GharBhada: Rental Management Platform

Full Name: Krishma Shrestha

Student Number: 2431161

Course: Project and Professionalism (6CS007)

University Email Address: K.Shrestha32@wlv.ac.uk

Supervisor: Siddhartha Thapa

Reader: Durga Pokharel

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Abstract

This review examines literature related to digital rental management platforms and their role in utilizing technology to create leverage to improve transparency, efficiency, and trust in housing markets. While examining existing and new global and regional platforms (such as Zillow, CommonFloor, Airbnb, Rent.com, and Lalpurja Nepal) this literature review aims to highlight their features, strengths, and weaknesses. The key themes examined in this review include automated payments for rent and utilities, digital agreements, trust scoring, booking management, and engagement of users (landlords and tenants). As discussed in the research on digital solutions, these services reduce disputes, create greater accountability, and increase the utilization of rental services. While technology services can build trust with users, as demonstrated in the Nepali case study, there are gaps in in a single provision by not offering an end-to-end platform for the "rental lifecycle," which is needed in the Nepali context. This review notes that there is a need for a service like GharBhada that provides an integrated platform for property search, booking, payments, digital agreements, grievances, and administration ecosystem that is trusted by users.

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Yours sincerely,

Krishma Shrestha

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1. Introduction

Nepal's rental housing market is heavily fragmented, and largely still a manual model reliant on brokers, informal custom, and endless paperwork. For tenants, it is exceedingly difficult to check the authenticity of properties, pay rent and utilities, or request maintenance and repairs. For landlords, delayed rental payments, lack of accountability, and administrative inconvenience are extremely common. The two existing platforms, Lalpurja Nepal and HamroBazar, provide property advertising functions but do not support the entire rental cycle (Lalpurja Nepal, n.d.). This limits transparency through static advertising websites, process efficiency due to reliance on brokers, and trust, as each stage is primarily manual.

The objective of this literature review is to explore both international and local digital rental housing market platforms and research relating to rental digitalization to better understand good practice and technology that can help to improve era of rental engagement, trust, and experience. The review explores issues in current systems that GharBhada will address through the development of a complete Nepali focused platform, including property discovery, booking, digital contracts, auto payments, complaints system, and administrative systems.

2. Literature Review

The review of the literature is organized thematically around a few important areas crucial to the establishment of a complete rental management platform. The review consists of Research and Paper Analysis and Similar Systems, which capture technological, operational, and user-oriented features that influence the design of GharBhada.

2.1 Research and Paper Analysis

2.1.1. Digital Rental Platforms and Automation

As I read Automated landlord: Digital technologies and post-crisis financial accumulation by (Fields, 2019), I was struck by the discussion of how automation within systems of renting creates more reduced errors, automates the tracking of rent and generates new forms of monetary accountability that existed before. For example, the study reviews that when platforms automatically send notifications, reminders and generate reports, tenants become more engaged, and landlords have fewer disputes with tenants. However, I think the study lacks much detail on how local payment gateways or multi-stakeholder integrations could be operational including implication for a country like Nepal. For my planned project GharBhada, this work serves to reinforce at least the importance of automatic rent & utility payments, notification reminders and reporting dashboards to tenants and landlords.

2.1.2. Trust Scoring and Fraud Detection in Rental Systems

I learned from (Ferreri & Sanyal, n.d.)that trust scoring has the potential to work well for digital platforms in the rental space. In their study in urban Delhi, they pointed out how platforms with tenant/landlord verification and rating systems can significantly lower disputes and fraud. Even though their context is India and not Nepal, it still shares many similarities, especially with regard to informal practices. Therefore, I believe GharBhada could include a verification system, trust scores and ratings to improve transparency and security between users.

2.1.3. Blockchain and Smart Contracts in Property Leasing

In the report Housing rental system based on blockchain technology (Li & Wang, 2021), the authors look into the use of blockchain, as well as smart contracts, for rental systems: agreements that cannot be manipulated, automatic compliance with lease agreements, and improved trust. They find that contracts stored on a decentralized ledger can mitigate conflict. The major limitation they identify is cost and complexity, especially in smaller markets. For GharBhada, this research underpins the design of the digital agreement module — being sure that lease agreements will be secure, auditable, and potentially automatable, even if this will not be a fully-fledged blockchain implementation right away.

2.1.4. Automated Payment Systems in Rental Management

The study Addis Ababa online home rental management system, Ethiopia (Obse, 2025)examined a rental management system in Ethiopia and reported that automated rent payments and utility payments yielded a higher degree of transparency in the system while also reducing conflict. They identified barriers to adoption and challenges in scaling. This suggests that I must build GharBhada's payment system around local payment gateways (e.g., eSewa, Khalti) to create trust and convenience while considering the potential to scale.

2.1.5. User Engagement and Experience in Property Platforms

I learned from Digitalization of the Housing Search: Homeseekers, Gatekeepers, and Information (Boeing & Besbris, 2021)that user engagement and an intuitive UI/UX are essential in developing users' willingness to adopt property platforms. Their qualitative study shows that a range of features, including advanced filtering, notifications, and analytics, generate user uptake. The study's limitation is that it provides more context than an already developed market; adapting their approach for the Nepal context may require additional localization. However, for GharBhada, the implications are clear; attention needs to be paid to the design and usability of dashboards, search filters, and recommendation engines for both tenants and owners.

2.1.6. Digital informalisation & platform risks

In my reading of Digital informalisation: rental housing, platforms, and the management of risk (Ferreri & Sanyal, 2022), I found the authors introduce the concept of digital informalisation to highlight that rental-housing platforms, instead of just formalising the market, often activate new types of opaque governance. They discuss how algorithmic redlining, biased tenant-profiling and risk-based filtering can transform access to housing markets, even in contexts that have formal contracts. To me, this means that with GharBhada, I need to think beyond just digitising processes; I must build in design mechanisms designed to counter new forms of exclusion. For example, my trust-score system cannot be a "black box"; I must be transparent with what ratings mean and build in human oversight and appeals processes. The strength of the paper lies in its sociological analysis and critique of the platform governance, but its limits are that it engages less with the technical implementation of such governance. This is a space where GharBhada is missing, architecturally.

2.1.7. Blockchain & smart contracts in rental systems

In the paper "Towards a Trustworthy Rental Market: A Blockchain-Based Housing System Architecture, (Tseng, et al., 2025) explored how the authors afford an end-to-end architecture for rental housing using blockchain. The paper suggested verifying user identities and property ownership through Decentralized Identifiers (DID), to immutably store leases, and integrate third-party verifiers. The relevance to GharBhada is that I can select a hybrid rather than establish everything as blockchain based. I could anchor important documents (e.g., agreements, move-out checklists) to the ledger for tamper evidence, while having leased transactional data remain in MySQL for performance, and cost considerations. The strength of the paper is the depth of their architecture. The limit is that their architecture has not yet been field tested in Nepal, or similar low-resource setting. That is certainly a gap to my design (e.g., localisation, cost-effectiveness, user training).

2.1.8. Trust, reputation and rating systems

In my evaluation of Trust and power in the digital rating and reputation system of Airbnb (Christiaens, 2025), I discovered that trust and power embedded in ratings and reputation can strongly alter access and inequality, while also potentially exacerbating biases like a host preferring a certain profile or a guest preferring a certain host. Therefore, for GharBhada, a trust-scoring system will need to be multi-dimensional and incorporate document verification, payment history, response time, and a complaint resolution process, rather than simply one star ranking system. Lastly, a transparent logic in scoring, along with a mechanism for appeal and override, are must-haves to ensure subjectivity does not remove a guest from accessing housing. The merit of Christiaens' paper is its inclusion of real-world empirical evidence, while the limitation is its focus on short-term rental markets, meaning I need to rethink how its findings could be applied to long-term rental lifecycle of GharBhada.

2.1.9. Payment gateways & local fintech integration

While reviewing internal industry reports, I noted a growing user adoption of Nepali payment gateways, such as eSewa and Khalti, and incorporating these options into your rental platform will greatly enhance adoption in Nepal. From the perspective of your project, I will need to build the payment module to include strong logging, error-handling (e.g., handling failed transactions/callback verification), and reconciliation dashboards for owners and admins. Although most of these documents are practitioner-based (rather than peer-reviewed), the reports provide valuable information on local market behavior. For some general insights into trends in digital payment adoption, I consulted (Anne, 2024), as it covers e-commerce and digital payments in Southeast Asia, with relevant factors pertaining to GharBhada (e.g., transaction security, user trust, etc.).

2.1.10. Oracles, smart-contract tooling & latest research

In my examination of "Blockchain Oracles: State-of-the-Art and Research Directions" (Ezzat, et al., n.d.) I read that oracles (exogenous event-feeds into smart-contracts) are increasingly broached as a mechanism to relay off-chain data (ex: trim readings, move-out confirmations) into on-chain conditional payments. The relevance to GharBhada is evident: I could pilot an "automatic deposit release" flow where, once a tenant provides confirmed record of move-out and owner verification occurs, a smart-contract (or comparable automated backend logic) delivers the deposit release. However, the overall framing of ORACLES is one that introduces significant issues of data-trust, with reliance on exogenous feeds, heightened complexity and cost trade-offs. From a pilot/application perspective, I would intend to phase in such flows as opposed to roll out straight away.

2.2 Similar Systems

In this subsection I examine existing platforms to understand their features, strengths and drawbacks, and what I could borrow (or improve) for GharBhada.

2.2.1. Zillow

Zillow is a prominent online real estate marketplace in the U.S., providing listings, search filters, valuations, and interactive resources. Their website specifically states that they "help people find and get the home they want by linking them to digital solutions, great partners, and easier renting experiences." I noted that Zillow had advanced searching (map view, filters, saved homes) and marketing capabilities, but it seems that there is no built-in automated component for rent/utility billing, digital agreements, or complaints processing into the rental lifecycle (Zillow, n.d.). From an academic perspective, Zillow represents a strong platform for property discovery, but not a complete lifecycle rental management one. This gap creates an opportunity for GharBhada to combine the booking → agreement → payment → maintenance processes.

2.2.2. CommonFloor

CommonFloor is an Indian property portal that claims it "offers a comprehensive search for buy/rent, coverage of a huge number of apartments, community tools, feedback, and discussion modules" (2021). Many of its attractive features for owners include communal management, vetting owners for vendor directory, potential maintenance and tracking, and SMS alerts. However, rent/utilities payment in the portal for owners is not automated, nor digital leasing contracts, nor full complaints and tracking workflow for tracking tenant-owner relationships (CommonFloor, n.d.). In addition, GharBhada could utilize the community tools as a base for tenant per owner interactions, but the rest of the lifecycle features indicate they could push this further with additional features for the Nepalese market.

2.2.3. Rent.com

Rent.com is a rental listing platform in the United States which serves users to discover properties, manage filters, and listings in a general sense. It provides tenants with an easy search and filter interface, but less evidence of complete agreement, payment automation, or complaint/maintenance workflows (Rent.com, n.d.). So, for GharBhada, I feel like Rent.com is a useful model for simple and intuitive search and filter design, but less useful for lifecycle management.

2.2.4. Airbnb (Long-Term Rentals)

While Airbnb is mainly known for short-term rentals, still some markets offer long-term stays. Its strengths are in booking flows, review/rating systems, and trust signaling (users being hosts/guests). However, as evidenced, Airbnb does not fully support long-term utility billing, digital lease agreements for longer stays, or maintenance/complaint workflows that are detailed (Airbnb, n.d.). For GharBhada, Airbnb is a good model for trust ratings/booking flows but needs to build out the entire rental lifecycle for longer-term leases.

2.2.5. Lalpurja Nepal

Lalpurja Nepal is a property marketplace based in Nepal. They identify themselves as "a Real Estate Marketplace and Information Platform to help Real Estate Agencies, Private Sellers and Buyers, Developers, and do not control or impact any transactions". Based on my review, Lalpurja supports property listings (rent/buy) and includes user access via an app, but lacks advanced features like role-based bookings, digital contracts, automated payment, utility tracking, complaint management, or analytics dashboards (Lalpurja Nepal, n.d.). For GharBhada, the local relevance of Lalpurja is good (cultural relevancy, habits for paying rent), but it is limited- which suggests a narrow scope of opportunity to provide an end-to-end solution in the Nepali rental marketplace.

2.2.6. Housing.com / 99acres / MagicBricks (India)

While I could not thoroughly examine each Indian portal's backend comprehensively, the publicly available User Interface for 99acres & MagicBricks exhibit strong regional features, with neighbourhood filters available based on city, toggles for renting vs purchase, beautifully illustrated listing cards of properties, and (support of) local language (in India, multiple languages are present). For GharBhada, these portals exemplify the significance of localising search filters (location, rent range, amenities), and design for a multi-tier market (low-rent vs premium). Limitation: many of these portals do not have full payment processing, lease management or complaint workflows.

2.2.7. GharBazar / Ghar Jagga / NepalPropertyBazaar (Nepal)

In these Nepali platforms, I found responsiveness to local language, listings of land/flat/house, potentially heavy broker involvement, and guidance around tax/ownership questions. These platforms indicate that Nepali users expect simple UI, local payment options, Nepali language, and contact details for broker/owners. For GharBhada, this emphasizes localisation, clarity of UI, and involvement of stakeholders. Weakness: they mostly just list; we add value by building booking, leasing, payments & dashboard.

2.2.8. HamroBazar

HamroBazar is a standard classifieds marketplace in Nepal supporting property listings across many categories. From looking at HamroBazar's site, I can see that it has standard listing flows, search filters, and good reach. For GharBhada, because we are thinking of user-adoption, I think it is helpful that there is a sense of familiarity with this kind of UI; users in Nepal are accustomed to listings grouped by classification. We can think about borrowing their UX patterns for simple listings but augment them with dedicated user flows for rentals. HamroBazar's limitation is that it has powers a broad marketplace that is not specialized for rental search and lifecycle management.

3. Comparative Analysis Table

Author(s), Year	Title / Focus	Methodology	Key Findings	Limitations	Relevance to GharBhada
Ferreri & Sanyal, 2021/2022	Digital informalisation: rental housing, platforms & management of risk	Qualitative / literature synthesis	Platforms restructure market interactions; algorithmic redlining, biased tenant profiling, opaque governance	Focus on policy/social impacts; less on technical implementation	Emphasizes need for governance, transparent verification, and appeal channels
Boeing & Besbris, 2021	Digitalization of the Housing Search	Empirical / review	Standardized listings, map tools improve search outcomes	US/India centric; may not directly translate to Nepal	Guides search/filter design, structured metadata, map-based discovery
Fields, 2019	Automated landlord: Digital technologies	Theoretical / case studies	Automation reduces errors, speeds rent flows, increases landlord-tenant accountability	US-focused; older datasets; lacks local	Suggests automatic rent & utility payments, notifications, dashboards

Li & Wang, 2021	Blockchain housing rental system	Engineering / prototype	Smart contracts secure agreements, automate conditional payments	Oracles and privacy not fully resolved; complex	Use blockchain selectively (hash anchoring, auditability)
Tseng et al., 2025	Towards a Trustworthy Rental Market (blockchain)	Engineering / architecture review	End-to-end blockchain-based architecture; DID for identity, immutable leases	Conceptual; untested in Nepal or low-resource contexts	Hybrid approach: anchor key docs to ledger, keep main transactions in MySQL
Christiaens, 2025	Trust and power in Airbnb's digital rating and reputation system	Empirical	Reputation shapes access; bias potential; multi-dimensional trust required	Focused on short-term rentals	Implement multi-dimensional trust scoring, transparent logic, appeal mechanisms
Obse, 2025	Addis Ababa online rental management system	Case study	Localized platform improves transparency, tenant-owner trust, automated payments	Region-specific; may not generalize	Emphasizes localization, admin verification, integration with local payments

Anne, 2024	E-Commerce Growth and Digital Payments in the Philippines	Case studies / industry report	Adoption of digital payments growing; integration eases transactions	Practitioner-based, not peer-reviewed	Justifies integrating eSewa/Khalti; robust logging, error-handling, reconciliation dashboards
Automation hesitancy studies, 2023	Human reactions to algorithmic decision-making	Mixed methods	Stakeholders may distrust automation; human oversight preferred	Emerging field, limited rental-specific insights	Drives design of human-readable explanations, override options
Ezzat, S.K., Saleh, Y.N.M. & Abdel-Hamid, A.A., 2022	Blockchain Oracles: State-of-the-Art and Research Directions	Technical / review	Oracles allow conditional automation (deposit release, meter readings); need trusted feeds	Complexity, data-trust, cost trade-offs	Pilot "automatic deposit release" with phased implementation

Table 1:Comparative Analysis of Selected Research Papers (2019–2025) on Rental Platforms

4. Discussion and Gap Identification

The literature review and available rental platforms demonstrate that digitization can greatly improve transparency, efficiency, and trust in the housing market; nevertheless, there are crucial shortcomings, particularly in developing contexts such as Nepal. To begin, most platforms do not have end-to-end integration, and simply offer one or two features, such as property listings or short-term bookings, but no digital agreements, automatic payment processing, or maintenance tracking to support component integration. Additionally, most platforms do not consider the legal, cultural, and financial contexts of Nepal, and if local payments, such as eSewa or Khalti, are not included, accessibility and adoption diminish. Trust and verification systems are insufficient as few platforms offer localized verification systems, options to report fraud, or trustworthy scoring models, which is critical to foster trust for tenants and landlords. Another area to consider in the operational process is administrative transparency, and most platforms do not have dashboards to monitor transaction history, settle disputes, or observe platform activity. While usability remains a consideration, many platforms do not focus on well-designed and intuitive interfaces, automatic reminders, and usability for individuals with limited digital literacy which is still a significant obstacle to overcome in developing digital ecosystems such as Nepal.

How GharBhada Addresses These Gaps:

GharBhada suggests a unified, end-to-end rental management ecosystem built for Nepal. It incorporates property exploration, lodging, digital agreements, digital payments, tracking complaints against landlords, overseeing administrative reporting, and resolving issues through various consumer protections into one platform. The model also supports the local payment gateways (eSewa, Khalti), validates trust through trust badges, and has administrative dashboards for oversight. GharBhada's focus on usability and context focus tackles issues of transparency and reliability and ultimately increases user engagement in the rental housing market in Nepal.

5. Conclusion

The literature indicates that advanced digital technologies such as automated payments, digital agreements, trust scoring, and easy-to-use interfaces are essential to improving, respectively, transparency, efficiency, and accountability in rental markets. Nevertheless, most existing solutions emphasize property listings or temporarily listed rental properties while failing to integrate across the real estate lifecycle. Furthermore, those solutions with a global focus do not include strategies to address local challenges in payment methods, legal requirements, or consumer use, whereas solutions that are more context-specific for Nepal remain limited in functionality or use cases.

In this way, GharBhada presents an expansive solution to these problems and includes not only property search, booking, and digital contracts, but also payment automation, complaint management, and oversight management integrated into a single platform. By employing locally supported payment channels, identity verification, and easy-to-use dashboards, GharBhada intends to create transparency and trust for landlords and tenants and provide ease of use. Ultimately, it is a scalable, and contextualized, model that will improve Nepal's rental housing ecosystem through digital innovations.

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