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A Project Proposal

for

A Digital Platform for College Students in the Ghanaian Rental Housing Market

A Thesis Submitted to the Master in Development Practice Program Regis University, Denver Colorado in Partial Fulfillment for the Award of the Degree of Master of Development Practice

By

Balchisu Adam MDP 2020, Denver, Colorado

Personal Statement

When I completed my 1st-degree studies, I planned to move out of a relative's house with my sister. We wanted a house within an area that was closer to where we rented a store for our jewellery business. We had to move from one community to the other and from one house to another to find an affordable and comfortable accommodation to rent. We inspected the facilities in every house during our searches such as water and sanitation. My sister and I also informed our friends to alert us if they come across any accommodation for rent.

Due to the delay in finding a place to rent as a result of search frictions in the rental housing market, it occurred to me to find out whether there was any internet-based listing service to make the search for an accommodation easier. I realized that there were no internet-based services of that kind to make it easier to find accommodation. Hence, renters need to walk from one house to the other to find accommodation. I then thought about how the existence of a digital platform that provides listing service for the rental housing market could make the task of finding accommodation much easier for myself and students.

I believe that a digital platform that provides listing services will help to reduce the cost in time and money related to securing rental housing accommodation in Ghana. This will further help students to effectively participate in academic activities without having to worry about the stressful process to find an accommodation in the Ghanaian rental housing market.

Key Words

Digital platform

Ghana

Ghanaian

Housing market

Landlords

Rental housing

Rental housing listing service

Search frictions

Student's accommodation

Students

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Literature Review

1.1.Search Frictions in the Ghanaian Rental Housing Market

Search frictions in the rental housing markets occur when there is any form of an impediment to transaction and matching between landlords and renters (individuals who are looking for accommodation to rent). In other words, search frictions occur when it is difficult for landlords to find renters, and renters also find it difficult to secure accommodation. In this situation, both renters and landlords find it difficult to locate each other (Mortensen, 2011; The Royal Swedish Academy of Sciences, 2010). And as a result, there is a delay in the transaction between landlords and potential renters. Also, search friction is not limited to the housing market but this phenomenon is very common in the labor and dating markets. In the labor markets, employers face difficulties in finding employees while individuals find it difficult to secure jobs. The same scenario occurs in the dating markets. In the rental housing markets, search frictions consequently lead to less transaction volume, consumer surplus, and revenue (Fradkin, 2015). Landlords may lose revenue due to higher rates of vacancies as a result of a low rate in finding suitable renters due to search frictions. However, when there is a need to reduce the market vacancy rate, the renter's search duration must be reduced (Read, 1988).

In the housing market, both landlord and renters make attempts to locate each other through search. However, the search for accommodation is not costless (The Royal Swedish Academy of Sciences, 2010; Read, 1988, and Benjamin & Lusht, 1993). Search costs may be in the form of transportation and time. And, when a search is costly, fewer economic transactions occur in each period. But when search cost decreases the number of transactions increases. This implies that when a search is costly, fewer students find housing to rent, and when search cost decreases, more students find housing to rent. The proposed digital platform aims to address the economic problem

of search frictions in the rental housing market by reducing the cost in money and time to secure accommodation. Digital platforms provide listing services for landlords to advertise their housing to let and for students to easily find accommodation with less time and money.

However, some advertisement externalities are associated with this form of rental housing advertisement through digital platforms. While advertisement or housing on a digital platform has the potential to reduce search frictions in the rental housing market, it may also make some stakeholders in the market system worse of. In the long run, advertisements for housing on a digital platform can exacerbate inequality between landlords who are able to invest in rental properties currently, and those who would want to do so in the future. Specifically, it might lead to a situation whereby future landlords will be forced to adopt an advertisement level which does not help to minimize costs. These landlords are usually referred to as non-cooperative or price taking landlords (Read, 1988) because they are forced to take up prices set by landlords who dominate the rental housing market. In such a situation, public policies play a role to counteract the externalities of advertisement. It is therefore important to collaborate with the appropriate government bodies to set housing policies to address such challenges in the housing market as and when they arise.

1.2.Housing Problem in Ghana

Housing is widely recognized as one of the necessities of human life and survival. As part of the Ghanaian culture, house ownership is an indicator of social status and prestige and provides the means to the attainment of financial security (Boamah et al, 2010). Efforts have been made by successive governments, private agents and international organizations to improve both the quality and quantity of housing in Ghana (Arku, 2006; Derban et al, 2002 & Boamah, 2010). Even though efforts have been made by successive governments, private sectors and international agencies to address housing problems in Ghana since the colonial era till now, still, many low and middleincome Ghanaians do not have access to decent and affordable housing due to a shortage in the supply of housing (Arku, 2006; Derban et al, 2002; Ghana National Development Plan, 2008; Ghanaweb, 2012; Luginaah, Arku & Baiden, 2010; Ghana Statistical Service (GSS), 2014; Intsiful, 2017 & Boamah, 2010). According to the Ghana Statistical Service (2002) and Mahama & Adarkwah (2006), Ghana had a housing deficit of 1.5 million houses in 2000. By 2010, the housing deficit increased to over 2 million houses (Ghana Statistical Service, 2012). The housing deficit in the country has led to an increase in slum dwellings. In 2005, UN-HABITAT (2006) estimated that there were about 5.4 million slum dwellers in Ghana which is expected to increase to about 7.1 million by the end of 2020.

Good housing policies and housing systems have the potential to increase employment, income, savings, social stability, and labor productivity that are required for the development of every country (Arku, 2006 & Tibaijuka, 2013). Although the benefits of good housing policies and systems are well known by policymakers, currently, Ghana has a housing deficit of over 1 million which is likely to persist over the years due to the increasing annual population growth rate of the country and high rural-urban migration (Afrane et al, 2016 & Intsiful 2017). In addition to the availability and affordability problem of housing is the high prevalence of search frictions. The proposed project aims to address this economic problem in the Ghanaian rental housing market. Again, the difficulty in searching for a decent home to rent is further exacerbated by the nature of the payment system and mechanism adopted in many parts of the country (Luginaah et al, 2010 and Rent Control Department, 2020). Renters in Ghana are usually required to make an advanced payment for one to five years upfront before house owners agree to rent their houses out. The deficit in the supply of housing and search frictions are some major contributing factor to this

unfavorable rent payment mechanism in Ghana which negatively impacts the renters, societies, and the country at large. This negative impact of the housing problem on Ghana's development is beyond measure. A study by Luginaah et al (2010) analyzed the impact of renting a home in Ghana and found out that renting a home predisposes renters to psychosocial distress and diminishing ontological security. Testimonies of some participants in an interview conducted by Luginaah et al (2010) backs this claim.

Participant 1:

"Our landlord evicted us because we couldn't afford a two-year *advance rent*. I moved to live with my sister but my husband didn't find anybody to live with so he moved into our kiosk [wooden shop]. We took our three children to their grandmother in the village. We both plan to work hard, save money, and rent a different place together. But the whole mess affected our marriage too (pp. 536)."

Participant 2: "I don't want to think about my next advance rent because it is quite a souldestroying... It is a stressful thought and it always gives me a headache... It makes me sick, and I have no idea what I will do (pp. 535)."

Another participant also explained how home insecurity prevents him from having a better plan for his life when he is not even sure about where he will be staying in the next few months.

Participant 3:

"I've been thrown out two times over the past three years because I couldn't pay the additional advance rent my landlords requested. I cannot plan anything in life because I don't know when else I'll be thrown out of here. I cannot accumulate any assets. It is useless planning anything when you don't know where you are going to live a few months from now (Luginaah et al, 2010, pp. 536)."

Given all these challenges, tenants are forced to come up with unfavorable coping strategies

that affect the normal daily activities as explained by some tenants as stated below.

Participant 4:

"I often woke up early [about 4 a.m.] to go to work and came home very late when they [landlord and family] are sleeping. As much as possible I tried to avoid seeing the landlord in the house or anywhere in the neighborhood. I never saw the landlord for about a month. I know this cannot go on forever, and I'm very worried about it ... I'm doing my best to find the money ... I'm hoping I will not come home one day and see my things [belongings] outside the door, (Luginaah et al, 2010, p540)."

Housing is not just about a physical shelter but also important health, economic, political, social, and educational resource. With the interconnections between all these factors and development, tackling search frictions in the housing market is very necessary, especially in the educational sector. Much focus of this research is placed on tertiary students due to the struggles many students in tertiary schools go through in search of accommodation on campuses and offcampus and usually leading to the exorbitant rental cost charged by private hostel owners (Anne, 2019; "University Accommodation Crisis," 2019; "Accommodation challenges," 2019, & Obeng, 2019). School halls are usually provided in most of the tertiary schools in Ghana. But these halls are often inadequate to accommodate the entire student body in the tertiary schools (Anne, 2019; University Accommodation Crisis, 2019). Private hostels help in accommodating the rest of the student body but are usually relatively expensive than the school halls and difficult to find just like finding a place to rent. Luginaah et al (2010) described the whole process involved in finding a place to rent in Ghana as embarrassing and a nightmare due to the enormous amount of time required to find one in the first place, adding to the affordability problem of housing that already exists in the country.

1.3.Why Efficient Housing Market is Critical for Development

A key driver of economic growth is industrialization, especially in cities, and industries need both skilled and unskilled labor to provide goods and services (Tibaijuka, 2013). Decent housing in urban centers for the youth provides skilled and unskilled labor and innovations

required by industries for development (Tibaijuka, 2013). Rostow (1949) asserts that even during an economic depression, housing serves as a good catalyst for development, let alone without an economic depression. Also, the contribution of households in urban centers to firms' effective functioning for development through labor provision is undisputed, and this is seen in the forward and backward linkages between housing and development (Rostow, 1949). Tibaijuka (2013) finds evidence of this in Asia's cities where almost 80% of new economic growth emerges. The provision of service in urban cities is associated with high incomes that help to boost economic growth. Improvement in the production of goods and services leads to more innovation, technological accumulation which consequently contributes to development.

An efficient housing market system does not only provide the physical shelter needed for human survival but also helps to meet the socio-economic and psychological needs of individuals, families, and the entire community for development. Good housing system with electricity, water, and sanitation facilities contributes tremendously to development (Merrill & Yoder, 2017). A decent housing system with electricity improves child studies at home in the night. Also, the use of electrical gadgets such as computers, phones, televisions, and radios help the entire family to access information necessary to empower them to reduce poverty for development. Again, access to water and sanitation at home also helps to reduce sanitation-related diseases which may consequently lead to death (Collier & Venables, 2014 and Merrill & Yoder, 2017).

Most landlords complain that the major challenge they face in the housing market is the inability of clients at the base of the pyramid to afford a house, thereby reinforcing exclusion and inequality (Merrill & Yoder, 2017). However, Makinde (2014) and Merrill & Yoder (2017) noted that while this may be one of the major reasons why low- and middle-income households may be excluded, exclusivity may be beyond the problem of affordability. For instance, Boateng (2019)

reported that both students of the University of Ghana and their parents felt stranded when they did not have access to information on where to find accommodation after moving from one hostel to another in search of one for more than a week. "Consumer knowledge, norms and preferences, physical access, appropriate marketing and messaging, product design, and financing are all barriers that when addressed can meaningfully improve access without requiring a change in purchasing power (Merrill and Yoder, 2017, p3)."

The situation whereby traders within a market system find it difficult to locate each other is usually termed as search frictions in economics. Search frictions in the rental housing market remain as a major challenge facing renters in Ghana. When it is difficult and costly to secure accommodation, some renters may end up not being able to find one. And on the other hand, landlords may not find renters to fill vacancies. And since there will be unexecuted trade and unemployed resources, the outcome of this in the rental housing market might be regarded as necessarily inefficient (The Royal Swedish Academy of Sciences, 2010). Therefore, search frictions in the rental housing market need to be reduced. This will also help to improve the efficiency of the housing market to meet the housing needs of the populace inclusively. Without this, the achievement of the Sustainable Development Goals 1 (no poverty), 2 (zero hunger), 3 (good health and wellbeing), 4 (quality education), 6 (clean energy and sanitation), 8 (decent work and economic growth) and 10 (reduced inequalities) will be nearly impossible.

1.4.Housing Market for Students in Ghana

Student housing can be referred to as a place where students house themselves through their course of study as students in an academic institution (Adama, Aghimien & Fabunmi, 2010). Successive governments have played a key role in improving the efficiency of the housing market for students specifically by constructing school halls in public universities and other governmentowned higher learning institutions in Ghana such as the polytechnics and training colleges. The halls that are constructed by the government are usually on-campus and a room is usually shared by two or more students. On the other hand, private universities also construct halls and hostels for students in their schools. However, due to the housing deficit in both public and private-owned higher learning institutions, other private agents come in to increase the housing supply (Brantuo, 2019; Boateng, 2019). The University of Ghana for instance has a hall capacity for only 13, 000 students out of the 40, 000 students (Anne, 2019). The remaining students of about 27, 000 are required to find accommodation in private hostels. This accommodation crisis is not limited to students at the University of Ghana but to almost all tertiary institution in the country, though this may be under-reported ("University Accommodation Crisis," 2019). The worse of it all is that most often, private hostels cost relatively higher (two to three times the cost of public halls) than public halls (Boateng, 2019; "University Accommodation Crisis," 2019; "Accommodation challenges," 2019, & Obeng, 2019).

To reduce challenges faced by university students to access decent and affordable housing, the Government of Ghana signed an agreement with the United Nations Office for Project Services (UNOPS) and Sustainable Housing Solutions (SHS) Holdings to build 100,000 affordable houses for university students and teachers in Ghana in 2018. With all the effort being made to reduce housing problems for students, there is also the need to put measures in place to help students find accommodation with less or no struggle. Some school halls provide information about the halls online for students to easily book while others do not (Boateng, 2019). Though the majority of students are housed in private hostels and students usually move from one hostel to the other to find them, very little has been done to minimize their struggle. Luginaah et al (2010) and Bondinuba et al (2013) noted that the search for housing in Ghana is very tedious and for that

matter, efforts to improve housing in Ghana, especially for students should consider this as a very important problem to address. This proposal seeks to fill this gap in the housing market in Ghana by addressing search frictions. Information in the contemporary world plays an important role in decision making. For this reason, Bondinuba et al (2013) proposed that landlords and hall managers must develop strategies to assist students in tertiary institutions to secure accommodation to save them time and reduce cost.

1.5.Rental Housing Listing Services in Ghana

Makinde (2014) and Merrill & Yoder (2017) noted that affordability may be one of the major reasons why low- and middle-income households may be excluded from having access to decent housing. However, lack of access to the right information also puts this group of people in a more disadvantaged position to access decent housing. Based on this research, it might be assumed that access to information can help to reduce exclusivity without necessarily requiring a change in purchasing power. Akaba (2015) noted that as customers are becoming more technologically savvy (more consumers are online), there is the need for the hotel, guest house, and hostel managers in Ghana to effectively use technology (websites and social media) to meet the needs of customers while maximizing profit.

The proposed project seeks to provide listing service on a digital platform for college students. Much focus is placed on tertiary students due to the struggles many students in tertiary schools go through in search of accommodation on campus and off-campus (Anne, 2019; "University Accommodation Crisis," 2019; "Accommodation challenges," 2019, & Obeng, 2019. Despite the significant ownership of android phones and the use of the internet by students in Ghana (due to prevalent use of social media such as WhatsApp and Facebook) there is inadequate provision of information on housing online for students in Ghana. Unavailability of the required

information by students and other low-and-middle-income class to make informed decisions in search of accommodation forces such people to do this manually. Students and others in the middle class that are in need of accommodation must move from one place to another or one community to the other to find one. Other alternative people use is to ask friends on WhatsApp group platforms for people who stay in the communities or areas in which the student is looking for the accommodation, to help them find one. This usually takes a lot of time and is unreliable and relatively expensive since one must move from one place to another to accomplish this task.

The information and service required by students and other people in the low-and-middleincome class are not available on the existing rental housing listing platforms in Ghana including Airbnb, Tonaton, and Jiji. These listing services neither provide information on the availability of school halls and hostels in universities and other higher learning institutions nor the cost and supporting facilities of these accommodation services in Ghana. To find a hostel to rent, students require information about the geographical location of houses for rent, the price, the availability of water and sanitation facility and electricity before they can make an informed decision. This kind of information required by students has not been taken into critical consideration in addressing the housing challenges in Ghana. There is therefore the need for redesigning and reinvention (De Reuver, Bouwman, & MacInnes, 2009; Earl, 2000) of the business process to meet the needs of students. These needs of students include information on the availability of halls and hostels, the cost, supporting facilities, and the basic facilities of these housing systems for students. Mostly, the universities in Ghana give preference to first-year students in terms of allocation of halls to students (Anne, 2019). This is usually done to reduce the struggle first-year students will have to go through in finding one since they are new in the university and new to its vicinity. Finding accommodation might be extremely challenging for first-year students compared to

continuing students. This is also due to the lack of easy access to housing information which makes the search for accommodation more difficult and needs to be addressed (Bondinuba et al, 2013).

Voss (2000) (as cited in Earl, 2000) demonstrated why start-ups that normally seek to fill gaps in business usually outperform the traditional or existing ones. The gap in the service provided by the existing rental housing listing firms in Ghana determines the demand for a better one to help address this problem in the housing market for sustainable development.

Introduction to Community Context

2.1. Tertiary Education Enrolment in Ghana

There were only three tertiary institutions in Ghana in 1990 (Kamran, Liang & Trines, 2019). And according to the 2014/2015 tertiary education statistics report by the Ghana's National Accreditation Board (NAB) (2016), the number of tertiary institutions stood at 171 institutions. There has been a tremendous increase in the number of tertiary institutions from 171 in 2014 to 261 in 2018 within just 4 years (NAB, 2018). The tertiary educational institutions in Ghana consists of Universities, Technical Universities, Polytechnics, Colleges of Agriculture, Colleges of Nursing and Midwifery, and Colleges of Education (Teacher Training). The total number of students in tertiary educational institutions in Ghana increased from about 396,264 in 2015 (NAB, 2016) to about 444, 000 in 2017 (Kamran, Liang & Trines, 2019). The gross enrollment ratio skyrocketed from less than 1% in 1970 to 16.5% in 2015 as shown in the diagram below (Kamran, Liang & Trines, 2019).

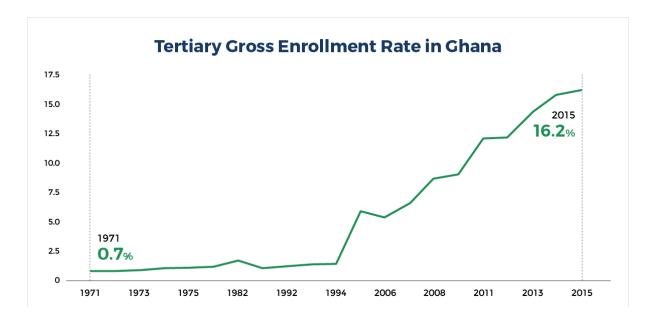


Figure 1. Gross Tertiary Educational Enrollment Rate in Ghana

Source: Kamran, Liang & Trines (2019)

With the introduction of the Free Senior High School (SHS) policy in 2018, the country awaits its largest-ever number of tertiary institutions applicants in 2020 ("University Accommodation Crisis", 2019 & Anne, 2019). The government of Ghana had to introduce the double-track system at the SHS level to help manage the huge enrolment in High schools as a result of the Free SHS policy (GhanaWeb, 2018).

2.2. Housing for Tertiary Educational Students in Ghana

Generally, there are two forms of accommodation for students in tertiary institutions in Ghana. These are on-campus (also known as a resident) accommodation and off-campus accommodation (also known as non-resident) (Afful-Broni, & Hogrey, 2010). Off-campus accommodation is usually located outside the school premises (or outside the vicinity of the school) while on-campus accommodation is usually within the vicinity of the school. On-campus accommodation for students in Ghana is in the form of school halls and hostels. The halls are usually owned and managed by the school while hostels are owned and managed by private individuals. In the case of public-owned tertiary institutions, halls are owned by the government, and hostels are owned by private individuals. In private tertiary institutions, the halls or hostels are mainly owned by private individuals or agencies. Often, a mandatory on-campus residence is provided to public tertiary students at the college of education, college of agriculture, and college of nursing and midwifery institutions in Ghana.

2.3. Housing Market System Analysis

2.3.1 Players in the Digital Rental Housing Listing Service in Ghana

AirB&B, Jiji, Tonaton, and universities are some of the key organizations that provide rental housing listing services in Ghana. Apart from universities, all the other organizations offer a broader range of services aside listing rental housing such as listing restaurants nearby, job advertisements, buying, and selling of old and used items. Universities provide a hostel listing service to students who wish to secure an accommodation in the university's halls. AirB&B specifically categorizes stays (hotels, guest houses, and homes) in Ghana into an entire house (where guests can have the entire place to themselves without sharing common spaces and sanitation facilities with anyone), private room (where guests can have their rooms but share some common spaces), hotel rooms (where guests can have a private or shared room in a boutique hotel, hostel and more), and a shared room (where guests stay in a shared space just like a common room). Several pictures of a particular place for stay are displayed with the price per night provided as well. Anyone who wishes to save a place found on the AirB&B website needs to sign up on the website before he/she could do that. The same applies to people who would like to list hosting. Navigating on the map displayed on AirB&B's website with the prices on the web page also makes it easier to find places to stay.

Tonaton and Jiji (formerly known as OLX Ghana) offer similar listing services. These enterprises list lands for sale, rental houses and old and new items for sale on their websites. However, the services provided does little to serve the interest of students in terms of finding accommodation for tertiary students.

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2.3.2. Housing Market System for Students

The Springfield Centre defined a market system as "a multi-function, multi-player arrangement comprising the core function of exchange by which goods and services are delivered and the supporting functions and rules are performed and shaped by a variety of market players (The Springfield Centre, 2015, p. 3)." The diagram below describes a typical market system.

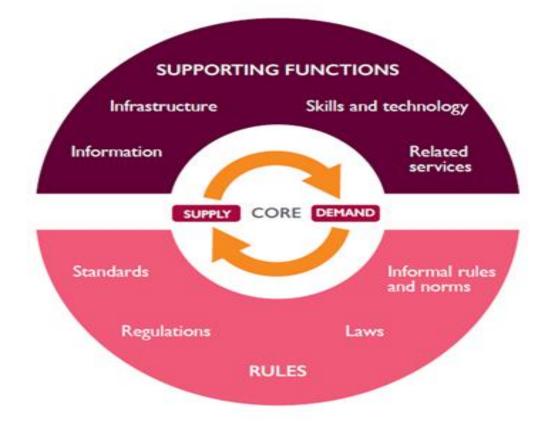


Figure 2. Market System. Source: The Springfield Centre (2015).

It is noted from the diagram above that in a market system where there is supply and demand for housing, there is a need for adequate supporting functions and rules to improve its development. In the diagram above, rental housing for students is made up of private and public entities. Both private (usually landlords) and public entities (government institutions) build houses, provide housing information and other related services (electricity and water services in housing) for students. But the rental housing market in Ghana is dominated by private individuals who provide the majority of the houses for rent in the housing market (Nsiah, 2017). Landlords set informal rules on the dos and don'ts in private hostels. However, the state government set formal rules (standards, laws, regulations) that guide housing market operations. The government facilitates the acquisition of credits and land to build houses from stool and families. The state also regulates the production, labor services and market prices of building materials and other related services (such as water, electricity, technology, and research) to facilitate housing development (Ministry of Water Resources, Works and Houses, 2015). The Rent Control Department (2020) under the Ministry of Water Resources, Works and Housing is one of the key bodies that regulate the housing markets by managing the relationships between landlords and tenants according to the Rent Act 1963 (Act 220) and the Rent regulations Act 1964 (LI 369). For example, the Rent Control Department helps to settle disputes between landlords and tenants which might have resulted through rent transactions or tenant's stay in the rented premises.

With specific regards to the housing for students, tertiary institutions set rules which might be considered informal. For example, the University of Ghana implemented a "freshers-first" residential policy in 2019 to guarantee accommodation to first-year students before the start of academic activities (Anne, 2019). With this housing policy, all continuing students are expected to vacate the school halls to struggle to find accommodation in private hostels (on-campus and offcampus). Preference is given to first-year students to ensure that their participation in academic activities and performance is not affected by the accommodation challenges. Continuing students are given less attention to find their own way out to tackle the accommodation challenge since there are quite familiar with the situation and the school's surroundings.

Another scenario is that, first-year students at the University for Development studies are required to stay in school halls, thereby limiting the choices of students to make personal decisions to stay in either a school hall or in a private hostel. This policy directly limits the demand for private hostels by first-year students at this University. Some Tertiary institutions intervene in setting the minimum and maximum prices of hostels for students. Some of the academic institutions in Ghana set a minimum price limit that well-known private hostels on campuses can rent their hostels to students. The institutions usually set this price of the school halls to be relatively lower than the cost of renting a private hostel. This is to increase the demand for school halls by students. But the implementation of this intervention is usually not feasible because prices of accommodation consider several factors. Some private hostels charge less for their hostels by taking several factors into consideration. These may include the proximity of the hostel to campus, and whether washrooms are shared with other students or for individual use only, and whether sanitation facilities are available in these hostels or not. Students who cannot aford expensive hostels go in for cheaper ones that usually do not have these basic facilities. Therefore, such may hostel cost less than the school halls.

Again, the Rent Control Department makes it obligatory for all tenants (either for residential or commercial purposes) to pay rent tax to the Domestic Tax Revenue Division of the Ghana Revenue Authority. Tenants are required to pay 8% of the rent cost for residential purposes as tax while 15% of rent cost is supposed to be paid in the case of commercial premises (Rent Control Department, 2020). However, the implementation of the tax payment for residential purposes is not feasible in the country. This may be due to the "disconnection between public policy and the key players involved in the delivery of housing, namely households and the informal institutions (Ghana Statistical Service, 2014, p. 14)." Therefore, landlords who are renting their

houses for residential purposes are supposed to pay the taxes instead of the tenants. And if this proposed project is successful, it will help the government to effectively monitor the payment of rent tax. They may also have the choice to take rent tax directly from tenants as initially planned. The proposed project will also help to check the underpayment of rent tax by landlords since the actual rent cost of housing may not be known by the government. This will help to increase the revenue of the government to invest in other development projects.

Needs Assessment

3.1. Examining Housing Market and Needs of Beneficiaries

To have a better understanding of the needs of the end-users, focused group discussions were conducted with students, and interviews were conducted with 10 landlords. The objectives of the survey were:

1) To examine the challenges involved in finding accommodation to rent

2) To identify services that are available to help students to secure accommodation in the housing rental market

3) To examine students' perceptions about the role a digital platform can play in reducing search frictions.

4) To understand the perception of landlords about a digital platform that provides listing service for the rental housing market

Participants were selected in a two-stage process. First, the University for Development Studies was purposely selected due to the investigator's proximity to the school and being an alumnus. And secondly, students who were willing to participate in the focus group discussions were randomly selected to participate in the group discussions. Five focus group discussions (FGDs) were held among tertiary students. There were 29 participants in total with an age range of 18-26 years. The interviews were conducted by the author of this proposal and were recorded verbatim by a colleague. After the FDG, the recordings and notes were analyzed by the author. And the information gathered formed the basis for designing the proposed project.

Table 1. Charac	cteristics	of Partici	pants
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Characteristics	Number of Respondents
Total number of participants	29
Number of 1 st -year students	12
Number of 2 nd -year students	5
Number of 3 rd -year students	8
Number of 4 th -year students	4
Total number of males	16
Total number of females	13
Age range	18-26
Number of participants who own an android phone	29
Number of Participants who have access to the	29
internet	

3.2. Results

The themes that came up from the data were; a wide range of experiences in the difficulty or ease of finding accommodation, access to information, price of accommodation, availability of a tool to find accommodation, and development of a digital platform. Direct quotations of participants are also provided to illustrate themes but only the year of the student or the level (L100=level 100 or 1st year, L200=level 200 or second year, L300=level 300 or 3rd year, L400=level 400 or final year) and gender (M=male, F=Female) of students are provided at the end of each quotation. The identities of the participants were not taken.

3.2.1. Challenges in Finding a Hostel to Rent

To explore the challenges tertiary students face in finding accommodation to rent, participants were asked; a) how did you acquire/find your hostel to rent? b) how did you find the process of searching for a hostel to rent on campus; very easy, easy, normal, difficult, or very difficult? c) what was your biggest obstacle in the process of searching for accommodation? It was realized that while some students find the process of searching for accommodation very easy, others find the process very difficult. The participants who found it very easy to acquire accommodation to rent found it through the university's website (only the university's halls for rent), through someone else or the Students Representative Council (SRC). The participants contacted friends who happened to be past students or people who are also familiar with campus accommodation and have contacts of landlords. Contacts of landlords were shared with the participants to inquire about the availability of accommodation. The SRC also used a similar approach by providing contacts of landlords on the University's website and a WhatsApp platform for interested students in need of accommodation. Continuing students found it easier to find accommodation than 1st-year students because the continuing students have more contacts and are quite familiar with the vicinity of the school.

However, the majority (about 95%) of the participants found it very difficult to secure a hostel to rent.

[&]quot;I really suffered...I had to go around from one hostel to another... When you go here, they will tell you this one is full, this one is full... This one "koraa" someone rented it out to me..." (F, L100).

[&]quot;I came with a friend on a motorbike... We went around from hostel to hostel and we found this one..." (M, L400).

[&]quot;It was in the rainy season and I had to ride my motorbike through the mud in search of accommodation..." (M, L300).

"I had it through the security man... The school hall was fully occupied when I came so I had to search for a hostel that evening when I arrived from Kumasi... I almost cried..." (F, L100).

From the FDGs, it turned out that the major obstacle in the process of finding accommodation is access to information (about 95% of the participants) followed by rental cost (about 60% of participants). Having access to information about hostel availability, the facilities available in the hostel, the location, and the cost of the hostel makes it easier to find one. When there is a lack of access to information, finding accommodation becomes very difficult. Lack of access to information necessitates moving from one hostel to another to find one. Some students also mentioned price as one of the biggest obstacles. The inability to afford expensive hostels and lack of information to find an affordable one makes the search for accommodation extremely difficult. One participant shared their experience;

"Because I could not afford expensive hostels, I had to keep moving around from one hostel to another until I find one that I could afford..." (M, L200)

3.2.2. Tools for Finding accommodation

One of the objectives of the study was to identify the availability of any service or tool that helps students to easily find hostels to rent. Students were asked; what services do you know of (if any) that helps students to find housing? Participants mentioned that only information about the school halls is provided on the school's website for only level 100 students (thus, first-year students). Level 100 students are obliged to stay in school halls. Until the school halls are fully occupied; level 100 students are usually not allowed to stay in private hostels. It was found that the SRC provides contacts of landlords/hostel owners and prices of hostels on the university's website for students. Also, some continuing students have created a Whatsapp group to provide similar services as the SRC does. Generally, most participants saw the need for improvement in the services provided by both the SRC and the continuing students. A majority (about 80%) of the participants were not satisfied with these services. They mentioned that the services provided by the SRC are not enough to serve all the student population. This is because only a few contacts of the landlords are made available without even adding the price of the hostels as well. The lack of addition of prices of the hostels on the school's website and WhatsApp group sometimes leads to price discrimination (based on nationality, tribalism, and perceived social status of the student by the landlord). This implies that landlords are more likely to charge extra than the actual price of the hostel when they realize that the student is a foreigner or when they perceive that the student has a high economic status. The students sometimes realize this later and sometimes do not realize this at all.

3.2.3. Role of a Digital Platform in the Rental Housing Market

The third objective of the survey was to examine students' perceptions about the role a digital platform can play in helping students to secure an accommodation. Students were asked; do you think that the development of a digital platform with all the required information on accommodation (price, location, facilities available, etc) would be useful to you? All (about 100%) participants agreed that a housing listing service on a digital platform will be of great use and suggested the following to the digital intervention to fill the gaps in the services that are already available.

- Asking hostel owners to provide detailed information about accommodation on the digital platform
- b) Digital platform managers should verify the presence of facilities in hostels before allowing hostel owners to put them on the platform. However, by using the proposed digital

platform, users automatically agree to the terms of service and for that matter, landlords will bear the consequence for any false listing and fraudulent act.

- c) Hostel owners should add rules and regulations of the hostel. Some students reported that being unaware of some informal rules in hostels makes them very uncomfortable staying in such a hostel.
- d) Provide a link to the digital platform available on the university's website to create awareness

Students mentioned that providing housing listing services with all the above information will help to reduce the time and expense in finding a hostel. They mentioned that it will also help them to effectively participate in lectures and do their assignments, though, this is usually generally under-reported. Boateng (2019) also provided evidence of how finding accommodation negatively impacts student's academic activities and psychologically.

"How can we have the peace of mind to study and complete assignments if we have no places to layout heads?" (Boateng, 2019).

The psychological benefit will be of great befit because they will have peace of mind to participate in academic activities when less time is spent to find accommodation. However, even if the proposed project is 100% successful, it is not likely to have a strong impact on market prices or housing availability because evidence from the analysis showed that the rental housing market for students is a market with an extremely inelastic supply curve.

3.2.4. Perception of Landlords on Digital Housing Listing Service

The suggestions from students developed a sense of curiosity in the investigator to seek the views of the hostel owners and landlords on what the students have suggested. About 10 hostel owners were also interviewed following the analysis and recommendation of the students after the focused group discussions. The students suggested that the landlords will have a greater role to play in this project. Hence, landlords were interviewed to understand their perception about digital platform that provides listing service for rental housing market and the role these landlords can play in the development of the platform. The suggestions by the students and the benefits of the digital platform to both students and hostel owners were discussed with each hostel owner who was interviewed. About 9 (representing about 90%) of the hostel owners agreed to provide information on the digital platform when it is developed, except one hostel owner who disagreed because he has decided to give his 5-room hostel to family members to stay in and not to rent it out to students anymore.

All the other nine landlords showed a very high interest in the development of the digital platform. They saw that a digital platform that provides listing services for the rental housing market will help them to market their hostel. One landlord explained that:

"Digitizing housing service will help us a lot... We have been paying about 800 cedis to the local government for renting houses but nothing of that sought has been done to support us in marketing our services... This is a very good idea... Please let us know when the digital platform is ready... It will help us a lot." (A landlord who own a hostel and also manages hostels belonging to his brothers).

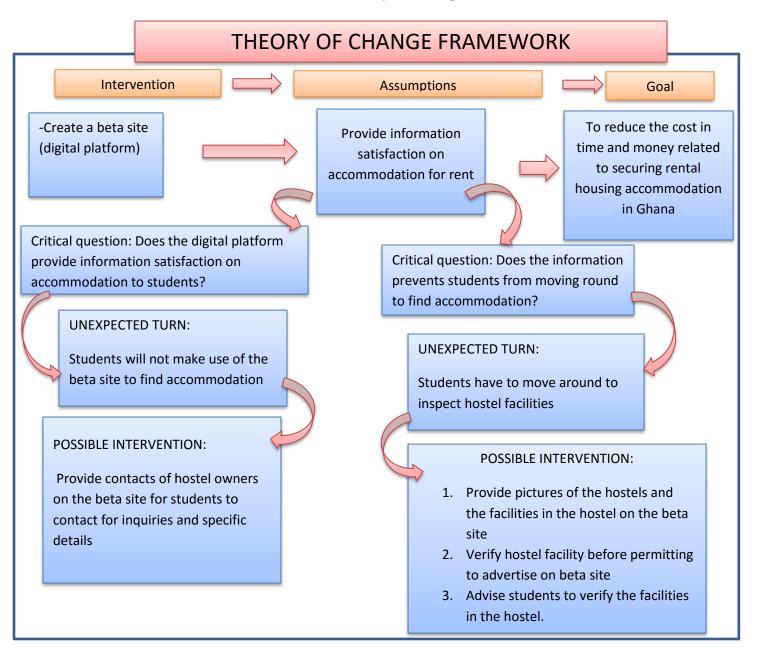
The landlords also believed that listing rental housing on a digital platform will help to increase their revenue. They believe that information about vacant rooms could be made available to a relatively larger number of students at a time. This will enhance early rental after a room or apartment is vacant and also reduce the loss of revenue to the landlords.

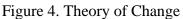
3.2.5. Conclusion

The conclusions drawn from the results are;

- I. Some students found it easy to access information and accommodation through the SRC, friends, and through the university's website (for only the school's hall accommodation). However, some students still struggle to find accommodation to rent due to a lack of access to information and affordability issues. About 95% and 60% of the students mentioned lack of access to information and rental cost as the major obstacle in securing accommodation.
- II. Tools to find accommodation are generally limited to students who do not intend to stay in school halls. The SCR and continuing students play a role in helping students to find accommodation. However, about 80% of the students are not satisfied with these forms of assistance.
- III. All the students about (100%) feel that there is a need to develop a digital platform with detailed information about accommodation to reduce the time, cost, and the stress they go through in finding one. Spending less time in finding accommodation will help students to effectively participate in academic activities (lectures and assignments).
- IV. About 90% of the landlords showed a very high interest in the proposed project and perceived that it will help in marketing their hostels and also increase their revenue.

Theory of Change





4.1. Description of the Theory of Change

The intervention seeks to develop a beta testing site and then create an app subject to the outcome of the beta test to provide rental housing listing service to students. Beta testing refers to the testing of tech products with a small number of potential adopters in the real world to get

feedback for scale-up (Dolan and Matthews, 1993). Robert J. Dolan and Matthews point out that beta testing is done for the following reasons: 1) To test the function of the product to see if the product does what it is designed to do, 2) To determine marketing policies (economic value of a product to the customer) and 3) To promote sales.

The project seeks to start with a beta testing site before scaling up. The main goal of the project is to reduce the cost in time and money in securing accommodation. It is assumed that developing a beta testing site will provide students with all the information needed to find accommodation.

A critical question with regards to this assumption is, does the beta site provide information that would satisfy the information needs of students to find accommodation? An unexpected turn is that students will not make use of the website to find accommodation if they are not satisfied with the information provided. A possible intervention to help deal with this unexpected event is to provide contacts of hostel owners on the website for students to call for inquiries and specific details of interest to students.

Another critical question with regards to this assumption is, does the beta site helps to reduce the time student spend in finding accommodation? An unexpected turn is that students may want to inspect the hostel and its facilities and would still need to move around. A possible intervention is to ask hostel owners to provide pictures of the hostels and the facilities in the hostel on the platform. Students will also be advised to make video calls with hostel owners to verify the facilities in the hostel. Students will be allowed to share their experiences with landlords and the hostels they have ever stayed in, to ensure information transparency.

Project Description

5.1. Goal and Objectives

Goal: To reduce the cost in time and money related to securing rental housing accommodation in the Ghanaian rental housing market by the end of 2021

The specific objectives are:

- 1. A minimum of 1000 landlords sign up on the platform by the end of 2020
- 2. A minimum of 10,000 students sign up for the platform by the end of 2021
- 3. A minimum of 10,000 students finding housing through the platform by the end of 2021
- 4. A minimum of 60% reduction in time and cost in find accommodation by 2021

5.2. Activities

5.2.1. Developing a Digital Platform

A web designer will be engaged to develop the digital platform. The digital platform will provide detailed information about accommodation to students. Some specific information of concern to students includes the price of a hostel, the facilities available in the hostel (sanitation, water, reservoir, etc), terms and conditions, rule and regulations of the hostel, walking distance from the hostel to campus and the availability of individual pre-paid electricity meter or not. Landlords will be made aware of the beta site or platform. The landlords and hostel owners will be required to sign up and provide all the requested information about their hostel on the platform for students to use it to easily secure accommodation.

5.2.2. Advertisement, Beta Testing, and Business Model

Creating awareness about the digital platform is very important to help in achieving the goal of the project. Advertisements will be made on social media platforms such as Facebook and WhatsApp to make hostel owners and students aware of the platform that has been developed. Continuing students will also be encouraged to share information about the platform with their landlords. Students will be encouraged to make use of the platform and share it with their colleagues.

The platform will be tested with real-world users after the alpha test (testing of the products by site developers or employees). The beta test will help to identify bugs and gaps for improvement in its functionality. A survey will be conducted with the landlords, users, and non-users for feedback to review and develop a sustainable business model to ensure customer satisfaction. The inclusion of non-users in the survey is particularly important in this intervention because understanding the reason behind non-usage could help in filling a huge gap. This may help to engage a relatively larger number of end-users.

5.2.3. Business Model

The business model takes into consideration, the cost and activities involved in the planning and implementation of the project to ensure customer satisfaction in both the short and long term. Some specific items in the table that needs further clarification are explained as follows.

Partnerships and collaboration. The key partners that will be engaged are the local government, a web designer, and the Student Representative Councils (SRCs) of tertiary institutions.

The local government will be engaged because they are the organizational body that is responsible for registering all landlords who rent out their houses including hostels. The proposed project might be of great benefit to the government since it will help them to effectively monitor how many houses every landlord is renting out and the cost charged per room or apartment. This will enhance transparency in transactions between landlords and tenants and help the government (The Rent Control Department) to effectively charge rent tax accordingly, to reduce the underpayment of rent tax by landlords. Also, the Rent Control Department can assist in settling disputes between landlords and tenants since they are obliged to so. And a partnership with them will help to facilitate the settlements of fraud or libel that may occur through the use of platform to secure accommodation. The Rent Control Department can also link new landlords to the existence of a new platform to advertise their houses for rent. And they also have the power to make it mandatory for every landlord to use the platform for advertisement purposes so that they can charge the rent tax accordingly since transactions will be more transparent through the platform. Also, in the case of advertisement externalities, the Rent Control Department can influence the Ministry of Water Resources, Works and Housing to come up with public policies to counteract the negative impact of advertisement on both landlords and renters. They have the mandate to improve upon the operations in the housing market to work effectively (Ghana Statistical Service, 2014). Hence, government representatives under this department will be consulted frequently throughout the life cycle of the project.

The SRCs of tertiary institutions will be engaged in the project implementation. The SRCs are usually set to ensure the welfare of students by fighting for the rights of students in tertiary institutions. The SRC in some tertiary institutions has already taken the initiative to reduce search frictions in the rental housing market for college students by linking students with landlords. They

will also be consulted frequently throughout the project cycle. Currently, no incentive for the SRC's engagement in this project has been identified yet. However, since the SRC is obliged by its constitution to seek the welfare of students, helping to reduce search frictions in the rental housing market for students is considered as one of the means to perform their duties effectively.

Lastly, a web designer will be engaged to develop and maintain the beta site as a business partner. This web designer is a co-founder of the proposed project. For this reason, the success of the project will be the main incentive to the web designer due to his high interest and commitment to make the project achieve its goals and objectives.

Revenue stream. Landlords will be charged a flat fee of \$15.00 for advertisement. This fee will be charged per post per year. This is because housing is usually rented out to students on yearly and semester bases. But the yearly base is commonly applied in the rental housing market in Ghana in general (Rent Control Department, 2020). The minimum number of landlords required to break even for the first year is about 500 landlords. However, our objective is to reach out to 1000 landlords by the end of 2020 to generate a revenue of about \$15,000 for the first year. Advertisements by landlords who refuse to pay this fixed charge in a month will be blocked from the public view on the web site until payment is made. The landlords will be informed about this blockage for them to make payment for their advertisements one of their priorities.

Content generation and maintenance. Contents on the platform will be generated by users by signing up on the platform. However, preference will be given to the landlords since they are in control of the prices they charge for their hostels and this charge is always subject to change. Students may be allowed to also share their experience in their past and current hostels in addition to providing contact details of their respective landlords. This will help to provide more information on the range of hostels available. It will speed up and enhance the content generation

and check false listing in a way by landlords (for example, lying about the presence of a water reservoir or water tanks in the hostel). Provision will be made for students to share their experience in hostels and bear witness against any false listings. It is the responsibility of users to frequently update the information provided on the platform as and when there are vacancies, a change in rent cost, and the development of new facilities inside or around the place of accommodation. But the company has the mandate to re-arrange or re-order contents on the platform.

Since enterprise seeks to partner with the Rent Control Department, they will assist in resolving libel and fraudulent acts by users of the platform to find accommodation through legal means. The Rent Control Department plays a critical role in resolving disputes between landlords and tenants in Ghana through the appropriate channel. And hence, partnership with them will be of great benefit. Moreover, when users sign up to use the platform, they automatically agree to the "terms of use" including legal terms, and will bear the consequences when they break the terms of use. And for that matter, users hold final liability for the veracity of content they provide on the platform. Provision will be made for victims of libel or fraud to report such incidence for culprits to be dealt with accordingly and to compensate their victims. However, a provision will also be made on the platform to caution users against libel, how to identify any suspected fraud, and to report it as soon as possible.

1 doie 2. Dus	BUS	SINESS MODEL CAI	NVAS				
KeyKey ActivitiesPartners-Developing a beta testing-Thesite/projectgovernment-Advertising beta site tolandlords to sign up to-SRCmarket their houses for rent-Advertising beta testing-Website to students for usedesigner-Risk management-Interviewing customers forfeedback for productimprovement andmarketing policies		Value Prepositions -Reduce search frictions -Provided rental housing listing service -Increase the supply of housing -Reduce time in finding accommodation -Reduce expense in finding accommodation	VVAS Customer Relationships -Provide a beta site for landlords to market their hostels to students -Provide students with information online to easily find accommodation		Customer Segments -Landlords in Ghana -Tertiary students Target Number -1000 landlords -10,000 students		
Key Cost Str	Key Resources-2 key staff-Start-up capital-Computers-Office phonecucture(\$) USD	-Increase the revenue of landlords -Enhance payment of rent tax	-Faceb -Whats -Phone	tisement ook sApp e calls nessages	Content Generation -By users, preferably landlords		
Key Cost Sti	Fixed costs	-Charging landlords S			tform developed		
Registration of enterprise 100		-Landle			sement of the platform ds sign up on the platform s make use of the platform		
Beta site 200							
Office items	1,200	break even is 500 landlords		to find accommodation			
Total fixed	costs 1,500			-Business model developed			
Variable costs		-500 landlords x \$15=7,500		-60% reduction in time spent in finding accommodation			
Staff salary 4,800		-The targeted number	r of	-60% reduction in expense in			
Office utility 700		landlords = 1000 landlords by the end of 2020		finding accommodation			
Transportation 200							
Advertisement 200		-Total revenue for the first					
Monitoring &	z Evaluation 200	year; 1000 x $$15 = \frac{$15,000}{}$					
Total variab	le cost 6,100						
Total cost	7,500						

Table 2. Business Model

5.3. Sustainability Plan

To ensure the sustainability of the project for the next 3 years, the following measures will be taken.

- Develop the vision and mission of the enterprise and implement required actions to achieve them
- Clearly spell out goals and objectives for the first year.
- Review goals and objectives annually after evaluation to improve the performance of the business
- Regular advertisement of the digital platform on social media platforms throughout the project cycle.
- Frequent evaluation; Feedback from non-users is very critical to the success of the initiative because it can help to include features and services of interest to non-users for them to start using the site to find accommodation. This will help to review the performance of the business and business policies, identify new opportunities and assess areas that need improvement.
- Support innovations in the business where necessary.
- Effective management of advertisement externalities and risk in partnership with the Rent Control Department to ensure user safety
- Assess global issues, learn national and international laws and check compliance of business with laws and standards.
- Partner with Tonaton in the future whenever there is the need.

5.4. Evaluation

The success of the project will be evaluated based on the goal and objectives the project seeks to achieve. The goal of the project is to reduce the cost in time and money related to securing rental housing accommodation in the Ghanaian rental housing market by the end of 2021.

Specific Outcome and Outputs are;

- 1. A minimum of 1000 landlords sign up on the platform by the end of 2020
- 2. A minimum of 10,000 students sign up for the platform by the end of 2021
- 3. A minimum of 10,000 students finding accommodation through the platform by the end of 2021
- 4. A minimum of 60% reduction in time and cost to find accommodation by 2021

The outcome and outputs will be measured as summarized in the table below.

 Table 3. Table Monitoring and Evaluation Plan

	Target Value	Frequency	
is easy to fin	d 90% of students/users	Every 6 months	
accommodation through the digital platform			
imum of 609 st in findin		Quarterly	
accommodation Output Number of landlords who sign up for the platform by August 2020		Quarterly	
Number of students who sign up for the platform by December 2020			
Number of students who found accommodation through the beta platform by December 2020			
leveloped b	y 1	Once	
Number of advertisements in public gatherings and social media per month from June 2020		Quarterly	
conducted b	y 20	Once	
arch 2020	1	Once	
ember 2020	50% of users 30% of non-	Quarterly	
mber 202	20		

Implementation

6.1. Timeline

The activities that would be carried out in this project mainly involve the development of a beta testing site, advertisement of the site, registration of the enterprise, and surveying for feedback to improve upon the function of the beta site and the service it seeks to provide. Detail of the timeline is summarized in the table provided below

Table 4. Activ	vity Timeline
----------------	---------------

	The year 2020										
	Jan	Feb	Mar	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Engage a web designer											
Develop a beta site											
Registration of enterprise											
Beta testing											
Advertising the platform											
Conduct a survey											
Review business model											
Evaluation											

6.2. Capacity

Two key staff personnel will be adequate for initiating the project. The web designer will oversee the development of the platform while the other staff member will also lead the marketing of the digital platform and oversee operations. Two laptops, access to reliable internet, and 2 smartphones will support office work to ensure a successful implementation of the project in the first year.

6.3. Money

The project seeks to make very efficient use of resources at disposal to achieve the objectives and goals of the project. The tentative budget for the first year is about \$7,500. The budget breakdown for the project is summarized in the table below.

S. No	BUDGET FOR 1 ST Year (12 MONTH)							
	Item Description	Quantity	Unit Price (\$) USD	Total Price (\$) USD				
1	Registration of Enterprise	NA	100	100				
2	Development of Beta Site	1	100	200				
3	Advertisement (Social media and radio stations)	NA	NA	200				
4	Transportation (for consultations, advertisement, registration, etc)	NA	NA	200				
5	Key Staff Salary	2	200/person/month	4,800				
6	Monitoring and Evaluation (Beta testing, survey, etc):	NA	NA	200				
7	Office utility (Phone minutes, printing, internet bundle, etc)	NA	NA	700				
8	Office Items (laptops and phones)	2 laptops 2 phones	400 per laptop 200 per phone	1,200				
	Total	-		<u>7,500</u>				

Hence, the estimated total budget in the first year is **<u>\$7,500.</u>**

References

- Accommodation challenges in public universities 'news to me' Prof. Yankah. (2019). Retrieved
 - from https://www.ghanaweb.com/GhanaHomePage/NewsArchive/Accommodationchallenges-in-public-universities-news-to-me-Prof-Yankah-684723
- Adama, J. U., Aghimien, D. O., & Fabunmi, C. O. (2018). Students' housing in private universities in Nigeria: influencing factors and the effect on academic performance. *International Journal of Built Environment and Sustainability*, 5(1)
- Afful-Broni, A. and Hogrey, P. (2010) "A comparative study of residential and non-residential students academic performance at the University of Education, Winneba," *Academic Leadership: The Online Journal*: Vol. 8 : Iss. 1 , Article 2. Available at: https://scholars.fhsu.edu/alj/vol8/iss1/2
- AirB&B.GhanaStays.Retrievedfromhttps://www.airbnb.com/s/Ghana/homes?refinement_paths%5B%5D=%2Fhomes&screen_size=medium&query=Ghana&place_id=ChIJx9baqM1a1w8RNtKT0DDy11Q&search_type=autocomplete_click
- Akaba, S, K. (2015). Investigating electronic marketing and hotel performance in Ghana: The customers' perspective. Retrieved from http://ugspace.ug.edu.gh/handle/123456789/8464
- Anne. (26th September 2019). University of Ghana to implement freshers first residential policy. Retrieved from https://kuulpeeps.com/2019/09/university-of-ghana-to-implement-freshers-first-residential-policy/
- Arku, G. (2006). Housing and development strategies in Ghana, 1945–2000. International Development Planning Review, 28(3), 333-358

- Benjamin, J. D., & Lusht, K. M. (1993). Search costs and apartment rents. *The Journal of Real Estate Finance and Economics*, 6(2), 189-197. doi:10.1007/bf01097026
- Boamah, N, A. (2010). Housing affordability in Ghana: a focus on Kumasi and Tamale. Ethiopian journal of environmental studies and Development, 3(3)
- Boateng, C. (August 2019). UG accommodation crisis: Over 9000 freshers stranded. Retrieved from https://www.graphic.com.gh/news/general-news/ug-accomodation-registrationportal-hacked-authorities.html
- Bondinuba, F. K., Nimako, S, G., & Karley, N. L. (2013). Developing student housing quality scale in higher institutions of learning: a factor analysis approach. *Urban Studies Research*, 2013
- Bondinuba, F., Karley, D., Biitir, S., & Adjei-Twum, A. (2016). Assessing the role of housing microfinance in the low-income housing market in Ghana. *Bondinuba FK, Karley NK, Biitir SB, Adjei-Twum A, 44-54.*
- Brantuo, A. (2019). Gov't interference responsible for accommodation crisis UG's Dean of
 Students. Retrieved from https://www.myjoyonline.com/news/2019/September 4th/government-interference-responsible-for-accommodation-crisis-ugs-dean-of-students.php
- BusinessGhana. (2019). Ghana: Thousands of new affordable homes for teachers and students. Retrieved from https://www.businessghana.com/site/news/General/185112/Ghana-Thousands-of-new-affordable-homes-for-teachers-and-students
- Collier, P &Venables, A, J. (2014). Housing and urbanization in Africa: Unleashing a formal market process.
- Derban, W, K., Derban, D, K., Ibrahim, G & Rufasha, K. (2002). Microfinance for housing for low/moderate-income households in Ghana. In a presentation at the Conference on

Housing and Urban Development for Low Income Groups in Sub-saharan Africa. (pp. 22-26)

- Dolan, R. J. & Matthews, J. M. (1993). Maximizing the Utility of Customer Product Testing: Beta Test Design and Management. Journal of Product Innovation: An International Publication of the Product Development & Management Association, 10(4), 318-330
- Fradkin, A. (2015). Search frictions and the design of online marketplaces. Proceedings of The Third Conference on Auctions, Market Mechanisms and Their Applications. doi:10.4108/eai.8-8-2015.2260850
- Ghana National Development Plan 2008
- Ghana Statistical Service. (2014). 2010 population and housing census. Retrieved from http://webdeploy.statsghana.gov.gh/docfiles/2010phc/Mono/Housing%20in%20Ghana.pd f
- GhanaWeb. (2018). Double Track System: GES explains implementation processes. Retrieved from https://www.ghanaweb.com/GhanaHomePage/NewsArchive/Double-Track-System-GES-explains-implementation-processes-683793

Ghanaweb (2012). Housing Deficit to Double. Retrieved from http://www.ghanaweb.com

- Intsiful, G. W. K. (2017). Addressing the housing issue in Ghana. Retrieved from https://www.graphic.com.gh/features/opinion/addressing-the-housing-issue-in-ghana.html
- Jeong, M., Oh, H., and Gregoire, M. (2003). Conceptualizing Web site quality and its consequences in the lodging industry. International Journal of Hospitality Management, 22, 161–175.
- Jiji. Retrieved from https://jiji.com.gh/

- Kamran, M., Liang, Y. & Trines, S. (2019). Education in Ghana. Retrieved from https://wenr.wes.org/2019/04/education-in-ghana
- Kamran, M., Liang, Y., and Trines, S. (Aprial, 2019). Education in Ghana. World Education News and Reviews. Retrieved from https://wenr.wes.org/2019/04/education-in-ghana
- Luginaah, I., Arku, G., & Baiden, P. (2010). Housing and health in Ghana: The psychosocial impacts of renting a home. International Journal of Environmental Research and Public Health, 7(2), 528-545
- Makinde, O, O. (2014). Housing delivery system, need, and demand. *Environment, Development* and Sustainability, 16(1), 49-69
- Merrill, S. & Yoder, S. (2017). Can we adapt market systems strategies for housing? Retrieved from https://beamexchange.org/community/blogs/2017/12/21/market-systems-strategies-housing/
- Ministry of Water Resources, Works and Housing. (2015). National Housing Policy. Retrieved from http://www.mlgrd.gov.gh/ctn-media/filer_public/02/7b/027bc3a2-c4f1-4a31-a6fd-144d35d541f7/ghana_national_housing_policy.pdf
- Mortensen, D. T. (2011). Markets with search friction and the DMP model. *American Economic Review*, *101*(4), 1073-1091. doi:10.1257/aer.101.4.1073

National Accreditation Board. (2016). Tertiary Education Statistics Report.

National Accreditation Board. (2018). Number of accredited tertiary institutions in Ghana per category as of April 2018. Retrieved from http://www.nab.gov.gh/news1/414-accredited-published-tertiary-institutions-as-at-august-2016-summary

- Nsiah, M. D. (2017). Assessing rental housing delivery in Ghana. The case of Abeka, a suburb of Accra Metropolitan Assembly. Retrieved from https://erl.ucc.edu.gh/jspui/bitstream/123456789/3371/1/NSIAH%202017.pdf
- Obeng, D. N. Y. (September 2019). UG's accommodation crisis: 'Beds or cocaine. Retrieved from https://www.ghanaweb.com/GhanaHomePage/features/UG-s-accommodation-crisis-Beds-or-cocaine-777288
- Read, C. (1988). Advertising and natural vacancies in rental housing markets. *Real Estate Economics*, *16*(4), 354-363. doi:10.1111/1540-6229.00460
- Rostow, W. W. (1949) *The Stages of Economic Growth: A Non-Communist Manifesto*, Cambridge University Press, London
- The Springfield Centre (2015) The Operational Guide for the Making Markets Work for the Poor (M4P) Approach, 2nd edition funded by SDC & DFID

The Rent Control Department. (2020). Retrieved from http://rentcontrol.gov.gh/

The Royal Swedish Academy of Sciences (2010). Markets with search frictions. Retrieved from https://www.nobelprize.org/uploads/2018/06/advanced-economicsciences2010.pdf

Tibaijuka, A. (2013). Building prosperity: Housing and economic development. *Housing and Development*. Routledge

Totaton. Retrieved from https://tonaton.com/en/ads/ghana/houses

University accommodation crisis ...landlords, students cash in from fresh students. (2019). Retrieved from https://thebftonline.com/2019/editors-pick/university-accommodationcrisis-landlords-students-cash-in-from-fresh-students/ World Data Atlas. (n. d). Ghana - Gross enrolment ratio in tertiary education. Retrieved from https://knoema.com/atlas/Ghana/topics/Education/Tertiary-Education/Gross-enrolmentratio-in-tertiary-education

Appendix A: Questionnaire for Students

Focused Group Discussion (FDG)

This study is solely for academic purpose and the identity of participants will not be captured nor disclosed in any way. You can contact Balchisu Adam (adambalchisu@yahoo.com), a student at Regis University for questions and feedback.

Improving Housing Market Efficiency in Ghana

Date
FDG Number:
Institution of Participants:
Total Number:
Age range
Number of males:
Number of Females:
Number of participants who have access to phone w/ internet/lab:
The number of: Level 100 Level 200 Level 300 Level 400

- 1. How did you acquire/find your hostel to rent?
- 2. How did you find the process of searching for a hostel to rent on campus?

Rate the process, where 1=very easy, 2=easy, 3=normal, 4=difficult and 5=very difficult

Item	1	2	3	4	5
Easy					

3. What was your biggest obstacle in the process of searching for accommodation?

3a. Is access to information on accommodation a problem? If yes, how?

3b. Is the price of the hostel a problem? If yes, how?

3bi. How does price affect the search for a hostel? [If how price affects searching is not

mentioned]

4. What were your most significant transaction costs in finding housing? (transportation,

phone calls, commission fee, price discrimination)

5. What services do you know of (if any) that helps students to find housing? (aside hostel

owners, hall attendants, and landlords)?

5a. If yes, what kind of service is provided? Have you ever used this service?

5b. If so, are you satisfied with the services these individuals/groups provide?

If yes, why?

If no, move to Q7

- 6. What can be done to improve the search for accommodation? [improving access to the information?]
- 7. Do you the think that the development of a digital platform with all the required information on accommodation would be useful to you? If yes how?
- 8. How would you want any digital platform that seeks to make it easier for you to search for hostels/rooms to rent function? [eg, in the form of app or website, offline,

information that needs to be provided, the general interface]

Additional notes

Appendix B: Questionnaire for Landlords

Students are complaining about the difficulty in searching for accommodation. The students have suggested that a digital platform should be developed to help make the task easier. The majority of the students insisted that landlords should provide information about accommodation, the facilities available, price, location, and rules and regulations of the hostel on this digital platform.

Yes	No	Why	How can you support to build this platform	Name & contact