Community Homestay Platform to enhance Sustainable Tourism in Developing Countries

Indicate submission type: Full research paper

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Abstract

Developing countries are increasingly embracing community homestays to provide an authentic cultural experience to tourists. While these engagements enable local communities' economic and social development, homestays face various challenges. Digital innovation and transformations can aid homestays in promoting, managing and creating a resilient post-pandemic business model. This study aims to co-design and co-develop a community homestay management information system for greater scalability and sustainability in assisting homestay management committees in maintaining, monitoring and sustaining an equitable economy. Initially, a conceptual diagram of the system has been proposed based on the information extracted from existing literature and field interviews. The elicitations of requirements help ascertain the scope of ICT use in homestay. Design science research methodology will be applied to co-develop an interactive prototype after iterative evaluation. This study advances the discourse of ICT use in community homestays by identifying the opportunities and challenges and conceptualising a community homestay management system.

Keywords Community homestay, sustainable tourism, management system, developing countries, Design Science.

1   Introduction

Tourists are increasingly seeking authentic experiences moving out of 'tourist bubble' and wanting to engage in local cultures (Paulauskaite et al. 2017; Marques & Matos 2020; Dong 2020). It aligns with the view that having direct quality interaction with locals gives tourists higher satisfaction (Mustelier-Puig et al. 2018). This emerging tourism demand to immerse in a more sustainable experience with local communities has been reciprocated by the growth in community-based tourism (CBT). The sustainability of this tourism development is based on the concept of the community taking an active part in developing and forming the tourism products or services and ultimately benefiting from the equitable distribution of profits. Community-based homestay is a comprehensive tourism service and evolving sub-sector of the accommodation sector. It has evolved as a type of CBT initiative as more travellers look for an experiential stay of daily local life by understanding and experiencing hosts' lifestyles and culture (Dong 2020; Pradhan et al. 2022). In return, the hosts receive economic benefits in monetary and cultural exchange from the products and services improving quality of life for the host community (Dong 2020; Agarwal & Singh 2022).

The concept of community homestay has gained popularity in many developing countries, including Nepal, Indonesia, Malaysia, Thailand and is changing the accommodation sector (Dong 2020; Kunjuraman & Hussin 2017; Pusiraman & Xiao 2013), and a greater number of family-owned homes have been registered for community-based homestays (Basak et al. 2021). Although the popularity of homestay has created acceptance among rural communities to open their homes for tourists in return for the economic benefit, several challenges remain for the homestay-providers (Kunjuraman & Hussin 2017; Pusiraman & Xiao 2013). Like other sectors, homestay tourism has been negatively impacted by changes in tourism circumstance and substantial travel restrictions imposed due to COVID-19 pandemic and there is a need to seriously think of ways that aid for the survival and recovery of the industry (Higgins-Desbiolles 2021).

 Information and communication technology (ICT) is widely used in the tourism industry, including the accommodation sector. There are a number of studies exploring/advocating the use of ICT for tourism development in developing countries (Lama et al. 2019). The use of technology has also been explored in the development of CBT in developing economies (Pradhan et al. 2019). UNWTO asserts that advancing innovation and digital transformation of the tourism is one of the utmost priorities to mitigate the socio-economic issues and challenges faced by tourism industry due to COVID-19 pandemic (UNWTO 2020). So, technology and digital innovations can be used to minimise the challenges faced by homestay-providers (Miraz et al. 2015). Exploring supporting and challenging issues is necessary to ascertain how technology can be used to assist homestay businesses in overcoming such challenges.

The need for the studies to promote homestay tourism holds relevance considering the homestay business faces a crucial circumstance struggling for survival and protect investment due to the crisis caused by the pandemic. Also, there is a dearth of research investigating ICT use in the homestay industry (Janjua et al. 2021). So, it is imperative that exploring ways to use ICT tools for the betterment of homestay businesses that will benefit the industry. Also, identifying challenges and possible areas of ICT use will aid in technology use in community tourism discourse and benefit homestay operators, policymakers, and tourism stakeholders.

Hence, this research aims to identify issues faced by homestay-providers and propose a conceptual diagram for a potential ICT solution. A research questions are formulated as follows; i) what are the supporting and challenging issues for establishing and running community-based homestays? and ii) how ICT and digital innovations tools can be used to address those challenges?

This paper is organised as follows; a review on community homestays in developing countries is discussed followed by supporting and challenging issues. It is followed by a status of community homestay in one of the developing countries, Nepal. Findings and discussions are presented based on the information from the literature review and analysis from thirteen expert interviews. Next, a conceptual diagram for a community homestay management system that would help the community for its operation is followed. Future directions are detailed with the concluding remarks at the end.

2   Community-based Homestay in developing countries

The number of tourists' arrivals in developing countries surpassed the advanced economies in 2015. It is also predicted that the trend will continue and reach 58% of international arrivals by 2030 (Pradhan et al. 2019). Moreover, tourism is one of the major sources of earnings for many developing countries. UNWTO (2012) advocates that the process of making tourism destinations sustainable would increase

job opportunities for local communities, reduce poverty and benefit the local economy whilst utilising the natural resources and local skills in developing countries. In some communities, people are already driving sustainable tourism through community-based homestay (Dong 2020). Community involvement in tourism addresses environmental conservation and uplifts the socio-economic (Gan et al. 2016) and cultural aspects of the local communities (Remoaldo et al. 2020; Basak et al. 2021). The social components of sustainability such as equity, women empowerment, the economic aspects such as poverty reduction, local entrepreneurship, income generation and environmental aspects such as maintaining ecological balance, promoting, and preserving culture and heritages have been important tasks of community homestay. Thus, any effort to make homestay better indirectly contributes to achieving the sustainability goals of a community.

Community-based homestay is a type of CBT initiative that focuses on providing accommodation and meals to tourists, similar to traditional hotels but with a lot more authentic local experiences, including native cuisine, traditions, culture, and sense of ambience. It is an alternative form of accommodation operated by the family members in the community, and tourists can interact and experience the daily life of these families or communities to explore and understand both tangible and intangible culture (Dong 2020). It provides mutual cultural exchange between tourists and hosts. Community homestay tourism development is championed through community ownership to shape, manage, and control distinctive tourist destinations (Basak et al. 2021). Community controlled management committee provides support, empowers community engagement and opportunities with a competitive advantage to influence local decisions (Audit Scotland 2019), upholds local culture, assures equitable benefit distribution among community members (Dong 2020), contributes to the discrete image, and generates revisits (Basak et al. 2021). Although there is heightened interest and number of visitors to community homestays, only limited researchers have explored the extent of their impact. The following section briefly summarises the review.

2.1 Supporting and Challenging issues around Community Homestays

Sustainable tourism has been contributing to economic and employment growth in developing countries and therefore is recognised as a key sector for achieving the United Nations Sustainable Development Goals (SDGs) (UNWTO 2017). It is well known how increased community participation can help CBT become a catalyst for economic growth and tourism development (Stone & Stone 2011). Community homestays have successfully contributed to rural community development in some countries as the locals in the area could generate income from their own homes, whereas some others closed their operations due to several challenges (Kunjuraman & Hussin 2017).

The demand from visitors who like to experience 'living like a local' (Marques & Matos 2020) and explore rural parts of developing countries have contributed to rural community development, as it has opened opportunities for locals to interact and be part of local tourism development. Community homestays became a powerful initiative to highlight SDG number 8 (i.e., Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all). However, some community homestays are successful and provide full-time employment to many who never had employment before, some experience it as a seasonal event as guests are only visiting during the peak season (Junaid et al. 2019). Tiwari et al. (2020) reported that host families are satisfied as they feel their free time has been occupied and rewarded with additional income for many women. This view is also corroborated with Dong (2020), who observed that women were more engaged in community homestays than men and provided more job opportunities for women who would not have generated income otherwise. Along with the employment opportunities, basic infrastructure development in terms of better roads, supplies and improved living conditions have been observed in rural areas (Thakur 2013).

Dube and Sharma (2018) investigated the motivations and barriers of homestay-providers and found not only economic but also socio-cultural factors drove them to run homestays. They also noticed that there is a difference between urban and rural homestays. Pusiran and Xiao (2013) discussed both positive and negative aspects of running community homestays and reported that preserving heritage and traditions in addition to generating income were motivational factors for running community homestays. External and internal challenges faced by community homestays in Malaysia have been summarised by them, including lack of commitment from operators, lack of knowledge about the industry, lack of entrepreneurship skills and inefficient networking with external stakeholders. Internal and external challenges were further analysed by Kunjuraman and Hussin (2017) to understand the demise of homestay operations in Malaysia. Lack of trained human resources and financial capital were reported as the principal challenges. Similarly, Kayat et al. (2016) asserted leadership skills and community support as important skills to run community homestays.

2.2   ICT and Community Homestays

There are few studies investigating ICT use in context of homestay (Janjua et al. 2021). ICT tools can enable CBT with opportunities to better manage their enterprises, develop new products, promote tourism resources, increase tourists and foreign income (Pradhan et al. 2019) increase global presence (Gan et al. 2018). Additionally, it will enhance community interaction; increase participation to preserve community structure and culture; develop leadership skills among community members and empower community developers to continue to take control over the decisions and factors that affect their lives and communities (WHO 2009). The review of the use of ICT to promote sustainability in tourism shows ICT tools can be used through GIS, web applications, Augmented reality, Internet of Things (IoT), and social media (Lama & Pradhan 2020).

Regarding using ICTs to support the operation of community homestay-providers, only a few studies have been conducted showing the importance of digital marketing to sustain homestay businesses in the market (Junaid 2021; David et al. 2019; Pradhan et al. 2022). Miraz et al. (2015) proposed an Internet use model for homestays which also emphasised marketing and promotion. Gan et al. (2018) investigated the use and impact of ICT in homesteads in Malaysia and estimated the relevance of such tools to support community-based tourism through a qualitative case study and found that ICT is essential for digital presence and explored its impacts on various development livelihood dimension such as human, social, physical, natural and financial assets of the community. However, the current study focuses on investigating how an ICT system (community homestay management system) can help homestay-providers. In this context, community homestays from one of the developing countries, Nepal, have been examined and reported in the following sections.

3   Status of Community Homestay in Nepal

Nepal is one of the renowned tourist destinations and has a rich culture with many different ethnic groups (Pradhan & Bajracharya 2015). Tourists visit Nepal for its natural beauty, cultural, and environmental diversity. The popularity of homestays for tourists' accommodation has been increasing in the last couple of decades (MyRepublica 2019). According to Nepal Tourism Statistics (2019), there are 389 registered homestays, 310 (almost 80 percent) operating as community-based homestays, and the remaining 79 operating as a private business. Since the introduction of *Homestay Operating Guidelines* in 2010 for the successful implementation of Nepal Tourism Year 2011, the number of operations has risen drastically and also expanded across rural areas of the country. The number of operating homestays may be even higher as not all of them are registered with the Department of Tourism (Pasa 2020).

Community homestays are managed by the homestay management committee (HMC), which has at least five host families from the community to manage, monitor and guide the operation of homestay-providers (Regmi 2018). The committee is formed from the representatives from member community homestay hosts. HMCs are registered with the local authorities, and the government has mobilised local development communities and non-governmental organisations (NGOs) to provide necessary training to homestay-providers. The guidelines also specify that the homestay host families should offer local cultural experiences and serve local foods to guests/visitors, in addition to maintaining a secure, clean, and hygienic environment (Dong 2020).

The contribution of tourism to the GDP of Nepal accounted for 7.9 per cent in the year 2018; however, due to the pandemic, the number of tourist arrival in Nepal declined by more than 80% in 2020, reaching the lowest number in 34 years. Such a situation has impacted more than 1.05 million people employed in the Nepalese tourism industry (Prashain 2019). Similarly, since tourism is intertwined with various supporting industries, such industries related to tourism are also negatively impacted (Quang et al., 2020). The crisis has "plunged" homestay businesses in Nepal, and many are nearly collapsing, impacting the small-scale service sectors (Gautam and Khatri 2020). The industry has suffered an unprecedented setback; however, many researchers argue that it is also an opportunity to learn a lesson to rebuild a more positive image, resilient and sustainable tourism model and to improve physical and virtual tourism infrastructures (KC et al. 2021). Despite negative impacts, it also unseals the prospect of resetting the current tourism model and creating an enhanced model by exploring and assisting community-based tourism, such as homestays, by empowering and facilitating digital transformation and innovation using technology.

4   Research Design

This study focuses on community homestays (unity of analysis) and while investigating the way they are impacting several regions in developing countries as well as discovering new areas for tourism destinations. It attempts to provide a digital tool to manage community homestay better. An extensive literature review is conducted to explore the extent to which the community homestay has contributed to society and the challenges they encounter while operating. The discussion on several issues related to the homestay-providers is highlighted from the literature review and semi-structured interview questions are formulated. Qualitative data collected from expert personnel are a reliable source of information in the exploratory phase (Meuser & Nagel, 2009).

In this study, expert interview participants are retrieved by a purposive sampling method. Thirteen participants who have extensive knowledge and experience in community homestay were interviewed. Table 1. below lists them with their expertise and the number of years they have experienced in the field. Experts for this study were also sourced from different regions of Nepal; eastern, central, western, and far-west regions. The inclusion of community homestays from the different areas signifies a heterogeneous set of participants involved in the study, as ethnicities and cultural backgrounds of people vary according to the various regions, including the natural and geographical context.

Interviewee	Occupation	Region	Experience
Expert 1 (E1)	Community Tourism expert	Eastern	10 years+
Expert 2 (E2)	Community homestay-provider	Eastern	5 years+
Expert 3 (E3)	Community homestay-provider	Central	6 years+
Expert 4 (E4)	Community homestay-provider	Central	5 years+
Expert 5 (E5)	Community homestay-provider	Central	7 years+
Expert 6 (E6)	Community homestay-provider	Central	5 years+
Expert 7 (E7)	Community Tourism expert	Central	20 years+
Expert 8 (E8)	Community Tourism expert	Central	15 years+
Expert 9 (E9)	Homestay Expert	Western	15 years+
Expert 10 (E10)	Homestay Guide	Western	20 years+
Expert 11 (E11)	Community homestay-provider	Western	8 years+
Expert 12 (E12)	Community homestay-provider	Western	5 years+
Expert 13 (E13)	Community homestay-provider	Far West	6 years+

Table 1. List of expert interviewees

Expert interviews were conducted via face-to-face interviews or appropriate online tools. The primary researcher travelled to Nepal in March 2022 for the data collection, and four interviews were conducted face-to-face by visiting the homestay and the other interviews were conducted via Zoom, Facebook Messenger and Viber, depending on the preference given by the interviewee. The average length of interviews was approximately 45 minutes. During the interview, the detailed operation of community homestay and its impact on society was discussed. The interview data were transcribed and translated for further analysis. Content analysis was conducted to explore the existing challenges and the possibility of using digital (ICT) tools for operating community-based homestays.

5   Findings and Discussion

This study aims to investigate how community homestays have been contributing to society, challenges they are facing, and ways ICT solutions can help in cultivating the operation in developing countries. There are only a limited number of studies that have been conducted which explored both supporting and challenging issues while operating community homestays in rural areas. There are even fewer studies investigating potential ICT use for community homestay in current circumstance when tourism is adversely impacted by pandemic. Several studies in global and in the context of Nepal advocate to harness digital advances and innovation and the need of use such online advances and ICT tools to

promote, improve and restore tourism in the current scenario (Quang et al., 2020; Kaushal & Srivastava, 2020). The research aims to propose a model to create a management system for Homestay business based on findings. Prior to gathering the requirements for developing a community homestay management system, issues identified by previous studies (Kunjuram & Hussin 2017, Kayat et al. 2016; Pusiran & Xiao 2013; Dube & Sharma 2018; Dahal et al. 2019; Dong 2020) are aggregated. Challenges are further analysed to see how they can be supported by the proposed management system at the conceptual level. Moreover, qualitative data collected from expert interviews are then analysed to explore how they are relevant, as shown in Table 2 below.

Community homestays have been gaining popularity and contributing positively to rural areas. Some of the ways they have been impacting are by generating income creating employment, preserving traditional and cultural traditions, developing new skills in entrepreneurship, learning new languages, reducing poverty, preserving environment, and distributing benefits equally in a community (Dahal et al. 2020; Dube & Sharma 2018; Pusiran & Xiao 2013). Some of these positive aspects, along with the findings from the expert interviews, have been considered while conceptualising the management system, which will provide a model to lessen the existing challenges in the operation of community homestays.

Similar to the positive aspects of community homestays in rural areas, researchers and practitioners have also discussed the challenges faced by homestay-providers. Although community homestays are well adopted in rural communities, the lack of basic infrastructure development in those regions is still considered as one of the major challenges (Pusiran and Xiao 2013; Kunjuraman & Hussin 2017; Regmi 2018). Basic infrastructure includes regular electricity, clean water supply, road conditions and telecommunications facilities. Data from expert interviews also helped to unveil the further challenges. Based on the literature review and content analysis, these challenges have been divided into several categories, as shown in Table 2.

Challenges for Providers	Features of Management System
Lack of basic infrastructure (electricity, water, road, telecommunication)	Aggregates information to report to authorities
Lack of skills, knowledge of tourism business, networking, and experience	Capability building training; entrepreneurship skill
Lack of marketing and promotion	Enhanced communication and promotion
Lack of management and administration	Administrative support
Failure in meeting international standards and cultural shock	Access to updated information
Security challenges (either host or guest's risk)	Proof of identity and incident management
Low hygiene standard and waste management, COVID-19 health concerns	Scheduling, monitoring, information, and contact tracing
COVID-19 related lack of tourists, information concerns	Tools for domestic tourism promotion, information access and dissemination

Table 2. Challenges and solutions to Community Homestay-providers (adapted from Pusiran and Xiao 2013; Kunjuraman and Hussin 2017; Regmi 2018)

The first category, lack of basic infrastructure, hinders the development of community homestays and one of our interviewees, E2, pointed out: "*We do not have good access to the good internet, and we have to rely on [mobile] data. Even [landline] phone services are not good around here.*" Other experts (E6, E7, E9, E12 and E13) put forward similar views about the lack of telecommunication and other basic infrastructure. E10 mentioned that some community homestays received some government funding to improve their basic infrastructure, which has also been addressed in a study by Kayat et al. (2016) in supporting community-based rural homestays in Malaysia. The proposed management system plans to aggregate information about various infrastructures relevant to community homestays, with the aim that some funding will be allocated for improvement.

The second category of challenges was the lack of skill and knowledge about the tourism business. Although government authorities have been supporting relevant training for community homestays (Pusiran and Xiao 2013; Kayat et al. 2016; Pasa 2020), the lack of trained personnel for community homestay is still another major challenge (Kunjuraman and Hussin 2017). Home stays providers need continual support and capacity-building trainings to manage their business and develop and sell their services (Basnyat & Kafle 2022). The training is ostensibly limited, as expressed by E9: *"There has been some training to teach the use of technology to promote [community] homestay, but its use is limited to travel agents"*. E7, E8 and E13 also wished to have more technology use training and other skills that could enhance running community homestay. The proposed system will feature capacity building training information and videos to upskill interested people in community homestays. E10 informed that they allot certain part of their income for the training fund which could be utilised for ICT skills development trainings.

Promoting community homestay in rural areas is another category that is an important step to sustain community homestays. The association of homestay in Nepal has started promoting homestay services using social media (Basnyat & Kafle 2022). Researchers who studied community homestays have identified that there is a lack of marketing and promotion activities (Kunjuraman & Hussin 2017; Kasim et al. 2016; Pusiran & Xiao 2013). Some interviewees expressed how technology has not been used to promote community homestays. For example, E2 said, *"We do not have much digital marketing skills but are limited to getting local customers."* The management system aims to enhance communication and promotion locally and globally which will aid in restoring businesses.

The community homestay management committee plays a crucial role in maintaining and sustaining the business in the community. The management also including handling booking and accounts, allocating houses, members communication and coordinating with other stakeholders (E7, E10, E12). Regular meetings and transparent communication are important among members so that their business model continues to thrive. However, the administration and management of such committees among community homestays are not robust (Pusiran & Xiao 2013; Kunjuraman & Hussin 2017). The proposed management system aims to support the administrative load of the committee. One of the interviewees, E9 detailed how they manage their guests, *"In the community homestay, there is a rule to proportionally divide the visitors arriving turn by turn so that all the homestay in the networks is equally benefited."*

It has been identified that the quality of community homestays is relatively low, and both visitors and hosts experience cultural shocks (Kunjuraman & Hussin 2017; Pusiran & Xiao 2013). The proposed management system will have updated information on cultural issues to inform both parties to solve such problems.

Similarly, the other two categories of challenges regarding safety and security, waste management have been addressed in the context of community homestays in rural areas (Kunjuraman & Hussin 2017; Pusiraman & Xiao 2013). Most homestay also expressed their concerns regarding COVID-19 health related issues in the business. The proposed community homestay management system aims to minimise the risk by recording proof of victors' identifications and having guidelines of incident management. The system will have a feature to regularly schedule and monitor good cleanliness and waste management. Many participants (E7, E9, E10, E11, E13) expressed that ICT tools can be beneficial tools for promoting and managing their business by using those to address health concerns, contact tracing and information dissemination amidst pandemics. E11 said, "Things are changing really quickly due to the pandemic; there are situations when we have to inform immediately or get information immediately or maintain the records; we need an ICT system which can help us do those tasks". E11 argued they are using social media to promote their business, which has been effective, and E2 expressed that online booking facilities will significantly assist in getting tourists without intermediaries.

The final category resonated with the challenges and concerns emerging from COVID-19. Most participants (E7, E10, E11, E12) argued the need for the promotion of domestic tourism in the current situation. E10 stated, *"we just relied on international tourists and referral by tourist agents earlier, so didn't concentrate much on domestic tourism"*. E11, which used some social media marketing for domestic tourism, said, *"Digital marketing was very effective and helped us a lot. Especially once the lockdown was eased, some domestic tourists arrived through online information."* E11 and E12 argued that ICT tools or system can assist them to remain informed, collaborate and disseminate information related to pandemic to their stakeholders.

Features of the proposed management system aim to minimise these categories of challenges, thereby helping community homestay-providers to achieve their goals and make their business socially, economically, and environmentally sustainable.

The study provides answer to both research questions by identifying and categorising the supporting and challenging issues for community homestays and proposing conceptual model for a management system as an innovative tool to address those challenges.

6   Proposed conceptual diagram of homestay management system

As detailed in the previous section, supporting and challenging issues of operating community homestays in rural areas have been gathered in relevant studies and in qualitative interviews data with experts. Based on the information analysis, a conceptual diagram is constructed, as shown in Figure 1 below.
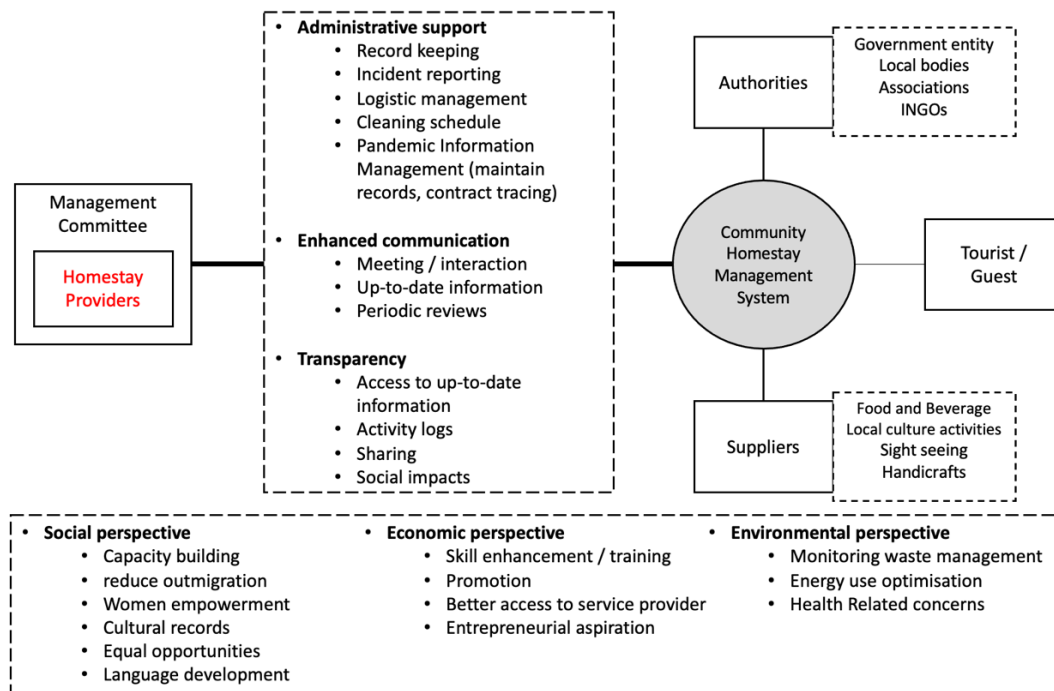

Figure 1: Conceptual diagram of Community Homestay Management System

The conceptual diagram depicts how the homestay management committee is connected to its major stakeholders and how the proposed management system can benefit community homestays rendering various benefits and help in overcoming the aforementioned challenges. It shows the challenges and areas where ICT tools can be used along with expected outcomes for sustainability based on findings.

The proposed management system will support community homestay-providers to enhance their operation by improving their business (operation, promotion, training, interaction with stakeholders and governance). Several features of the system will fulfil principles of sustainable tourism from social, economic, and environmental perspectives. Some examples of how the system will be used to cover from each perspective are briefly mentioned in the lower part of the diagram.

7   Future Directions and implications

The findings from the literature review and interviews corroborate the need for an ICT system to facilitate the operation of homestay, providing solutions to some of the challenges explained earlier. One defining characteristic that differentiates CBT from traditional mass tourism is a process generated from bottom-up community engagement (Pradhan et al. 2019). Thus, the stakeholder's participation in the management system's design enhances the model (de Reuver et al., 2018). So, we plan to use a design science that aims to solve a problem through rigor, design, and evaluation cycle. We plan to collect requirements for the homestay management system from stakeholders based on objectives through a series of further interviews and focus groups. The qualitative data from such activities will be processed and analysed and used to create a prototype 'Community Homestay Management System as an intervention. The created prototype will be evaluated through a series of iterative evaluation processes through an expert group which will comprise experts from the homestay industry, and quantitative evaluation by homestay committee members for greater validation. The features of the application will

be refined based on the feedback from evaluation to facilitate the objectives of community homestay easing their operation and management. Finally, the reflection and learning from the process will be disseminated to stakeholders through appropriate media.

The research proposes to implement a collaborative approach to building a more resilient system for homestay businesses harnessing digital tools and innovations. It will adopt Peffers et al. (2007) design science method to systematically create the homestay IS/IT artifact as shown below:
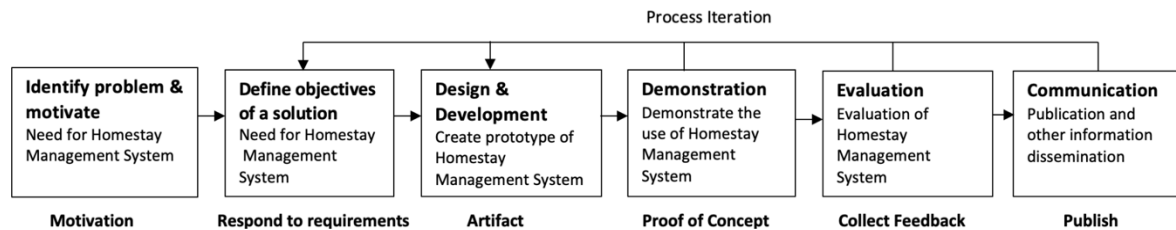

Figure 2: Homestay management system creation steps based on Peffers et al. (2007)

8   Conclusion

The popularity of community homestays has contributed to rural community development and promoted the principles of sustainable tourism. Although income generation is the major goal for community homestay-providers, they are also motivated to preserve their traditions and other socio-cultural aspects, such as working locally instead of out-migration for employment and promoting local cultural products and services. The relevant literature and experts in community homestays in Nepal have pointed out several challenges to operate community homestays successfully. The lack of sound infrastructure and lack of required skills have been emphasised as the most pressing challenges for homestay-providers, which impedes them to use relevant technology to promote their businesses. The recent pandemic has worsened the situation as tourism activities are halted.

This study aims to co-design and co-develop a community homestay management system to assist community homestay-providers to provide training to upskill in operating community homestays after analysing their challenges and opportunities. An action oriented participatory design science research methodology will be used to gather requirements and develop and evaluate a prototype of a homestay management system with stakeholders. Such method allows homestay operators to actively participate in problem-solving to enhance the effectiveness of the proposed system. The management system will help reduce the existing challenges homestay-providers face and enhance their activities. The features of the system will fulfil the principles of sustainable tourism by contributing to operations of community homestays from social, economic, and environmental aspects.

The research contributes by identifying various themes derived through the analysis of participants' responses which plays a vital role in promoting community homestay-based tourism creating an ICT management tool. It generates several insights for future research needs and direction in the context of community homestays. The conceptualised model will act as a blueprint and provides preliminary ground for instantiation of management system as an IT artefact. These findings also assist homestay operators, policymakers, tourism practitioners and stakeholders in decision making and positively impacts the vision of community-based tourism. The study not only presents an ICT model for homestay management but also aids in discourse of more sustainable and resilient post-pandemic community-based tourism. It helps to enhance the awareness of sustainable practices among homestay operators. The study not only presents an ICT model for homestay management but also aids in the discourse of a more sustainable and resilient post-pandemic community-based homestay tourism industry.

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