An e-tourism Adoption Model & Its Implications for Tourism Industry in Nepal

Sanjay Lama[a],
Sojen Pradhan[a], and
Anup Shrestha[b]

[a] School of Information, Systems and Modelling
University of Technology Sydney, Australia
Sanjay.Lama@student.uts.edu.au
Sojendra.Pradhan@uts.edu.au

[b] School of Management and Enterprise
University of Southern Queensland, Australia
Anup.Shrestha@usq.edu.au

Abstract

Although Nepal has tremendous tourism opportunities, the small and medium tourism enterprises (SMTEs) that constitute the largest percentage of tourism service providers, are lagging behind in e-tourism adoption. This research conducts a comprehensive analysis of existing literature to propose an e-tourism adoption model based on the Technology-Organisation-Environment and e-readiness models. This model is supported by empirical data using qualitative in-depth interviews with seven key stakeholders and quantitative survey with 198 SMTEs. An operational model is outlined to identify the barriers and motivators for e-tourism adoption in Nepal. Implications of this model for key stakeholders such as the government, tourism organisations and tourism associations are discussed. As Nepal moves to a federal political structure, the findings and recommendation from this research are expected to help policy makers, tourism associations and SMTEs to develop specific e-tourism based programs in order to provide superior services to tourists.

Keywords: e-tourism adoption; Nepal tourism; stakeholders; SMTEs; tourism organisations

1 Introduction

Information Technology (IT) has made substantial impacts in everyone's daily lives by changing the way they communicate, connect with people, compare, buy and sell products or services. According to Statista.com [1], more than 4.1 billion people in the world has access to the Internet which they use for various activities every day, including planning for travelling. Searching for travel information is one of the most popular Internet activities, for example, 73% of Internet users reported this activity among the top 10 searches [2]. Travellers are not only searching for travel information online but they are also planning, comparing, booking and paying for the tour packages through online platforms [3]. Furthermore, online reviews by consumers in the travel industry enhance the decision-making process for travellers [4, 5]. Subsequently, online reviews platform such as TripAdvisor covers hotels, restaurants and attractions from more than 190 countries in the world [6].

Tourism is one of the major economic sectors in Nepal, which provides a significant employment (about 427,000 people) and contributed almost 7.5 percent of the total Gross Development Product (GDP) in the year 2016 [7]. Although Nepal has a great

tourism potential with its natural beauty and diverse cultural heritage, small and medium tourism enterprises (SMTEs) which constitute the largest percentage of tourism service providers, are lagging behind in the use of online services to run their businesses, serve existing customers and attract more potential customers.

Tourism has been one of the biggest exports for many developing countries [8] and is considered as one of the principal pillars of the economy of such countries. Developing countries may have common challenges such as low information and communication technologies (ICTs) adoption, turbulent political and macroeconomic circumstances [9], but every nation provides its own unique characteristics regarding tourism attractions. The application of ICTs for digitised services in the tourism sector is often coined as e-tourism, similar to the well-accepted notion of e-commerce for Internet-enabled commercial transactions. Using the lens of e-commerce concepts, we discuss e-tourism adoption and its implications to Nepal. It is widely recognised that the factors impacting e-commerce adoption differ greatly for every industry [10]. Therefore, the 'one-size-fits-all' model may not be feasible for e-commerce adoption [11].

This study investigates the status of ICTs in Nepal for tourism and evaluates the possible frameworks of e-commerce adoption suitable for the tourism industry (i.e. the e-tourism adoption). After a comprehensive analysis of existing literature and frameworks, an e-tourism adoption model is proposed. With the help of empirical data from both qualitative in-depth interviews with seven key stakeholders and quantitative survey with 198 SMTEs, this study proposed a comprehensive e-tourism adoption model for e-tourism Nepal. The model identifies the barriers and motivators of e-tourism adoption specific to Nepal based on its unique context and specific environment. Implications of the model for major stakeholders such as the government, tourism organisations and tourism associations are discussed.

In this paper, tourism governance structure in Nepal is discussed next. The proposed model is based on two widely accepted technology adoption models: Technology, Organisation and Environment (TOE) model and e-Readiness model. A brief overview of these two theoretical models are presented. Then, the research methodology of this study is outlined. The following sections cover a preliminary e-tourism adoption model for Nepal and how it was empirically tested. An operational model of e-tourism was subsequently described with its practical implications in the following section. A conclusion is drawn with future directions of this research in the end.

2 Background

2.1 Tourism governance structure in Nepal

There are over 4,500 tourism organisations registered with the Tourism Department of Nepal. The major stakeholders in the tourism industry are tourism service providers, tourists and the government. Most of the service providers in Nepal provide either tours and travel, trekking or accommodation services to the tourists. Those tourism organisations are usually represented by either one or more associations, such as Nepal Association of Tour and Travel Agents (NATTA), Hotel Association of Nepal (HAN) and Trekking Agents Association of Nepal (TAAN). These associations are independent, not-for-profit and representatives of specific tourism industries, for

example, HAN representing all hoteliers. Figure 1 shows major stakeholders of the tourism industry in Nepal and an overall structure of how tourism organisations fall under these associations and are running their operations with a guidance from those associations. Ministry of Culture, Tourism and Civil Aviation (MoCTCA) is the pioneer government department for Nepal tourism and they also have an autonomous entity called Nepal Tourism Board (NTB) which is an independent government body dedicated for advertising Nepal tourism to the world.
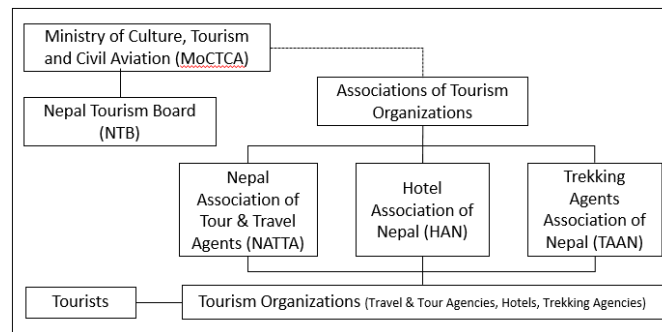

Fig. 1. Nepal tourism governance structure

2.2 E-tourism in Nepal

The IT penetration is low and a late comer in Nepal compared to other developed countries. For example, the government created the IT Policy only in 2000 [12] with the objective of making ICTs more accessible to the public and create a knowledge-based society and industries. It was a government initiative to use IT as a tool for development and growth [13]. It has only been a decade since Electronic Transaction Act 2008 was enacted with the motive of paving ways for the legal aspects of electronic business for online transactions. This act also formulated the provision for different authorities such as IT tribunal, Controller of Certification Authority & Certification, Authorities for digital certificates along with dispute settlement mechanism. However, the objectives have not been fully materialised due to political and other incumbent challenges in Nepal [14]. Similarly, an e-government Master Plan (e-GMP) was prepared and proposed by the government in 2010 with the objectives of good governance and socio-economic development of the country using e-governance. Transparency, accountability, poverty alleviation, reduction in corruption, informed citizen and better government service delivery were some of the objectives of the Master Plan [15]. The increasing usage of ICTs has yet to reach a priority agenda for the government since Nepal's primary plans and programs are currently focused on political federalisation, basic infrastructure building problems and other socio-economic issues related to fundamental necessities such as education, rather than tourism.

Likewise, the lack of international payment system and international electronic payment cards (debit and credit cards) are cited as a primary reason for the late adoption and low e-commerce usage in Nepal. The cards issued by the local banks can be used locally in a limited number of websites only. The local transactions are facilitated by

local payment gateways which are funded through selective banks and usually works on selected websites on a commission basis [16]. Due to these shortcomings, e-tourism adoption is generally limited to the use of websites to provide general information for tourists only.

2.3 Relevant e-tourism adoption models

Adoption of e-commerce is plagued by a lack of sound framework in the developing countries [17] and Nepal is no exception. Most of existing frameworks on adoption are related to ICTs or innovation rather than e-commerce or e-tourism adoption. In this study, widely accepted technology adoption frameworks: Theory of Reasoned Action (TRA) [18], Technology Acceptance Model (TAM) [19], Technology, Organisation and Environment (TOE) model [20], TAM 2 [21], Unified Theory of Acceptance and use of Technology (UTAUT) [22] and e-Readiness model [11] were reviewed. Each framework and its constructs were examined to assess their relevant for e-tourism adoption study in Nepal. Detailed evaluation of these frameworks relevant to this study has been reported earlier [23].

TOE [20] and e-readiness model [11] were chosen since they focus at organisational unit which is relevant to this study. Using these two frameworks, relevant factors affecting technology for SMTEs in Nepal, were studied. The TOE framework created by Tornatzky & Fleischer [20] argue that three factors influence adoption of an innovation in a business: technological context, organisational context, and environmental context. Similarly, the e-readiness model emphasises perceived external e-readiness (PEER) and perceived organisational e-readiness (POER) towards technology adoption [11]. These two frameworks provide a foundation to propose the preliminary e-tourism adoption model for Nepal that was subsequently reviewed and validated as part of the research study. The research methodology is outlined next.

3 Research Methodology

This study explores the barriers and motivators to e-tourism adoption using mixed methods, i.e. qualitative and quantitative. The mixed method has been known to broaden the range of research and make research more comprehensive [24]. Data has been collected through interviews and surveys with representatives of tourism associations and the SMTEs in Nepal.

Initial factors were investigated from the extant literature. Based on the initial factors, in-depth semi-structured interviews (qualitative stage) were conducted with key representatives of the major stakeholders as shown in Figure 1. A preliminary e-tourism adoption model was developed based on seven interview findings as well as similar studies conducted in the context of other developing countries and frameworks using the e-readiness model [11] and Technology organisational environment (TOE) model [20]. The validation of the e-tourism adoption model was done based on statistical analysis from a survey (quantitative stage) of 198 SMTEs in Nepal. The triangulation of multiple methods for data collection and analysis enhance interpretability, reliability and internal validity to make research findings acceptable [25].

4 Development of the preliminary e-tourism adoption model

The major constructs of the selected frameworks (TOE and e-readiness model) were used as the foundations to create the initial constructs of the e-tourism adoption model for Nepal. These components are used since they have been already extensively tested in previous studies as highlighted in Section 2.

Based on the selected frameworks, the factors are classified into environmental or external and organisational or internal categories as illustrated in Figure 2.
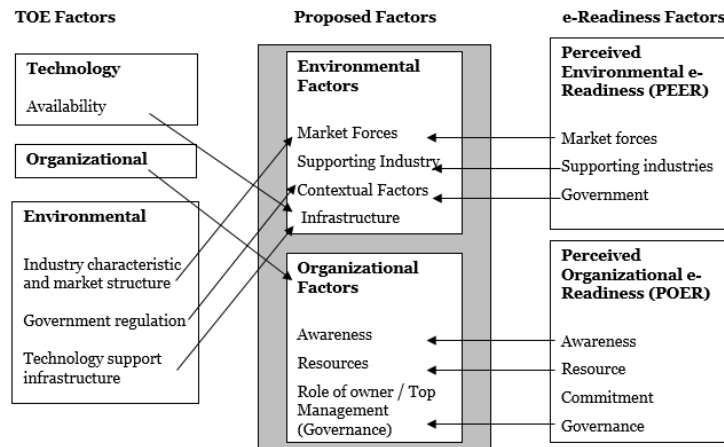

Fig. 2. Derivation of preliminary e-tourism adoption model from the literature

The proposed categories identified in Figure 2 were used to classify relevant factors for e-tourism adoption identified from literature review. Table 1 presents all the relevant factors and associated categories for e-tourism.

Table 1: Categories and factors for e-tourism adoption in Nepal

Category	Factor	Description
Market Forces	Market readiness and size	Degree to which market is ready for e-tourism adoption.
	Pressure from competitors	Pressure to adopt e-tourism because of competitors adopting similar technologies.
Supporting Industry	Supporting IT industry	Readiness, capability and status of IT organisations to implement
	Condition of country	Political situation of country and its effect on e-tourism adoption.
Contextual Factors	Plan and policies	Plans and policies of government relating to technology.
	Incentives from government	Incentives and motivation provided by government for the adoption.

	Electricity	Availability of electricity in the country.
	Financial	Condition and readiness of financial institutions for the adoption.
Infrastructure	Technological framework	Situation of country regarding technical resources such as status of internet, digital divide, e-readiness.
	Legal framework	National status of country regarding laws relating to e-tourism.
Awareness	Awareness about e-tourism	Owner's knowledge and information about e-tourism and its benefits and usage.
	Skill & Human resource	Human skills and other skills to implement.
Resources	Cost of resource	Initial and operational required for e-tourism.
	Technological	Resources such as hardware and software.
Role of Owner/Top management	Owner support	The degree of owner's commitment and encouragement to use.
	Owner's characteristics	Owner's confidence about e-tourism
Other factors (not included in Fig 2)	Culture	Culture such as tradition, ways of doing things.
	Language	The language used for technology and lack of knowledge about it
	Perceived benefits	Expected benefits of using e-tourism.
	Relative advantage	Degree of perception as better than existing
	Lack of trust	Confidence that e-tourism is safe and trustworthy.
	Privacy concerns	Concern about of the privacy and data misuse.

The last row (highlighted grey) in Table 1 lists some of the probable factors that did not fit any of the existing categories. These factors were checked for similarity with each other and subsequently new categories were created according to their unique features and based on the information about the factors from the literature review.

The six factors which did not fit into any of the categories were divided into three new groups. Kshetri [26] included the factors related to language and culture into one category called cognitive factors. Similarly, Kapurubandara and Lawson [27] used "social-cultural" construct to include factors related to culture. So, as the two associated factors - cultural and language barriers were put into the same category, and a new category called "socio-cultural" factors was created. Similarly, both perceived benefits and relative advantage are related to the value that the adoption of e-commerce can add to the organisations [28]. The factor "perceived benefits" has been used from the organisational perspective. Similarly, various studies [29, 30, 31] investigated e-commerce adoption and examined relative advantage or value proposition factors with the TOE model. Since both factors are related to value addition, they are categorised into a new category named "value proposition". Finally, the remaining factors "security concern and trust" and "privacy concerns" are related to information security based on

the literature review on e-commerce adoption. Therefore, a broader category called "security concern" is created to include the final two factors.

A survey of 198 SMTEs was used to validate the 10 categories in the preliminary e-tourism adoption model. Reliability and hypothesis tests of these categories have been previously reported [23]. The significance value (p value <0.05) indicates that the factors are significant in the model. Three categories were not supported: supporting industries, socio-cultural and security concern. The remaining seven categories were supported from the quantitative study, as shown in Table 2.

Table 2. Binary Regression Results

Factor	β	S.E.	Wald	df	Sig. (p value)	Exp(B)	Result
Lack of Infrastructure	-.486	.236	4.243	1	.039	.615	Supported
Market Forces	.651	.255	6.525	1	.011	1.918	Supported
Supporting IT Industry	.411	.251	2.674	1	.102	1.509	Not Supported
Socio-cultural	.029	.221	.017	1	.896	1.029	Not Supported
Contextual Factors	-.436	.201	4.711	1	.030	.646	Supported
Awareness	.525	.259	4.118	1	.042	1.691	Supported
Lack of Resources	-.997	.269	13.765	1	.000	.369	Supported
Security Concerns	-.102	.257	.158	1	.691	.903	Not Supported
Value Proposition	.889	.283	9.890	1	.002	2.433	Supported
Owner's Role	1.117	.318	12.351	1	.000	3.055	Supported

Subsequently the final e-tourism adoption model was updated as illustrated in Fig 3.
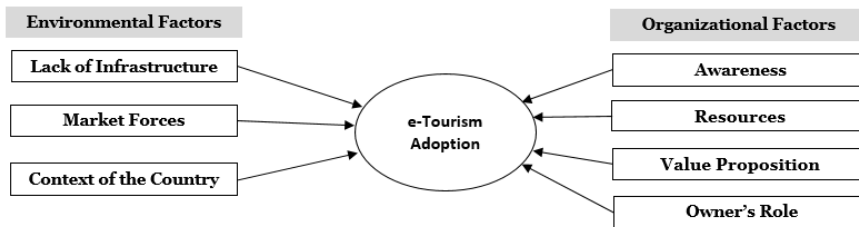

Fig 3. Final e-tourism Adoption Model for Nepal

In order to implement the e-tourism adoption model for the Nepalese context, we developed an operational model to understand the implications of the adoption factors and how these can be implemented in practice by initial and advanced adopters. Next, the barriers and motivators of tourism industry in Nepal due to the use of e-tourism and its implication to the major stakeholders, is discussed.

5   An operational model to understand implications of e-tourism Adoption in Nepal

The validated factors determined by the proposed e-tourism adoption model for Nepal (Figure 3) can be operationalised by demonstrating the barriers and motivators for e-

tourism adoption. The relationship of each factor with the adoption of e-tourism can be represented as a barrier or a motivator. Such relationships are represented in the operational model for e-tourism adoption in Nepal in Figure 4.
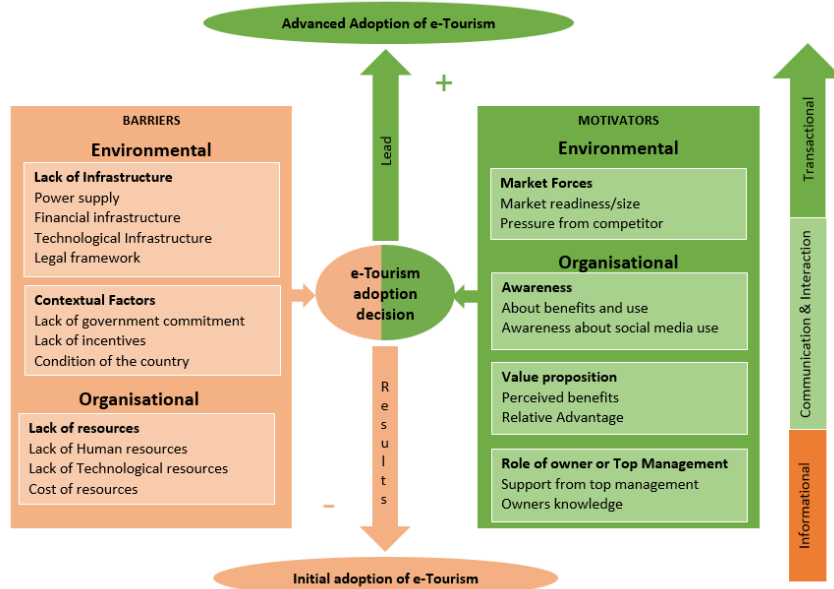

Fig. 4. Operational model for e-tourism adoption in Nepal

The factors on the right-hand side represented in Figure 4 represents positive impact on e-tourism adoption and acts as motivators whereas the factors on the left-hand side represents barriers that have negative impact on e-tourism adoption. Figure 4 clearly demonstrates that external factors of lack of infrastructure and contextual factors, and internal factor of lack of resources inhibit the adoption of e-tourism in Nepal. Likewise, the external factor of market forces and the internal factors associated with awareness, value proposition and the role of owner or top management presents as motivators demonstrating opportunities for e-tourism adoption in Nepal.

Leveraging the motivators and minimising the effects of barriers facilitates streamlined e-tourism adoption in Nepal. This is also represented in the operational model (Figure 4) at two levels: initial and advanced adoption levels whereby the SMTEs in Nepal can move between the two levels. The barriers inhibit SMTEs to move from initial to advanced level of e-tourism adoption, whereas the motivators can act as a catalyst for advanced level of e-tourism adoption.

The transition from initial to advanced level of e-tourism adoption is characterised by three stages of e-tourism adoption maturity: informational; communication and interaction; and transactional. At the maturity level of informational, e-tourism is adopted at a primitive level with the use of website for static information only, i.e. unidirectional information dissemination. At this level, e-tourism barriers are highly prominent and e-tourism motivators are negligible. Similarly, when the maturity level

elevates to communication & interaction, there is an evidence of two-way communication between SMTEs and tourists, thereby resulting in superior customer service. Examples of this maturity level are the use of dynamic website/ mobile apps with search and contact features and the use of social media. Likewise, the highest level of maturity is recognised as transactional e-tourism, whereby SMTEs make use of e-tourism features to streamline their operations and engage with tourists during the entire customer journey – from initial search to bookings to post service delivery activities such as feedbacks and complaints handling. At this level of maturity, e-tourism motivators are highly effective and there are little to no barriers for adoption.

The operational model demonstrated in Figure 4 showcases a pathway for Nepal tourism stakeholders to follow in order to improve their tourism services by e-tourism adoption. Currently most tourism service providers, particularly the SMTEs, operate at the initial adoption level with the basic informational e-tourism maturity level. The journey from this level to reach the advanced e-tourism adoption level can be mapped with the use of the operational model. The model is helpful for policy makers and tourism practitioners to understand the roles and interplay of factors that act as motivators and barriers for e-tourism adoption so that the higher maturity level of adoption can be achieved. Implications are further detailed in the next section.

6 Practical Implications of the research

The operational model presented in Figure 4 provides a roadmap on how e-tourism is adopted by SMTEs in Nepal and how it could be improved. The model represents the levels of adoption, e-tourism maturity levels and adoption factors in the form of barriers and motivators that can have significant implications to practice. With the use of this model, the concerned stakeholders can have more insights into how e-tourism adoption barriers and motivators work in the context of Nepal. The stakeholders should work to mitigate the identified barriers, and they should make strategic plans and policies by taking advantage of the motivators.

Since this model depicts the prescribed transition of SMTEs from an initial level to the advanced level of e-tourism adoption. The model has broad implication for each stakeholder which are described below:

6.1 SMTEs

In order to implement this model, identifying the existing level of adoption by SMTEs (either initial or advanced) is the first step. Understanding the current level of adoption will help an SMTE to understand the nature of e-tourism use and develop plans according to such initial assessments. For example, the SMTEs which are at the initial level can concentrate on the plans to upgrade to the advanced level based on the e-tourism maturity levels.

The identifications of specific barriers and motivators can help SMTEs to plan accordingly during their adoption journey. The SMTEs can also use this model to investigate these factors and act accordingly by determining whether they are internal or external to their organisation. Such analysis will help them to develop strategies, such as conducting a SWOT analysis, that yield maximum benefits out of the e-tourism usage and mitigate the risks related to e-tourism adoption.

6.2 Policymakers and the government

This model provides relevant information on positive or negative effects from factors on e-tourism adoption that can help the government and relevant policy making bodies, such as law enforcement office or judicial bodies, to construct relevant plans and policies. The categorisation of the level of e-tourism adoption can help the government to tailor and prepare policies according to the maturity levels of e-tourism adoption.

For example, the research shows there is lack of awareness about technical, security and legal issues among initial adopters whereas advanced adopters have raised the concerns about the quality of Internet among others. The government of Nepal can formulate their programs directing their limited resources according to the issues or the needs based on the levels of adoption.

6.3 Tourism Associations

The tourism associations aim to work for the betterment of SMTEs and the tourism industry of Nepal based on the collective efforts of their members. Using this model, the association can facilitate its member organisations in a transparent manner based on their maturity level of e-tourism adoption. The identification of barriers at each level can help tourism associations to identify where the efforts of the association should be prioritised. For example, the model shows that there is lack of information about laws and information security for the initial adopters. Therefore, the association can organise awareness program to minimise these barriers for the initial adopters. Similarly, this model can also help to identify the areas where the association can collaborate with the government and other stakeholders.

6.4 Other stakeholders

Since the model paints a transparent picture of the current e-tourism ecosystem in Nepal, it is expected to help supporting IT organisations to understand the barriers and motivators to e-commerce adoption by SMTEs of Nepal. The model provides IT companies reliable information to determine where they should concentrate their efforts to technically support e-tourism initiatives. Such understanding will not only enable them to provide better support to facilitate e-tourism adoption but also helps to expand their IT business and to the enhance the quality of their services.

The model can also be used by global tourism service providers such as airlines or hotel chains to understand the e-tourism landscape for adoption in the tourism industry of Nepal. Similarly, the model can be useful for the individual tourists to assess e-tourism services that they can expect from their tourism service providers since the model provides useful information about factors that are associated with tourism services that are available and how the tourism industry operates in developing countries like Nepal. Such information can help them to be better informed and plan their trip in Nepal. However favourable local adoption by a significant number of SMTEs as well as strong endorsement by key stakeholders, particularly the tourism associations is necessary for the model to be relevant to individual tourists.

In short, the proposed operational model has broad and substantial practical implications and benefits for a wide range of stakeholders.

7 Conclusion

Research studies on e-tourism adoption in Nepal is in the infancy stage, despite the potential growth of the Nepalese tourism market due to its natural beauty, high mountains and diverse heritage cultural backgrounds. This study proposed and validated a comprehensive e-tourism adoption model through extant literature, content analysis of interviews with key informants and statistical validation using a survey with 198 SMTEs. The model is further reviewed to propose an operational model to outline pathways for e-tourism adoption for Nepal based on barriers and motivators. This research is expected to help stakeholders to identify key areas they should focus on so that they can channel their efforts to deal with the barriers. As a result, the environmental and organisational factors derived from the proposed model can be used by the policymakers, information consultants, and tourism organisations in their plans and policies.

The plans and policies regarding IT, and the use of e-tourism applications are in developing stages, as federal states are being created after the prolonged political instability in Nepal. In addition to national plans and policies, the findings and recommendation from this research would be useful for each federal state to create their specific programs related to ICTs and tourism.

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