the last stage that includes answering how the application gets from the source control on a computer to the hosting cloud. Once this is done, an application assisting property managers will be ready to make positive changes in the real estate industry.

6.6 CONCLUSION

The study proved beyond reasonable doubt that property managers are at risk of losing rentals owed if they do not make concerted efforts and develop rental collection strategies and overall improve operations in the real estate industry. Basing on the felt-need approach and the need to embrace advancing with property technology, developing a national database for all the tenants in Botswana, will enable all registered property managers to first conduct a background inspection on them when they apply for leasing space in a property. Developed countries do not necessarily have a database for tenants but do

have a centralised database that can flag and highlight the credit performance of tenants. This normally helps credit issuing organisations or someone considering entering a long-term contract to simply carry out a background check of financial history. The system is expected to be expensive at inception when much effort is required to collect existing data and performance of tenants. To enjoy the highest benefit, registered property managers can consider making annual contributions to help in maintaining the application.

The conclusion to this research is reached by describing the next steps to be followed in developing the application that is supported by regulators that helps improve the real estate industry. Almost all objectives of the study were met and thereby answering all research questions. Overall performing assets compensate for the losses coming from non-performing ones and overall a company is prone to struggle when collecting rentals if most of their tenants are not running established corporates.